



# FSOC

FINANCIAL STABILITY OVERSIGHT COUNCIL

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# Financial Stability Oversight Council

The Financial Stability Oversight Council (Council) was established by the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) and is charged with three primary purposes:

1. To identify risks to the financial stability of the United States that could arise from the material financial distress or failure, or ongoing activities, of large, interconnected bank holding companies or nonbank financial companies, or that could arise outside the financial services marketplace.
2. To promote market discipline, by eliminating expectations on the part of shareholders, creditors, and counterparties of such companies that the U.S. government will shield them from losses in the event of failure.
3. To respond to emerging threats to the stability of the U.S. financial system.

Pursuant to the Dodd-Frank Act, the Council consists of ten voting members and five nonvoting members and brings together the expertise of federal financial regulators, state regulators, and an insurance expert appointed by the President.

The voting members are:

- the Secretary of the Treasury, who serves as the Chairperson of the Council;
- the Chairman of the Board of Governors of the Federal Reserve System;
- the Comptroller of the Currency;
- the Director of the Bureau of Consumer Financial Protection;
- the Chairman of the Securities and Exchange Commission;
- the Chairperson of the Federal Deposit Insurance Corporation;
- the Chairperson of the Commodity Futures Trading Commission;
- the Director of the Federal Housing Finance Agency;
- the Chairman of the National Credit Union Administration; and
- an independent member with insurance expertise who is appointed by the President and confirmed by the Senate for a six-year term.

The nonvoting members, who serve in an advisory capacity, are:

- the Director of the Office of Financial Research;
- the Director of the Federal Insurance Office;
- a state insurance commissioner designated by the state insurance commissioners;
- a state banking supervisor designated by the state banking supervisors; and
- a state securities commissioner (or officer performing like functions) designated by the state securities commissioners.

The state insurance commissioner, state banking supervisor, and state securities commissioner serve two-year terms.

## Statutory Requirements for the Annual Report

Section 112(a)(2)(N) of the Dodd-Frank Act requires that the annual report address the following:

- i. the activities of the Council;
- ii. significant financial market and regulatory developments, including insurance and accounting regulations and standards, along with an assessment of those developments on the stability of the financial system;
- iii. potential emerging threats to the financial stability of the United States;
- iv. all determinations made under Section 113 or Title VIII, and the basis for such determinations;
- v. all recommendations made under Section 119 and the result of such recommendations; and
- vi. recommendations—
  - I. to enhance the integrity, efficiency, competitiveness, and stability of United States financial markets;
  - II. to promote market discipline; and
  - III. to maintain investor confidence.

## Approval of the Annual Report

This annual report was approved unanimously by the voting members of the Council on May 7, 2014. Except as otherwise indicated, data cited in this report is as of March 31, 2014.

## Abbreviations for Federal Member Agencies of the Council

- Department of the Treasury (Treasury)
- Board of Governors of the Federal Reserve System (Federal Reserve)
- Office of the Comptroller of the Currency (OCC)
- Bureau of Consumer Financial Protection (CFPB)
- Securities and Exchange Commission (SEC)
- Federal Deposit Insurance Corporation (FDIC)
- Commodity Futures Trading Commission (CFTC)
- Federal Housing Finance Agency (FHFA)
- National Credit Union Administration (NCUA)
- Office of Financial Research (OFR)
- Federal Insurance Office (FIO)

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# 1

## Member Statement

**The Honorable John A. Boehner**  
Speaker of the House  
United States House of Representatives

**The Honorable Nancy Pelosi**  
Democratic Leader  
United States House of Representatives

**The Honorable Joseph R. Biden, Jr.**  
President of the Senate  
United States Senate

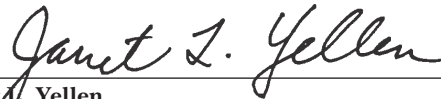
**The Honorable Harry Reid**  
Majority Leader  
United States Senate

**The Honorable Mitch McConnell**  
Republican Leader  
United States Senate

In accordance with Section 112(b)(2) of the Dodd-Frank Wall Street Reform and Consumer Protection Act, for the reasons outlined in the annual report, I believe that additional actions, as described below, should be taken to ensure financial stability and to mitigate systemic risk that would negatively affect the economy: the issues and recommendations set forth in the Council's annual report should be fully addressed; the Council should continue to build its systems and processes for monitoring and responding to emerging threats to the stability of the United States financial system, including those described in the Council's annual report; the Council and its member agencies should continue to implement the laws they administer, including those established by, and amended by, the Dodd-Frank Act, through efficient and effective measures; and the Council and its member agencies should exercise their respective authorities for oversight of financial firms and markets so that the private sector employs sound financial risk management practices to mitigate potential risks to the financial stability of the United States.



**Jacob J. Lew**  
Secretary of the Treasury  
Chairperson, Financial Stability Oversight Council



**Janet L. Yellen**  
Chair  
Board of Governors of the Federal Reserve System



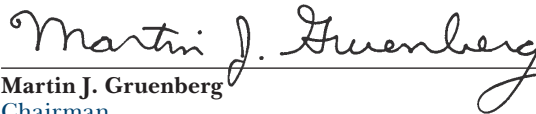
**Thomas J. Curry**  
Comptroller of the Currency  
Office of the Comptroller of the Currency



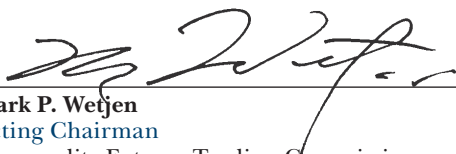
**Richard Cordray**  
Director  
Bureau of Consumer Financial Protection



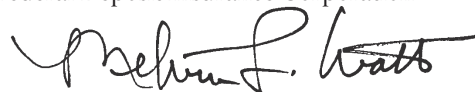
**Mary Jo White**  
Chair  
Securities and Exchange Commission



**Martin J. Gruenberg**  
Chairman  
Federal Deposit Insurance Corporation



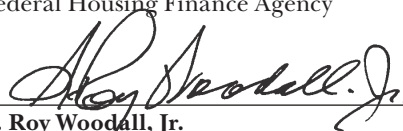
**Mark P. Wetjen**  
Acting Chairman  
Commodity Futures Trading Commission



**Melvin L. Watt**  
Director  
Federal Housing Finance Agency



**Debbie Matz**  
Chairman  
National Credit Union Administration



**S. Roy Woodall, Jr.**  
Independent Member with Insurance Expertise  
Financial Stability Oversight Council

# 2

## Executive Summary

Over the past year, the U.S. financial system continued to recover from the damage sustained during the financial crisis. The regulatory reforms required by the Dodd-Frank Act and contemplated in The Group of Twenty (G-20) agreements moved meaningfully towards completion. Although significant risks remain, financial markets, institutions, and investor confidence showed resilience over the past year amid challenging market conditions, including a period of heightened volatility in fixed income markets, concerns about the U.S. debt ceiling, and pressure on emerging markets (EMs).

The regulatory community reached a number of key milestones in financial reform implementation, including finalization of the Volcker Rule, bank capital rules, a supplementary leverage ratio for the largest banks and bank holding companies (BHCs), enhanced prudential standards for the U.S. operations of large foreign banks, and the advent of clearing, trading, and registration requirements for swaps markets. Policy development continued with proposed rulemakings on money market fund (MMF) reform, risk retention for securitizations, and requirements for short-term liquidity coverage for large banking organizations. Also, there have been significant reductions in intraday credit exposures in the tri-party repurchase agreement (repo) market and significant progress on the strategy for resolution under the orderly liquidation authority (OLA). In addition, the Council designated three nonbank financial companies for enhanced prudential standards and supervision by the Federal Reserve.

In what follows we summarize some of the key potential emerging threats and reforms identified by the Council that are further described in this year's annual report. In some cases, we call attention to threats and reforms identified in previous reports.

### Short-Term Wholesale Funding Markets

The influx of customer deposits in recent years has afforded banks the opportunity to reduce their dependence on short term wholesale funding. Although the usage of commercial paper (CP), repo, time deposit, and other sources of wholesale funding fell this past year, financial institutions without access to customer deposits and prohibited from using customer cash and securities for proprietary purposes, such as broker-dealers, remain dependent on wholesale markets for funding. Since the Council's inaugural annual report nearly three years ago, the structural vulnerabilities of the tri-party repo markets have been highlighted. This past year witnessed important progress in tri-party repo reform. For example, through supervisory authority, the Federal Reserve has worked with the two clearing banks and market participants to greatly improve operational efficiencies and controls in the management and transfer of tri-party repo collateral. As a result, intraday credit exposure was reduced below the 10 percent goal for one clearing bank while the other is expected to have less than 10 percent of this exposure by the end of 2014.

In addition, reform efforts continue for MMFs, with the SEC releasing a proposed rulemaking in June 2013. Currently, the SEC is assessing comment letters and other data and information to determine the best approach to prevent possible runs on MMFs in the event of a severe liquidity or credit shock to MMFs, such as occurred during the financial crisis. Until structural reforms are adopted, the potential for run risk remains significant. Similarly, the possibility of tri-party repo collateral fire sales still poses significant risks for the financial system. Policymakers continue to examine ways to minimize potential tri-party repo spillover effects if such fire sales were to occur.

## **Developments in Financial Products, Services, and Business Practices**

The financial system is constantly evolving with the development of new products, services, and business practices. These changes can occur for a variety of reasons, including improvements in technology, new regulations, and competition. Financial evolution provides a number of benefits to the financial system. However, along with these benefits come new challenges to supervisors and regulators. New products or services are sometimes developed to circumvent regulation. New practices may move a regulated activity outside of the regulatory perimeter either by moving the activity offshore or by moving it from a heavily regulated entity to an entity that is less regulated. It is important to be alert to the potential adverse effects that may arise with these changes. This is particularly relevant in the current environment, because the changing financial landscape of the post-crisis world has fostered many developments in financial products, services, and business practices.

## **Risk-Taking Incentives of Large, Complex, Interconnected Financial Institutions**

Historically, when large, complex, interconnected financial institutions became distressed, official authorities often intervened to maintain financial stability. Past support can engender expectations of future support, and such expectations provide incentives for further increases in size, interconnectedness, and complexity. They also can lead market participants to discount risk, giving these institutions incentives to take on excessive risk. The Dodd-Frank Act addresses and attempts to mitigate the incentives and abilities of large, complex, interconnected financial institutions to engage in excessive risk-taking.

During 2013, the largest U.S. financial institutions continued to reduce their complexity as well as their interconnectedness in some dimensions. Additionally, rating agencies lowered their assessments of the likelihood of government support. However, credit rating agency opinions continue to explicitly factor in the possibility that the government will provide support to the largest banks if they become financially distressed. The full implementation of the OLA, and the phasing in of enhanced prudential standards in coming years, should help reduce remaining perceptions of government support for large, complex, interconnected financial institutions.

## **Reforms of Reference Rates**

Beginning in the second half of 2012, investigations reported multiple instances of systematic false reporting and manipulation of widely used survey based benchmark interest rates, such as the London Interbank Offered Rate (LIBOR) and Euro Interbank Offered Rate (EURIBOR) by reporting banks. Since the Council's 2013 annual report, additional financial institutions have been linked to manipulative activity. Financial firms have paid fines and penalties in excess of \$6 billion globally to settle charges related to benchmark interest rates.

More recently, concerns have been raised about the integrity of certain foreign exchange (FX) rate benchmarks. One important observation from the recent allegations in FX markets is that transactions-based benchmarks can also be subject to improper behavior that distorts the benchmarks and adversely impacts related markets, highlighting the need for stronger governance and oversight. These revelations erode public confidence in benchmark interest rates and introduce potential risks to financial stability. Concerns about manipulation in a range of markets show that a significant conflict of interest can exist between the private individuals and firms operating in these markets and the need for fair benchmarks to promote financial stability and efficient market functioning. The international community continues to move to reform the governance process for financial benchmarks and enhance the integrity of related markets.



## Financial System Vulnerability to Interest Rate Volatility

The prolonged period of low interest rates has led investors to extend maturities, purchase lower quality credit, and increase leverage in a search for yield. As a result, higher-yielding strategies have experienced substantial inflows of funds. Financial institutions also have responded to the low interest rate environment. Banks have eased loan underwriting standards, while insurance companies and MMFs have moderately increased the duration of their portfolios. Although interest rates have risen from historic lows, rates could rise further and impose losses for the holders of fixed income assets. Additionally, since the majority of leveraged lending is floating rate and borrowers are highly leveraged, a sharp increase in interest rates could increase the risk of default of these borrowers and impose costs on their lenders. Of course, a continued low rate environment also has risks. It continues to weigh on earnings of banks, insurance companies, pension funds, and retirement funds, putting further pressure on them to pursue riskier investments in order to meet their targeted returns.

## Operational Risks

Market continuity and confidence were challenged this past year with an increase in outages and failures resulting from technological and infrastructure vulnerabilities. Some of these incidents, as in the case of the NASDAQ securities information processor outage which led to the suspension of trading, resulted mainly from hardware and network connectivity problems. Other incidents involved software failures that sent involuntary orders through automated trading systems, leading to large losses on trades that were never intended to occur. Deliberate attempts to disrupt institutions, markets, or commerce also occurred, as in the recent high-profile cyber-attack on Target that resulted in the theft of bank card and customer information. As interconnected firms and financial markets become more dependent on complex technologies and networks, the frequency, severity, and sophistication of such incidents are likely to rise.

## Foreign Markets Risks

In 2013, domestic market participants remained concerned about the adverse consequences of financial developments abroad. However, the areas from which these risks emanate have changed considerably. In previous years, euro area stability was a key area of concern for global financial markets. Over the past year, economic and financial conditions in the euro area have stabilized. At the same time, EMs have become a focus of concern. Beginning in the late spring of 2013, emerging market economy (EME) exchange rates and asset prices became much more volatile, and economic growth subsequently slowed in some EMEs. The potential spillover effects to the United States of current levels of EME stress appear limited, but a substantial worsening of EME stress is a risk.

## Data Gaps and Data Quality

High quality and readily available access to financial data is critical for regulators, supervisors, and the financial services industry. Access and comprehensiveness of data is limited and gaps exist. For example, regulators lack sufficient data to thoroughly analyze all repo markets. They are still unable to effectively monitor securities lending transactions and the reinvestment of cash collateral. In addition, some regulators still face difficulties in accessing data stored at swap data repositories (SDRs). However, regulators have made significant progress in addressing financial data gaps in recent years. They now collect real-time data from various markets and institutions. There has also been progress in rolling out the legal entity identifier (LEI) to identify parties to financial transactions as well as in the creation of SDRs or security-based swap data repositories (SBSDRs). The widespread adoption of LEI both domestically and globally, together with the work to enhance the consistency and availability of swaps data reported by swaps data repositories, would improve the ability of regulators to monitor emerging risks in the financial system.

## Housing Finance Reform

Conditions in the housing and housing finance markets showed signs of improvement in 2013, although challenges remain. House prices nationally experienced strong increases in the beginning of the year with recent levels rising more moderately. Home purchasing levels rose modestly, while loan performance also improved as fewer borrowers fell behind on their mortgages or missed their monthly payments. Amid these improving market conditions, home equity lending also rose. The government-sponsored enterprises (GSEs) still provide the majority of financing for borrowers, though they continue to reduce their mortgage investment portfolios. In order to attract more private capital, the GSEs completed risk sharing transactions associated with \$75 billion in mortgages. Additionally, the GSEs worked to create significant infrastructure improvements to support the securitization market. Legislative reform efforts also have continued with legislation under consideration in the Senate and the House.

### 3.1 Reforms to Address Structural Vulnerabilities

#### 3.1.1 Reforms of Wholesale Funding Markets

##### Tri-party Repo

In its 2013 annual report, the Council highlighted three vulnerabilities in the tri-party repo market:

- Heavy reliance by market participants on intraday credit extensions from the clearing banks.
- Weakness in the credit and liquidity risk management practices of many market participants.
- Lack of a mechanism to ensure that tri-party repo investors do not conduct disorderly, uncoordinated sales of their collateral immediately following a broker-dealer's default.

Significant progress has been made over the past year in reducing market participants' reliance on intraday credit from the clearing banks. The share of volume funded intraday by the clearing banks fell from 92 percent in December 2012 to under 20 percent in December 2013, and is projected to fall below the Tri-Party Repo Infrastructure Reform Task Force's goal of 10 percent by December 2014. Both clearing banks have re-engineered the settlement process in ways that require much less intraday credit extension and have increased the price of credit they still provide. Market participants now face stronger incentives to manage their risk prudently; many dealers have extended the weighted-average maturity of their tri-party repo funding thereby sharply reducing their rollover risk exposure.

General Collateral Finance (GCF) repo activity, which settles on the tri-party repo platform, is still relatively reliant on clearing bank intraday credit to facilitate settlement. Improving the resiliency of GCF repo settlement is a key focus of industry reform for 2014. The Council urges that market participants work to extend improvements in the tri-party repo settlement process to GCF repo settlement as soon as possible.

The risk of fire sales of collateral by creditors of a defaulted broker-dealer, many of whom may themselves be vulnerable to runs in a stress event, remains an important financial stability concern given the destabilizing effect such sales may have on markets and their potential to transmit risk across a wide range of participants. The Council recognizes that regulatory reforms implemented since the crisis, such as increases in the amount of capital, liquidity, and margin changes for U.S. broker-dealers, may help to mitigate the risk of default. However, the Council advises all U.S. regulators of firms that rely on this market for funding to assess whether additional steps may need to be taken to further increase tri-party repo borrowers' protection against funding runs in the broader context of liquidity regulation. The Council also urges coordination between market participants and financial regulators to address the risk of post-default fire sales of assets by tri-party repo investors.

## Transparency

The Council recognizes that while activity has become more transparent in some areas of the wholesale funding markets, such as GCF repo and tri-party repo, improvements are needed in other segments of the market, notably bilateral repo and securities lending. Regulators and policymakers will have a growing need for information as they attempt to monitor and assess how regulatory reforms are affecting wholesale funding market functioning and how risks evolve in these markets. The Council recommends that all member agencies continue to collaborate with the OFR to improve transparency in this area of the financial system.

## Money Market Funds

In June 2013, the SEC proposed rules to reform the structure of MMFs in order to make them less susceptible to runs. The SEC's proposal includes two principal changes that could be adopted alone or in combination. One alternative would require a floating net asset value (NAV) for prime institutional MMFs. The other alternative would allow the use of liquidity fees and redemption gates in times of stress. The proposal also includes additional diversification, disclosure, and stress testing measures that would apply under either alternative. The SEC's proposed reforms would supplement the MMF reforms adopted by the SEC in 2010 that were designed to improve the risk-limiting conditions on MMFs by, among other things, instituting minimum liquidity requirements, reducing MMFs' weighted-average maturities, and enhancing the credit quality of holdings.

In November 2012, the Council, under Section 120 of the Dodd-Frank Act, issued a proposed recommendation that the SEC implement structural reforms to mitigate the vulnerability of MMFs to runs. That proposed recommendation included three alternatives for public consideration: (1) a floating NAV; (2) a stable NAV with a NAV buffer of up to 1 percent and a minimum balance at risk of roughly 3 percent of a shareholder's account value; and (3) a stable NAV with a 3 percent NAV buffer in addition to other measures, including more stringent diversification, liquidity, and disclosure requirements.

When making the proposed recommendation, the Council stated and reiterates today that the SEC, by virtue of its institutional expertise and statutory authority, is best positioned to implement reforms to address the risk that MMFs present to the economy. The Council does not expect that it would issue a final Section 120 recommendation to the SEC, if the SEC moves forward with meaningful structural reforms of MMFs. The Council understands the SEC is currently in the process of reviewing public comments on its proposed reforms, and the Council recommends that the SEC move forward and adopt structural reforms designed to address MMF run risk.

The Council recommends that its member agencies examine the nature and impact of any structural reform of MMFs that the SEC implements to determine whether the same or similar reforms are appropriate for other cash-management vehicles, including non-Rule 2a-7 MMFs. Such an examination would provide for consistency of regulation while also decreasing the possibility of the movement of assets to vehicles that are susceptible to large-scale runs or otherwise pose a threat to financial stability.

### 3.1.2 Housing Finance Reform

In the past year, there were signs of considerable improvement in the residential housing market. Home prices increased, delinquency rates declined, and home sales strengthened. However, the housing finance system remains highly reliant on federal government support, with nearly 80 percent of newly originated mortgages in 2013 carrying some form of government backing. The development and implementation of broad reforms for the housing finance system that fosters the involvement of more private capital is critical. Congress is actively debating the issue. The House Financial Services Committee approved legislation in July 2013, and members of the Committee have released additional proposals for consideration. In the Senate, members of the Senate Banking Committee introduced legislation in June 2013; and leadership of the

Committee released a draft proposal in March 2014, which builds upon the earlier legislation. The Council recommends that the Treasury, U.S. Department of Housing and Urban Development (HUD), and FHFA continue to work with Congress and other stakeholders to develop and implement a broad plan to reform the housing finance system. These efforts, along with some of those described below, should help to reduce uncertainty in the housing finance market, provide access for creditworthy borrowers, and protect taxpayers.

### Review of 2013 Recommendations and 2014 Goals

Since the Council's 2013 annual report, member agencies have advanced reform in many ways, including:

- The GSEs achieved FHFA's targets for risk-sharing transactions and reductions in their mortgage investment portfolios in 2013. The GSEs engaged in multiple types of risk-sharing transactions associated with \$75 billion in mortgages. In addition, the GSEs met the target of disposing of 5 percent of the less-liquid portion of their mortgage investment portfolios, while meeting the overall goal of 15 percent reduction.
- Member agencies made progress on finalizing the risk-retention rule, required by the Dodd-Frank Act, by reviewing and inviting comments on a revised proposal in August 2013.
- FHFA and the GSEs continued to make progress on the development of a Common Securitization Platform (CSP). These efforts included analyzing functions, testing capabilities, and establishing an operating structure.

Notwithstanding the above, further progress needs to be made in 2014. Outlined below are steps Council members plan to take in 2014 in order to help meet the Council's housing finance goals.

### Reducing the GSEs' Footprint

In 2014, FHFA plans to continue encouraging the development of risk-sharing transactions in terms of size, depth, and types of transactions. In addition, FHFA plans to continue efforts to reduce the size of the GSEs' retained investment portfolios with a focus on less-liquid assets. The Council recommends that FHFA continue these efforts in order to help bring more private capital back into mortgage finance.

### Facilitating Increased Private Mortgage Market Activity

New issue nonguaranteed mortgage issuance remains significantly depressed compared to historical averages. A significant amount of work remains to foster increased levels of private activity in the mortgage finance market. To help facilitate this, the Council recommends that the relevant agencies continue their work to finalize the risk-retention rule, including the qualified residential mortgage (QRM) definition. More broadly, FHFA, Treasury, HUD, CFPB, and Congress must continue to address the weaknesses that became evident in the recent housing crisis by promoting the development of standards and best practices in the mortgage market. While some testing of different approaches to better clarify representations and warranties, enforcement mechanisms, and other terms has begun, the Council recommends continuing collaboration and standardization among market participants and regulators in these areas.

### Building a New Housing Finance Infrastructure

The GSEs have made progress toward developing and improving infrastructure through the CSP and standardization in various aspects of the mortgage finance market. In October, the GSEs established a joint venture, Common Securitization Solutions, LLC, which will own the CSP and related business and operational functions. In 2014, FHFA plans to complete the scoping of the CSP's functional requirements and develop GSE/CSP integration plans. The Council recommends FHFA continue to explore changes to the GSEs' operations that would lead to a more efficient and sustainable mortgage market.



### **3.1.3 Reforms Relating to Reference Rates**

In its 2013 annual report, the Council recommended international cooperation for the development of high-level principles for financial benchmark governance, controls, data sufficiency, and oversight. The Council also recommended U.S. regulators cooperate with foreign regulators, international bodies, and market participants to promptly identify alternative interest rate benchmarks anchored in observable transactions and supported by appropriate governance structures, and to develop a plan to accomplish a transition to new benchmarks while such alternative benchmarks were being identified. While some progress has been made, more work is needed to achieve these recommendations.

In addition to achieving the aforementioned efforts, the Council recommends that U.S. regulators continue to cooperate with foreign regulators and official sector bodies in their assessment of market practices and benchmarks in the FX markets. The Council also recommends that U.S. agencies consider the International Organization of Securities Commissions (IOSCO) principles into their ongoing assessment of financial benchmarks in the United States. Finally, the Council recommends development of a plan to implement a smooth and orderly transition to any new benchmarks.

## **3.2 Heightened Risk Management and Supervisory Attention**

### **3.2.1 Developments in Financial Products, Services, and Business Practices**

In recent years, the financial system has undergone significant changes resulting from technology, competitive forces, and new regulations. While such changes and advancements can create significant benefits, unforeseeable risks can potentially arise in new forms and venues. The Council recommends that members and member agencies remain attentive to the potential implications for financial stability that may arise from developments in financial products, business practices, and migration of activities in the financial system.

Specifically in the case of nonbank mortgage servicing companies, a large amount of mortgage servicing rights (MSRs) have been sold to nonbank mortgage servicing companies in recent years. These companies are subject to regulation by the CFPB under federal consumer financial laws and are important counterparties to the GSEs. Prudential standards at the state level consist of bonding and net worth requirements. The Council recommends that, in addition to continued monitoring, state regulators work together to collaborate on prudential and corporate governance standards to strengthen these companies, in collaboration with the CFPB and FHFA, as may be deemed appropriate.

### **3.2.2 Capital, Liquidity, and Resolution**

#### **Capital and Liquidity**

Considerable progress is being made on robust capital and liquidity planning at U.S. financial institutions. The Federal Reserve continues to conduct its supervisory stress tests to ensure that the largest U.S. BHCs have sufficient capital and rigorous forward-looking capital planning processes to enable banking firms to continue operations throughout periods of severe stress. NCUA recently finalized a stress testing and capital planning requirement for credit unions over \$10 billion in assets. The Federal Reserve also recently finalized enhanced prudential standards, including enhanced capital and liquidity standards, for the largest domestic BHCs and foreign banking organizations (FBOs) with a U.S. banking presence. In July 2013, the federal banking agencies finalized regulatory capital rules that implement Basel III reforms. The Council recommends that the agencies continue to promote forward-looking capital and liquidity planning at large BHCs, U.S. operations of FBOs, and other depositories.

While many different forms of funding are an integral part of the traditional banking model, firms should diversify their funding base and place prudent limits on the volume of credit-sensitive, short-term liabilities. On liquidity risk management, the Council recommends that supervisors and private sector risk managers closely monitor the risks inherent in short-term funding of longer-term assets. In 2013, the federal banking agencies proposed a liquidity coverage ratio (LCR) that would strengthen the liquidity position of large banking firms. The Council recommends that the agencies continue to work expeditiously to finalize the LCR and continue work on potential quantitative rules that would address longer-term liquidity needs for banking organizations.

### Resolution Planning

Resolution plans and the OLA, in conjunction with enhanced prudential standards, are critical elements of Dodd-Frank Act reform. Effective resolution planning for the largest financial institutions is an important tool to address the operational and legal complexity of these firms on an ongoing basis. All BHCs with total consolidated assets of \$50 billion or more and nonbank financial companies designated by the Council for supervision by the Federal Reserve are required to develop, maintain, and periodically submit resolution plans that would facilitate these entities' resolution under the Bankruptcy Code. If the Federal Reserve and the FDIC jointly determine that a resolution plan is not credible or would not facilitate an orderly resolution under the Bankruptcy Code, then the company must resubmit the plan with revisions. If the company fails to resubmit a credible plan that would result in an orderly resolution under the Bankruptcy Code, the Federal Reserve and the FDIC may jointly impose more stringent capital, leverage, or liquidity requirements; growth, activities, or operations restrictions; and, after two years and in consultation with the Council, divestiture requirements.

In 2013, 11 financial institutions, including those with nonbank assets greater than \$250 billion, submitted the second submission of their resolution plans, including information responding to guidance provided to the firms by the Federal Reserve and FDIC. Also in 2013, 120 additional firms submitted their initial resolution plans. The Federal Reserve and FDIC are reviewing and analyzing all submissions received during the year. The Council recommends that the Federal Reserve and FDIC continue to implement their authority in a manner that fosters sound resolution planning and better prepares firms and authorities for a rapid and orderly resolution under the Bankruptcy Code.

The United States has been working diligently to develop the capabilities needed for an orderly resolution of a global systemically important financial institution (G-SIFI) using the OLA provided in the Dodd-Frank Act. The FDIC issued a Federal Register notice for comment on the single point of entry (SPOE) strategy. An important part of this effort has involved working with foreign counterparts to establish a framework for effective cross-border cooperation in the event a G-SIFI requires resolution. The Council recommends that the FDIC and Federal Reserve continue to work with international counterparts to identify and address issues of mutual concern as the FDIC develops strategies for the orderly resolution of G-SIFIs.

### 3.2.3 Risk of Increased Interest Rate Volatility

#### Depository Institutions, Broker-Dealers, and Bank Holding Companies

While financial markets experienced a significant rise in interest rates this past year, the overall levels of rates remain quite low by historical standards. The extension of the low interest rate period continued to weigh on earnings of banks, credit unions, and broker-dealers, further incentivizing risk-seeking behavior such as extending the duration of assets and easing lending standards. Duration extension and increased credit risk-taking may increase short-term profits, but at the risk of potentially large losses in the event of a sudden yield curve steepening, a large rise in rates, or a significant widening of credit spreads. The Council recommends

that supervisors, regulators, and firm management continue to monitor and assess the growing risks resulting from the continued search-for-yield behaviors as well as the risks from potential severe interest rate shocks.

### Insurance Companies

Despite a significant rise in longer-term interest rates this past year, the insurance industry continued to report investment margins that were below historic averages. If historically low interest rates persist, insurance companies could face a challenge generating investment returns that are sufficient to meet the cash flow demands of liabilities. Some insurers have extended portfolio durations or invested in lower credit quality fixed income assets, or both. Some have also increased investments in commercial mortgage loans, equity real estate, and alternative assets such as private equity funds and hedge funds, all of which are generally less liquid than investment-grade fixed-income investments. Movement into longer-duration, lower-quality, and less liquid assets increases the vulnerability of insurers to surges in interest rates. Life insurers, which typically have investments in longer-duration fixed-income assets that are held to maturity to match long-tail liabilities, are vulnerable to interest rate volatility if they have to sell such assets prior to maturity to meet liability cash flow demands. The Council recommends that FIO and state insurance regulators continue to monitor and assess interest rate risk resulting from severe interest rate shocks.

## 3.2.4 Operational Risk

### Cybersecurity

The vulnerabilities posed by cross-sector dependencies and interconnected systems across firms, markets, and service providers can lead to significant cybersecurity risks. These risks could impact economic security, demanding a coordinated and collaborative government-wide commitment and partnership with the private sector to promote infrastructure security and resilience.

The Council recommends that the Treasury continue to work with regulators, other appropriate government agencies, and private sector financial entities to develop the ability to leverage insights from across the government and other sources to inform oversight of the financial sector and to assist institutions, market utilities, and service providers that may be targeted by cyber incidents. The Council recommends that regulators continue to undertake awareness initiatives to inform institutions, market utilities, service providers, and other key stakeholders of the risks associated with cyber incidents, and assess the extent to which regulated entities are using applicable existing regulatory requirements and non-regulatory principles, including the National Institute of Standards and Technology (NIST) Cybersecurity Framework.

The Council recommends that financial regulators continue their efforts to assess cyber-related vulnerabilities facing their regulated entities and identify gaps in oversight that need to be addressed. The Council also recognizes the overarching contribution the private sector makes to infrastructure cybersecurity and urges continued expansion of this work to engage institutions of all sizes and their service providers.

The Council recommends that the Finance and Banking Information Infrastructure Committee, financial institutions, and financial sector coordinating bodies establish, update, and test their crisis communication protocols to account for cyber incidents and enable coordination, and with international regulators where warranted, to assess and share information.

In addition, the Council recognizes the importance of removing legal barriers to information sharing between public and private sector partners to enhance overall awareness of cyber threats, vulnerabilities, and attacks, including through Congress' passage of comprehensive cybersecurity legislation.

## Market Infrastructure and Market Continuity

Operational risk includes the risk of malfunctions in the technology of automated markets. While such malfunctions can have varying degrees of market impact, they can potentially erode market confidence and affect the strength and resilience of the financial system. In the past year, there were several disruptions in market infrastructure systems that are designed to facilitate the transmission of data and support other automated trading systems.

During 2013, regulators took various approaches to continue to address infrastructure and automated-trading system vulnerabilities. The Council notes that, although most of the concerns raised relate to activities occurring on public and centralized exchanges and venues, such technology issues can have similar ramifications in other markets, each of which rely on automated systems. The Council also recognizes that alternative trading venues and methods may present operational and other risks by magnifying system-wide complexity. These vulnerabilities may be heightened, particularly in fragmented markets, by high frequency or low latency automated trading activities. As such, regulators should focus not only on centrally-traded products, but also on a broader set of financial products and trading methods that trade off exchanges.

### 3.2.5 Data Quality and Comprehensiveness

Data standards are critical because they facilitate the sharing, exchange, comparison, and aggregation of data for analysis and risk management, and because they reduce costs. Standards are particularly important to assure quality in data collections. Data should be precisely defined and appropriately stored and protected. Also, domestic and cross-border exchange of supervisory data among supervisors, regulators, and financial stability authorities should be facilitated in a manner that safeguards the confidentiality and privacy of such information. The Council recommends that regulators and market participants continue to work together to improve the quality and comprehensiveness of financial data in the United States as well as globally.

The LEI is a valuable tool to precisely identify the parties to particular financial transactions, which is essential for effective counterparty risk management and related purposes. The Council recommends that members and member agencies continue to evaluate the use of the LEI and promote, where appropriate, its use in reporting requirements and rulemakings. The Council notes that several of its member agencies actively participate in the global Regulatory Oversight Council, which currently governs the LEI initiative. The development of financial product identifiers, such as the unique mortgage identifier (UMI) is another important step in improving the quality of financial data. The Council recommends that this important work continues.

For derivatives markets, swaps must now be reported to new entities known as SDRs and SBSDRs. It is important that these data be sufficiently standardized for effective analysis by regulators and with appropriate aggregation and protection for public dissemination. In addition, regulators' access to these data remains a challenge both in the United States and globally. The Council recommends that members and member agencies work with international regulators to promote high standards in derivatives data reporting and recommends that impediments to U.S. authorities' access to data stored at repositories be resolved.

Addressing data gaps also is critical. While regulators have broadened the scope of data they collect since the crisis, significant gaps remain. Specifically, with respect to the repo and securities lending markets, member agencies still do not have complete data encompassing these markets. The Council recommends that members, member agencies and the OFR continue to work together to fill these data gaps. Also, following on the OFR's study on Asset Management and Financial Stability, which was prepared at the Council's request, the Council recommends that member agencies and the OFR discuss additional sources of data for that industry, particularly with respect to the management of separate accounts.

# 4

## Macroeconomic Environment

### 4.1 U.S. Economic Activity

#### 4.1.1 Real Gross Domestic Product

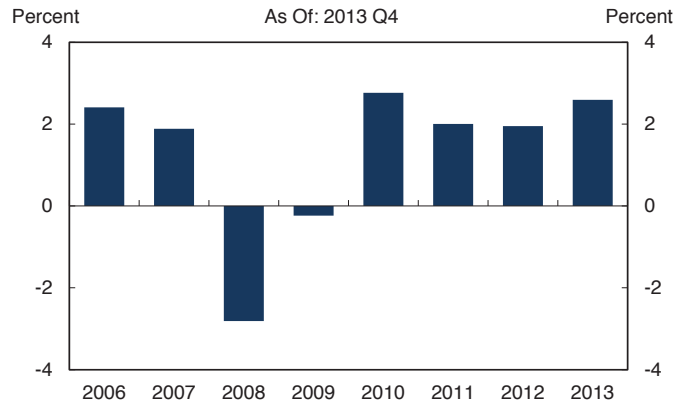
Economic growth picked up somewhat in 2013, with real gross domestic product (GDP) expanding an estimated 2.6 percent following a gain of 2 percent in 2012 (**Chart 4.1.1**). Some of this modest acceleration owes to factors likely to be temporary, such as an increased pace of inventory investment. More persistent sources of final demand strengthened in the second half of the year. Consumer spending stepped up modestly, reflecting improving labor market conditions and rising equity and house prices. In contrast, changes in federal fiscal policy had a dampening effect on demand: the expiration of the temporary payroll tax cut and income tax increases for high-income households limited consumer spending, together with sizable reductions in federal government purchases, particularly for defense, weighed negatively on domestic demand. Additionally, by mid-year the on-going recovery in the housing market slowed in response to a rise in mortgage rates.

#### Consumption and Residential Investment

Real personal consumption expenditures increased at a moderate pace of 2.33 percent in 2013, supported by improvements in labor market conditions, continued growth in household net worth, improvements in credit availability, and more optimistic levels of consumer sentiment (**Chart 4.1.2**). Nevertheless, consumer sentiment remains below pre-crisis norms, labor under-utilization continues to be elevated, and credit availability remains limited for many households with constrained financial resources or credit history. Growth in real disposable income was modest in 2013, in part reflecting the rise in payroll and income taxes at the start of the year.

Housing activity continued to step up through the first three quarters of 2013, supported by

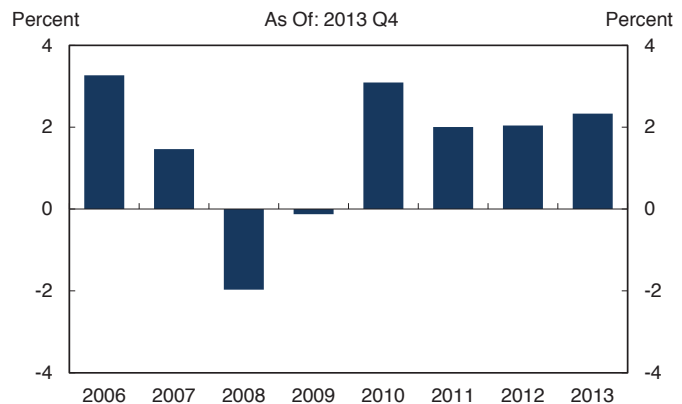
#### 4.1.1 Change in Real Gross Domestic Product



Source: BEA, Haver Analytics

Note: Annual changes are Q4/Q4.

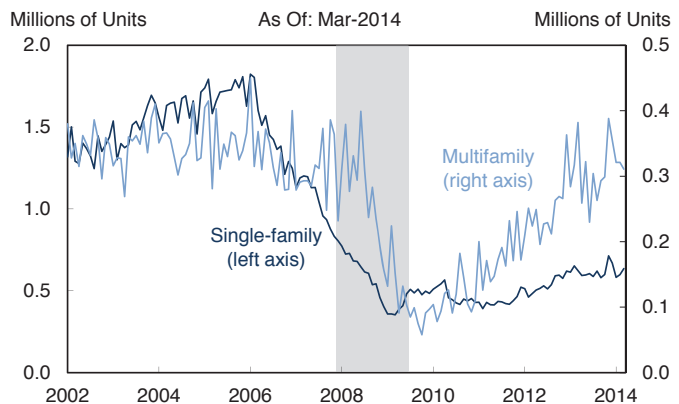
#### 4.1.2 Change in Real Personal Consumption Expenditures



Source: BEA, Haver Analytics

Note: Annual changes are Q4/Q4.

#### 4.1.3 Private Housing Starts

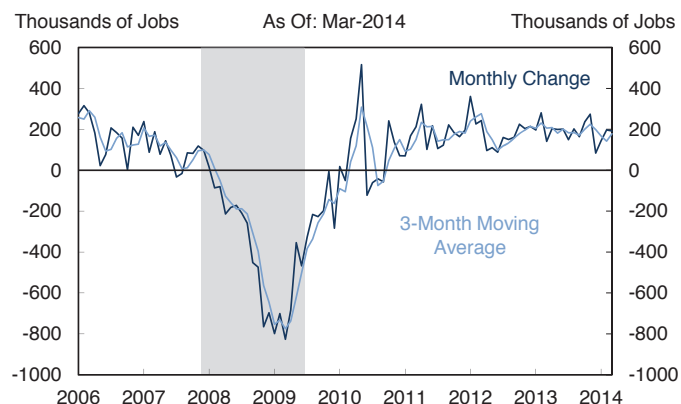


Source: Census Bureau, Haver Analytics

Note: Seasonally adjusted at an annualized rate. Gray bar signifies NBER recession.

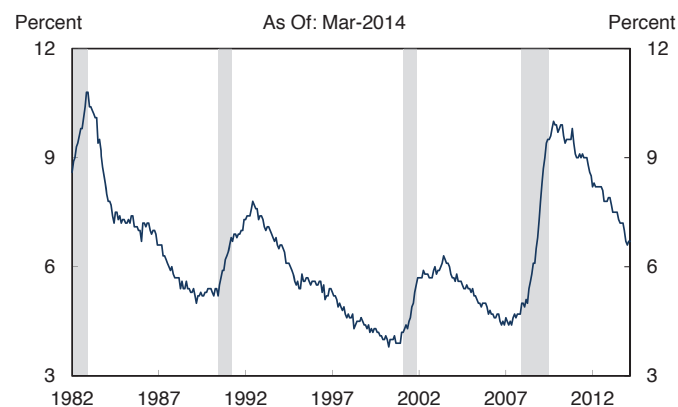


#### 4.1.4 Net Change in Nonfarm Payroll Employment



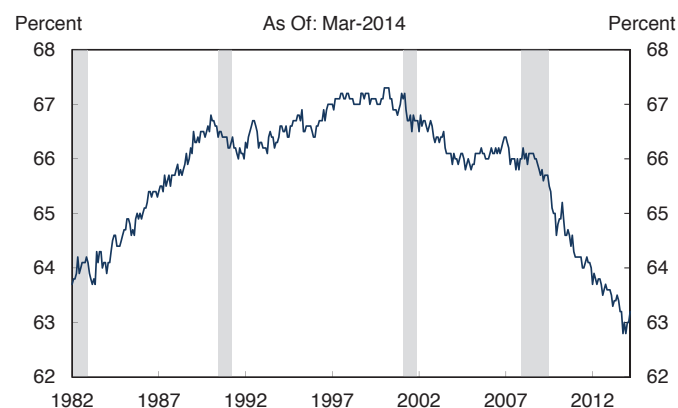
Source: BLS, Haver Analytics Note: Gray bar signifies NBER recession.

#### 4.1.5 Civilian Unemployment Rate



Source: BLS, Haver Analytics Note: Gray bars signify NBER recessions.

#### 4.1.6 Labor Force Participation Rate



Source: BLS, Haver Analytics Note: Gray bars signify NBER recessions.

improving labor market conditions, pent-up demand from depressed household formation rates during the recession, and historically low mortgage rates. Between June and August, mortgage rates rose about 1 percentage point and remained near this level for the rest of 2013. Following this increase, housing starts (**Chart 4.1.3**) and sales of new and existing homes all turned down in the fourth quarter, although some of this may be due to adverse weather conditions towards the end of the year. For the year, housing demand was still likely restrained by more conservative underwriting standards, especially for individuals with lower credit scores (**see Section 5.1.4**).

#### Business Fixed Investment

Real business fixed investment rose moderately in 2013. Growth in business investment was stronger in the second half of 2013 than in the first half, supported by the acceleration in business output and general economic activity, and with earlier uncertainties around the debt ceiling having faded (**see Box A**). Also, supportive of business investment for the year were favorable corporate financial conditions, with high profitability, historically low interest rates on corporate bonds, and improving financial terms for business loans. However, high vacancy rates and relatively tight financing for building investment continue to weigh on business investment in new structures.

#### Government Purchases

The contraction in real government purchases at the federal level more than offset the small gains in purchases at the state and local levels. Real local and state government purchases edged up slightly over the year, after declining sharply in 2010 and 2011 and flattening out in 2012, mainly owing to improving budgetary conditions driven by increases in tax revenues. Real federal government purchases fell at a rate of 6 percent over the year, after decreasing 2 percent in 2012, with large declines in defense and nondefense spending reflecting the budget caps, the sequestration, and the ongoing drawdown in overseas military operations.

## Imports and Exports

Real exports of goods and services strengthened in 2013, boosted by improving foreign GDP growth in the second half of the year and by strong sales of petroleum products—associated with the boom in U.S. oil production—and of agricultural goods. Imports increased for the year as well, consistent with the pickup in domestic aggregate demand. Altogether, net exports made a small but positive contribution to real GDP growth in 2013.

### 4.1.2 The Labor Market

The labor market continued to improve in 2013, although it is far from having fully normalized. Nonfarm payroll employment increased at an average monthly rate of 194,250 jobs in 2013 (Chart 4.1.4), similar to the pace over the previous two years. The private sector added on average 197,000 jobs per month, while government payrolls dropped at an average rate of 3,000 per month.

These job gains helped reduce the unemployment rate from 7.9 percent at the end of 2012 to 6.7 percent in December 2013 (Chart 4.1.5). Nonetheless, the unemployment rate remains elevated. Additionally, labor force participation has continued to fall, dropping another 0.6 percentage points since the end of 2012 and bringing the decline since the beginning of 2008 to just less than 3.25 percentage points (Chart 4.1.6).

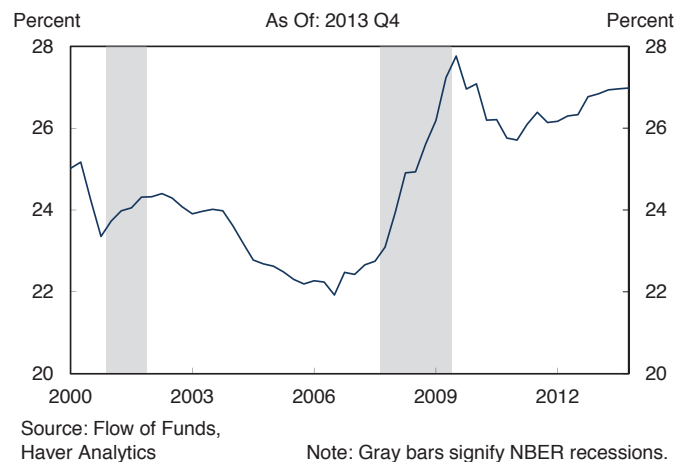
In December 2013, 38 percent of unemployed workers had been out of work for more than six months (Chart 4.1.7). Much of the declining trend in the labor force participation rate may be due to ongoing demographic changes related to the retirement of the baby boomers. However, some may also be due to cyclical factors, such as discouraged job seekers leaving the work force.

The high rate of unemployment in the current economic expansion has raised concerns that the natural rate of unemployment may have risen over the past few years in the United States. However, the continued decline in the

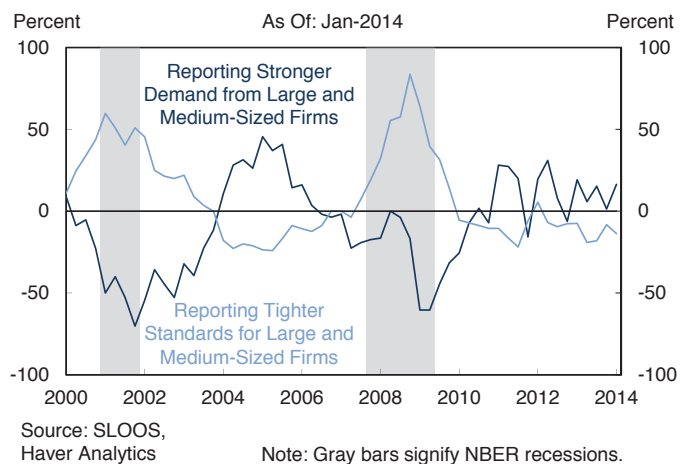
### 4.1.7 Long-Term Unemployment



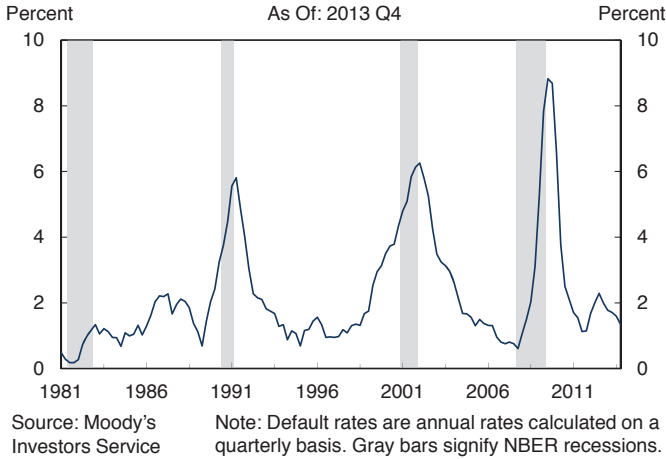
### 4.2.1 Debt to Assets for Nonfinancial Corporations



### 4.2.2 Bank Business Lending Standards and Demand



### 4.2.3 Nonfinancial Corporate Bond Default Rate



rate of unemployment suggests the natural rate may be normalizing. Wage growth for those employed remains subdued by historical standards.

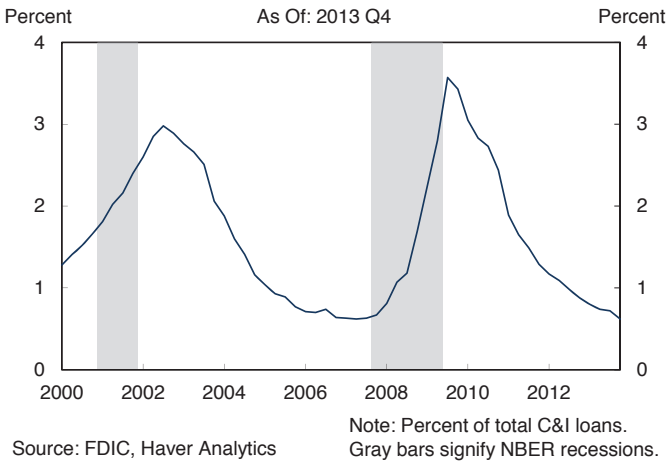
## 4.2 Nonfinancial Balance Sheets

### 4.2.1 Nonfinancial Corporate Sector

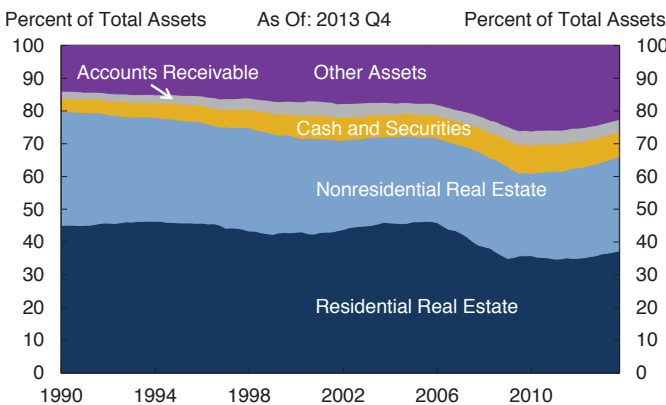
In 2013, corporate balance sheets remained strong as profits grew. Continued growth in earnings supported further rises in the share prices of nonfinancial corporations and allowed them to boost capital (see Section 5.1.3).

Improved credit quality and corporate profits, as well as the low level of interest rates and declining spreads on corporate debt, supported substantial gross borrowing in corporate bond markets by nonfinancial firms (Chart 4.2.1). Refinancing accounted for a record share and volume of corporate leveraged loans, more than doubling to \$682 billion in 2013 from \$283 billion in 2012. Total outstanding bank and nonbank loans to the nonfinancial corporate sector increased modestly in 2013. Commercial and industrial (C&I) loans funded by banks continued to rise. Bank respondents to the Federal Reserve's Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS) reported stronger demand for C&I loans by large and medium-sized firms for twelve of the last seventeen quarters as well as some easing of underwriting standards for sixteen of the last seventeen quarters (Chart 4.2.2).

### 4.2.4 Noncurrent Commercial and Industrial Loans



### 4.2.5 Noncorporate Assets



Source: Flow of Funds, Haver Analytics

Available indicators of corporate credit quality point to continued improvement. The default rate on nonfinancial corporate bonds continued to decline in 2013 (Chart 4.2.3), as did delinquency rates on C&I loans (Chart 4.2.4).

### 4.2.2 Noncorporate Business Sector

Compared to conditions in the corporate sector, financial conditions in the noncorporate business sector have improved at a slower pace. This sector, composed primarily of small businesses, accounts for slightly less than one-third of total nonfinancial business debt

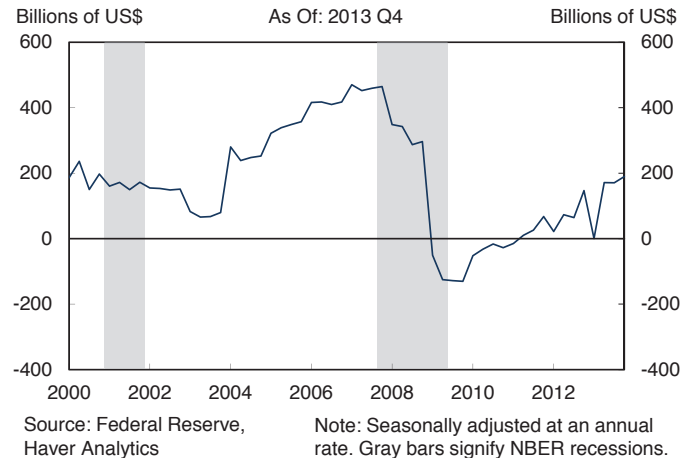
outstanding. However, since small businesses generally have access to a narrower range of financing options than corporations, the majority of small business debt is composed of bank loans. Therefore, developments in the noncorporate business sector affect the health of many banks' balance sheets, especially for smaller banks.

Real estate represents the majority of assets owned by noncorporate businesses (Chart 4.2.5). The decline in real estate collateral values since the beginning of the financial crisis has hampered noncorporate borrowers' ability to borrow from banks. However, there are signs that credit conditions are gradually improving, supported by rising real estate values and improving business conditions. Net borrowing by nonfinancial noncorporate businesses, which had dropped dramatically through 2010, was slightly positive for most of 2013 except immediately following the federal government shutdown (Chart 4.2.6). Respondents to the SLOOS noted some easing on loan standards for small firms, while demand for loans by small businesses generally continued to be tepid (Chart 4.2.7). Additionally, according to the National Federation of Independent Businesses (NFIB), the number of small businesses indicating difficulty in obtaining credit continued its downward trend in 2013 (Chart 4.2.8).

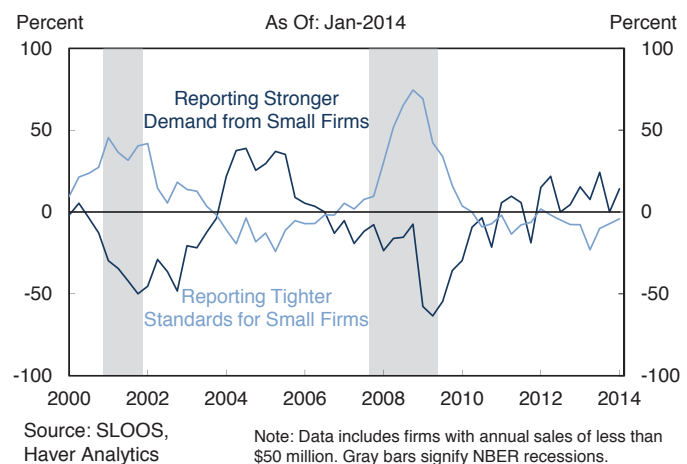
### 4.2.3 Household Sector

Household debt increased sharply in the years leading up to the financial crisis, reaching a high of 135 percent of disposable personal income in the third quarter of 2007. Since then, households have been deleveraging. By the end of last year, the ratio of household debt to disposable income had declined to its 2003 level of roughly 104 percent (Chart 4.2.9), mostly due to decreases in outstanding mortgage debt, which accounts for about three-fourths of all household debt. The contraction in mortgage debt appeared to halt in the third quarter of 2013 (Chart 4.2.10). The apparent bottoming out of mortgage debt follows continued housing-market activity and a pick-up in home

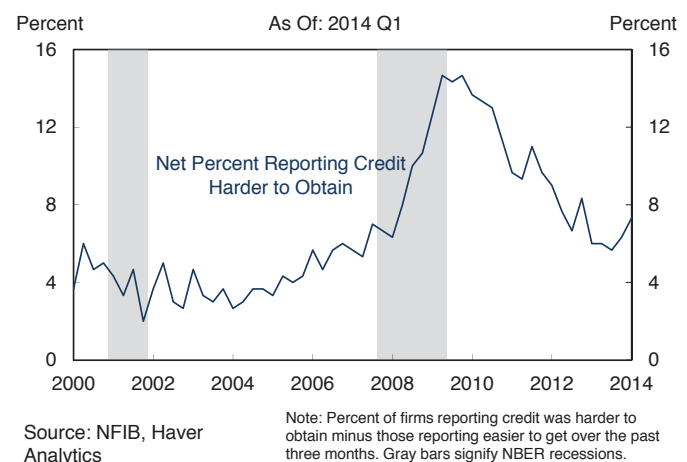
### 4.2.6 Net Borrowing by Nonfinancial Noncorporate Businesses



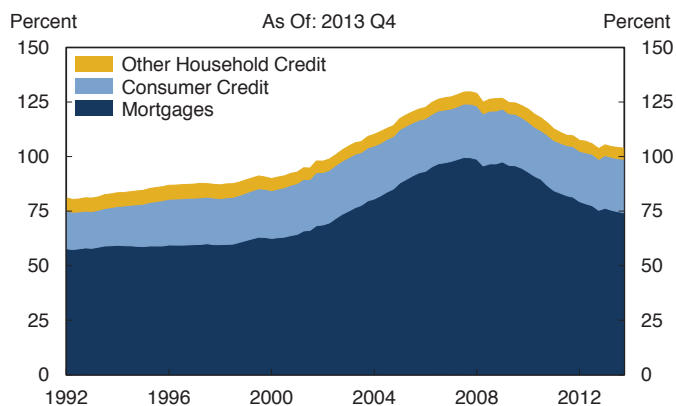
### 4.2.7 Bank Business Lending Standards and Demand



### 4.2.8 Small Businesses' Difficulty Obtaining Credit

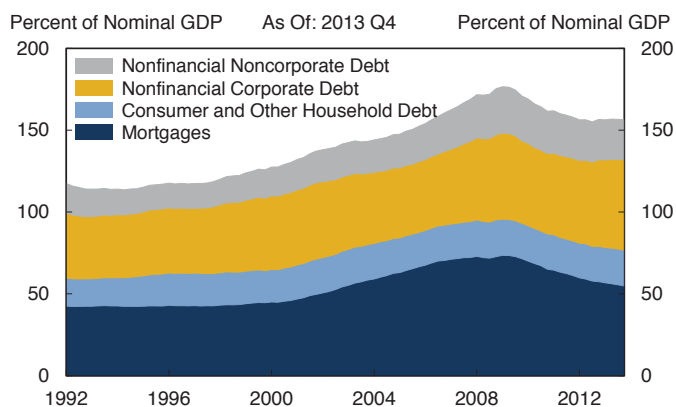


#### 4.2.9 Household Debt as a Percent of Disposable Personal Income



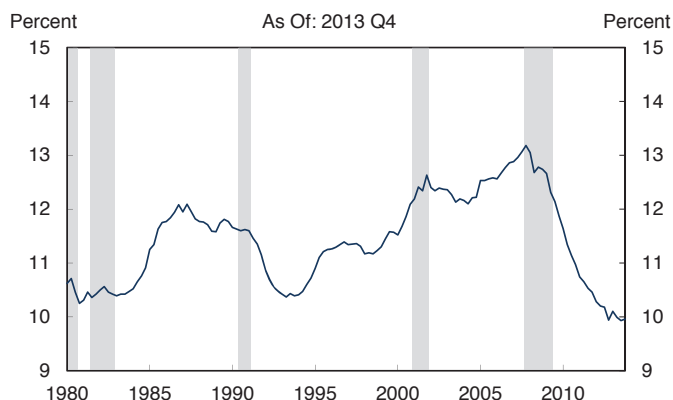
Source: BEA, Flow of Funds, Haver Analytics Note: Other Household Debt includes debts of both households and nonprofits.

#### 4.2.10 Private Nonfinancial Debt



Source: BEA, Flow of Funds, Haver Analytics Note: Other Household Debt includes debts of both households and nonprofits.

#### 4.2.11 Household Debt Service Ratio



Source: Federal Reserve, Haver Analytics Note: Ratio of debt service payments to disposable personal income. Seasonally adjusted. Gray bars signify NBER recessions.

prices last year, aided by low mortgage rates and improving labor markets. Borrowers with high credit scores and equity generally have access to conforming GSE-backed mortgages, and federal programs have extended refinance assistance to borrowers in agency-guaranteed loans without equity, but access to credit by other borrowers remains tight relative to pre-crisis levels.

Slow debt growth, historically low interest rates, and modest increases in employment and income have reduced the household debt service ratio (the ratio of debt service payments to disposable personal income) to 30-year lows (**Chart 4.2.11**). Reduced debt burdens have allowed households to slowly but steadily become more current on their debts. Since 2009, the percentage of household debt that is delinquent has decreased from 12 percent to 7 percent, but still remains significantly above pre-crisis levels. The share of seriously delinquent debts also remains at roughly 2008 levels (**Chart 4.2.12**). Moreover, while aggregate measures of the debt burden have improved, a large number of households continue to face difficulties meeting their financial obligations, and many are still underwater on their mortgages.

Aggregate household net worth (the difference between assets and liabilities) rose about \$10 trillion in 2013 to a historical high of nearly \$81 trillion (**Chart 4.2.13**). The ratio of household net worth to disposable personal income also increased. Capital gains from rising asset prices, especially corporate equities, accounted for most of the increase in net worth, though active saving, and the decline in outstanding debt noted above, also contributed in smaller part. Owners' equity as a share of household real estate continued to move up with rising house prices and falling mortgage debt, although it still remains about 8 percentage points below its 1990 to 2005 average (**Chart 4.2.14**). As discussed in **Section 5.1.4**, the share of mortgages underwater declined.



Unlike mortgage debt, non-mortgage consumer credit, which accounts for slightly more than 20 percent of total household debt, has been growing over the past three years. During 2013, consumer credit outstanding increased about 6 percent to \$3 trillion. Auto loans and student loans accounted for almost all of this increase (Chart 4.2.15). Costs of education rose, and federal programs remained the dominant source of education lending, continuing to expand at a rapid pace in 2013.

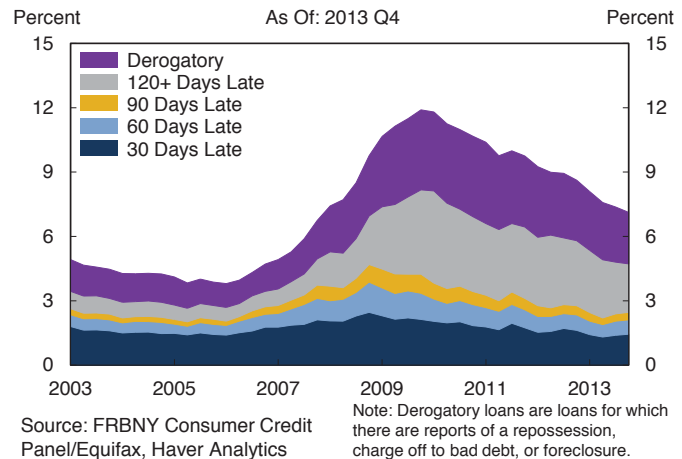
The increase in auto loans reflects availability of credit and rising consumer demand for motor vehicles. About \$75 billion of auto loan asset-backed securities (ABS) was issued in 2013. Subprime auto loan ABS issuance reemerged, although reportedly with stronger credit support than before the crisis.

Indicators of changes in the demand for credit were mixed in 2013. Respondents to the SLOOS reported stronger demand for credit by consumers, especially for auto loans. However, credit applications were little changed, on net, over the year, and remained generally subdued relative to the pre-crisis period (Chart 4.2.16).

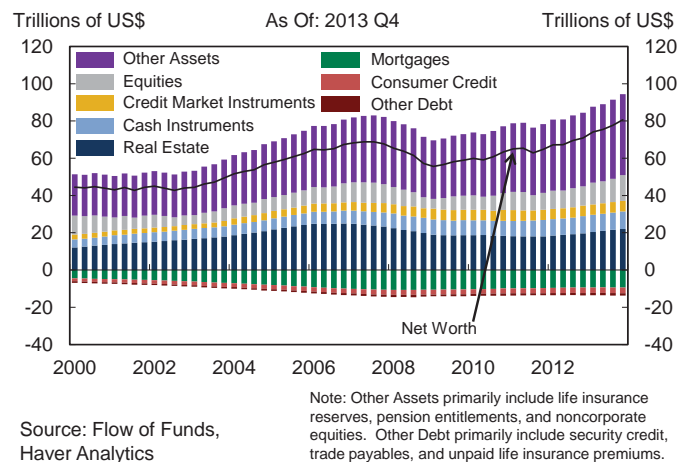
Although last year's delinquency rates on auto, credit card and mortgage loans fell to 2008 levels, delinquencies on student loans and home equity lines remained considerably higher than their pre-crisis levels (Chart 4.2.17). Lower delinquency rates for revolving credit and auto loans in 2013 likely reflected, in part, the composition shift toward borrowers with higher credit scores. The delinquency rates on these loans to consumers with prime and super-prime credit scores are currently near their historical averages.

While households are becoming more current on most types of debt, the delinquency rate on student loans outstanding rose to 12 percent at the end of 2013. Large and growing student debt burdens and continued weakness in labor markets have pushed many younger borrowers into delinquency, despite the longer grace periods that typically accompany student loans.

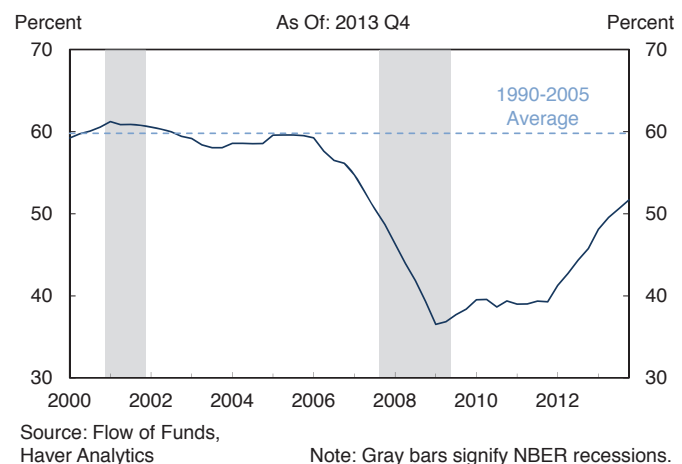
#### 4.2.12 Share of Household Debt by Delinquency Status



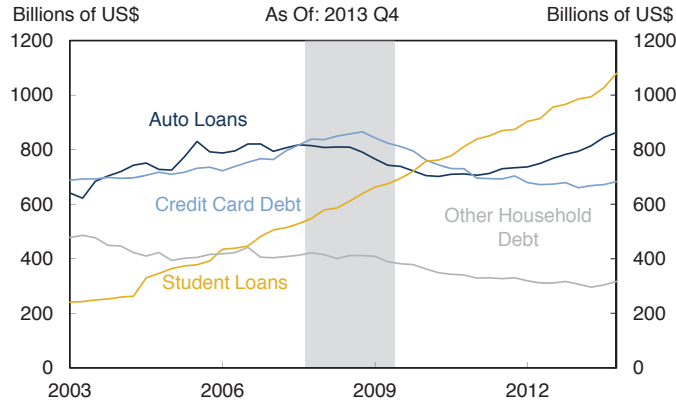
#### 4.2.13 Household and Nonprofit Balance Sheets



#### 4.2.14 Owners' Equity as Share of Household Real Estate



#### 4.2.15 Components of Consumer Credit

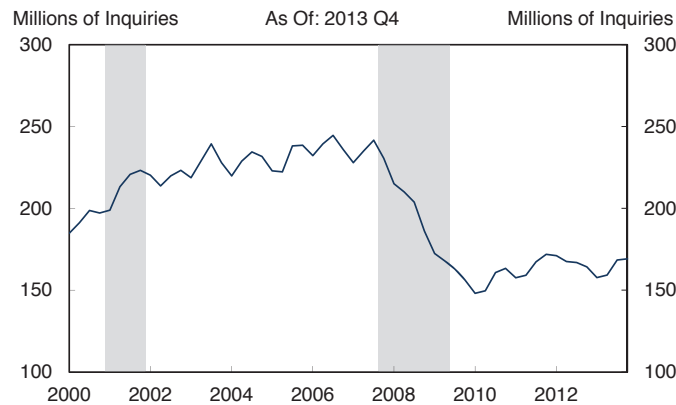


Source: FRBNY Consumer Credit Panel/Equifax, Haver Analytics

Note: Gray bar signifies NBER recession.

The risk to lenders is mitigated by the fact that both federal and private student loans are difficult to discharge in bankruptcy, and that the federal government has extraordinary collection authorities. However, rising student-loan debt burdens and delinquencies may have implications for households. Despite features of federal student loans that facilitate flexible repayment and loan modifications, high student-debt burdens may dampen consumption and could impact household demand for housing purchases in coming years, as heavily indebted and delinquent borrowers may be less able to access mortgage credit.

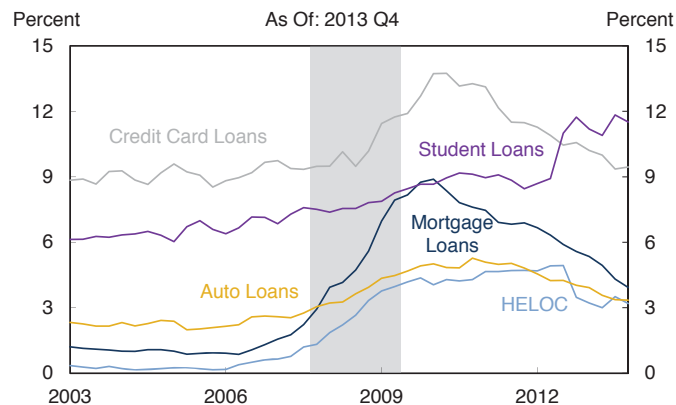
#### 4.2.16 Applications for Credit



Source: FRBNY Consumer Credit Panel/Equifax, Haver Analytics

Note: Number of Equifax inquiries within 6 months. Gray bars signify NBER recessions.

#### 4.2.17 90+ Day Delinquency Rate by Loan Type



Source: FRBNY Consumer Credit Panel/Equifax, Haver Analytics

Note: Student loan delinquency rates in 2012 Q3 are inflated by the reposting of a large number of delinquent loans by a single servicer. Gray bar signifies NBER recession.

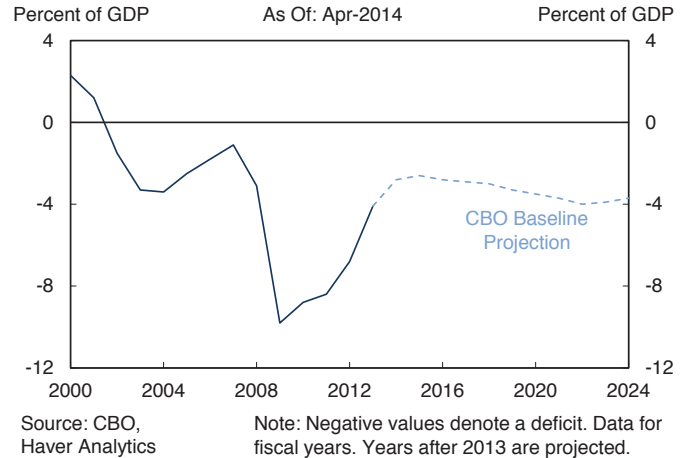
## 4.3 Government Finance

### 4.3.1 Federal Government

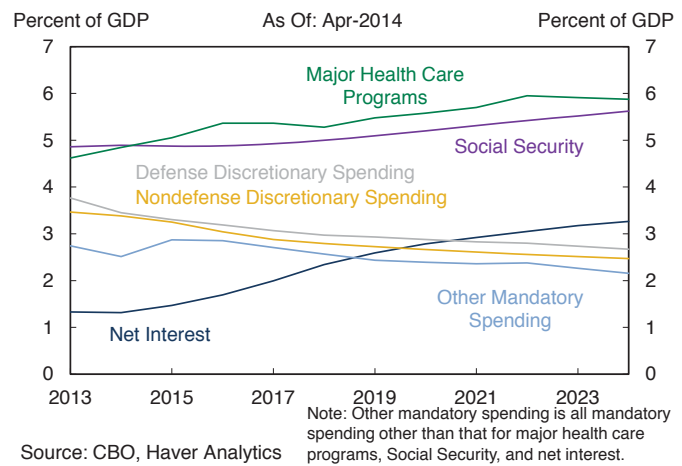
The deficit in the federal unified budget was 4.1 percent of nominal GDP in fiscal year 2013, a 2.7 percentage point reduction from the 6.8 percent deficit posted in 2012. Outlays declined modestly reflecting spending restraint from the 2011 Budget Control Act and sequestration. Revenue growth in 2013 was strong owing to policy changes—the expiration of the payroll tax cut, the reduction in bonus depreciation allowances, and provisions applying to high-income taxpayers in the American Taxpayer Relief Act and Affordable Care Act—as well as solid growth of taxable incomes of both corporations and individuals.

The medium-term budget outlook is subject to considerable uncertainty with respect to the performance of the economy, the future stance of fiscal policy, and other factors such as the pace of health care cost growth. The Congressional Budget Office estimates that the deficit will continue to decline to 2.6 percent of GDP in 2015, owing in large part to robust revenue growth as the economy continues to recover and changes in tax law provisions, especially the bonus depreciation provision. Starting in 2016, the deficit is expected to gradually increase, reaching 3.7 percent of GDP by 2024 (**Chart 4.3.1**). The rise in the deficit is driven primarily by projected increases in Social Security and health care costs due to the aging of the population and the expectation that per-capita health care expenditures will grow faster than GDP, as well as increases in interest payments (**Chart 4.3.2**). The ratio of debt held by the public to GDP is expected to drift up as the projected deficits are not low enough to stabilize the debt-to-GDP ratio (**Chart 4.3.3**).

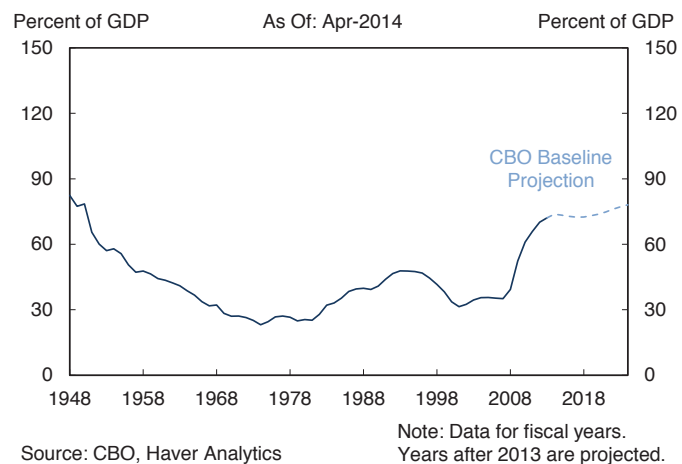
### 4.3.1 Federal Unified Budget Surplus/Deficit



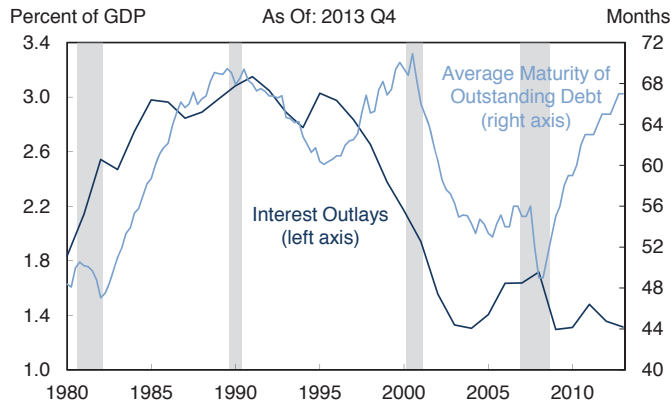
### 4.3.2 Projected Spending in Major Budget Categories



### 4.3.3 Federal Debt Held by the Public as a Percent of GDP



#### 4.3.4 Interest Outlays and Average Maturity of U.S. Public Debt



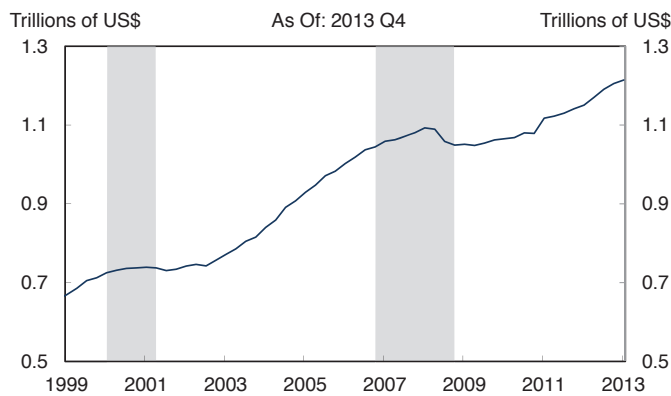
Source: BEA, OMB, Haver Analytics

Note: Gray bars signify NBER recessions.

The increase in interest payments that is likely to follow the high level of public debt projected over the medium term may have important consequences for fiscal policy moving forward. In the near term, however, net interest outlays remain near historical lows and the average maturity of outstanding debt continues to lengthen (**Chart 4.3.4**).

All three major rating agencies maintained their overall ratings for the United States in 2013, with Moody's and Fitch assigning the United States their highest ratings and Standard and Poor's (S&P) assigning the second-highest rating. Fitch placed U.S. sovereign debt on negative ratings watch in October, citing political brinkmanship as a concern for the U.S.' creditworthiness (**see Box A**), but changed the outlook back to stable in March 2014. Moody's and S&P also maintain a stable outlook for the United States.

#### 4.3.5 State and Local Government Tax Revenues



Source: Census Bureau

Note: Revenues measure includes revenues from property, individual income, corporate income, and sales taxes. Gray bars signify NBER recessions. Revenue shown represents the trailing 4 quarters.

## BOX A: Macroeconomic and Financial Market Impacts of the Debt Ceiling and Government Shutdown

The federal debt ceiling was extended on two separate occasions in 2013. On both occasions, uncertainties surrounding the debt ceiling led to temporary disruptions in some key short-term markets. Investor concerns about the risk of a missed payment on some Treasury securities led to a temporary increase in term borrowing costs for the U.S. government.

On December 26, 2012, Treasury Secretary Geithner announced that the statutory debt ceiling would be reached on December 31, 2012 and that Treasury would begin taking certain extraordinary measures to temporarily postpone the date that the United States would otherwise default on its legal obligations. In mid-January 2013, Treasury Secretary Geithner announced that the Treasury would exhaust its extraordinary measures between mid-February and mid-March of that year. Extraordinary measures are actions, such as suspending investments in certain federal trust funds, that temporarily extend the Treasury's ability to meet the government's obligations. The ensuing political debate with regard to a debt ceiling increase led some investors to avoid owning certain Treasury bills out of concern that the principal would not be repaid on time. Accordingly, yields on bills maturing in late-February and early March briefly spiked higher than those of surrounding maturities on the yield curve. However, in late-January an agreement was reached and on February 4, 2013 a law was enacted that suspended the debt ceiling through May 18, 2013, and conditions in the Treasury market quickly normalized.

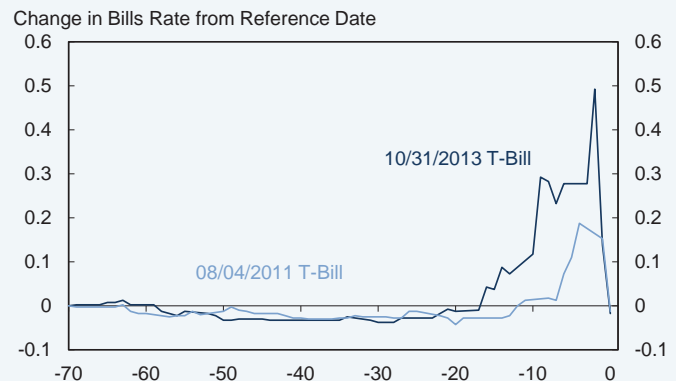
After May 18, with the debt limit suspension period ended, the Treasury was able to again take extraordinary measures to temporarily continue borrowing without breaching the ceiling, and pressures were largely absent from financial markets during the second and third quarters of 2013. Yields on Treasury bills remained at near-zero rates until the end of the third quarter. However, in late-September concerns began to reemerge after Treasury Secretary Lew announced Treasury's estimate that extraordinary measures would be exhausted no later than October 17, 2013 and as it became apparent that there was no clear plan for Congress to extend the debt ceiling in a timely manner. Those concerns were later

compounded by a 16-day government shutdown that began on October 1, 2013.

In early October, the market began to consider a scenario in which Congress would be unable to reach an agreement to raise the debt ceiling before the Treasury exhausted its extraordinary measures. This led yields to rise on bills maturing around that date as investors grew concerned about the potential for a delayed payment.

In the days leading up to October 17, 2013, yields on Treasury bills with maturities from mid-October to late-October became extremely volatile relative both to the preceding months and historical averages. For example, the yield on the Treasury bill maturing on October 3, 2013 rose from 3 basis points on September 30, 2013 to 53 basis points on October 15, 2013, a larger reaction than in similarly affected bills during the 2011 debt ceiling episode (**Chart A.1**).

**A.1 Treasury Bill Yields: 2011 vs. 2013**



Note: Horizontal axis refers to the number of days prior to the debt ceiling agreement. 2013 debt ceiling agreement date is 10/17/13. 2011 debt ceiling agreement date is 8/1/11.

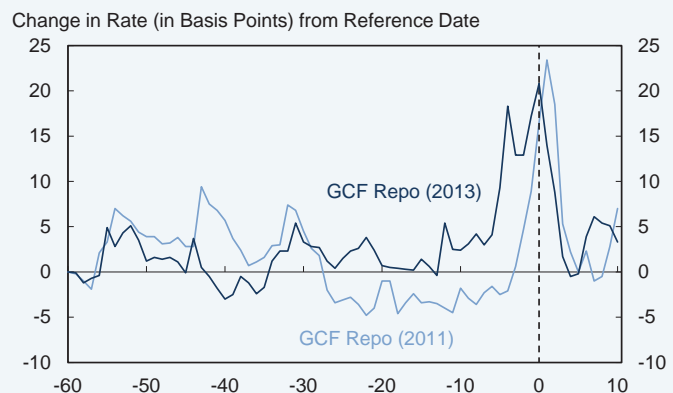
Source: Bloomberg, L.P.

Stress in the Treasury bill market soon spread to the repo market as some cash lenders excluded certain Treasuries as acceptable collateral for tri-party repo transactions **(Chart A.2)**. Moreover, some counterparties took temporary informal actions by requesting that Treasury securities maturing in 2013 not be accepted as collateral in repo and securities lending transactions. In contrast to the illiquidity experienced in the market for short-dated bills, overnight repo markets remained liquid.

Additionally, some investors publicly stated that they did not hold certain Treasury securities that could have been affected by the debt ceiling. These factors widened bid-ask spreads for Treasury bills, which under normal market conditions have minimal transaction spreads. Operational risks about a missed Treasury payment were also a concern, since systems that handle securities clearance, settlement, financing, collateral management, payments, and pricing could have required manual workarounds and advanced payments to clients to limit market disruption.

Once an agreement to suspend the debt ceiling was reached, short-dated bills rapidly returned to near zero rates. Market participants have emphasized significant strains in Treasury bill and money markets would likely occur sooner and with more severity during future debt ceiling debates.

## A.2 Treasury Collateralized Borrowing Rate



Note: Horizontal axis refers to the number of days prior to the debt ceiling agreement. 2013 debt ceiling agreement date is 10/17/13. 2011 debt ceiling agreement date is 8/1/11.

Source: Bloomberg, L.P.



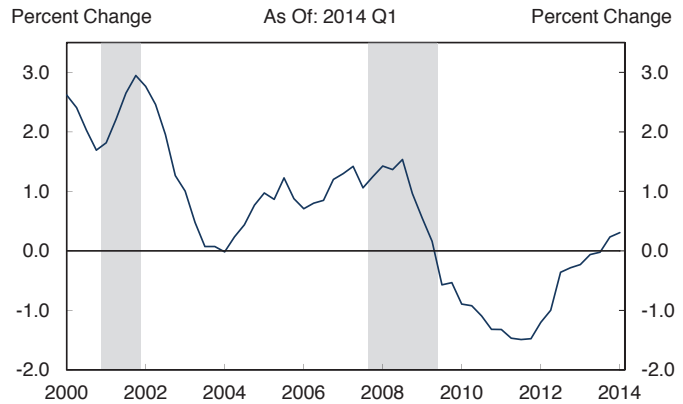
### 4.3.2 State and Local Governments

In general, the fiscal position of state and local governments improved in 2013. State and local tax revenues increased, continuing the trend since 2009 (Chart 4.3.5). The improved revenue picture for both state and local governments was accompanied by a stabilization of employment during 2013 (Chart 4.3.6).

Net credit flows to state and local governments were mixed in 2013. Long-term municipal bond mutual funds experienced outflows for 10 of the last 12 months, and long-term bond issuance was down 12.6 percent to \$332 billion (Chart 4.3.7). However, much of this decrease reflected a decline in refundings from the 2012 levels, due in part to higher interest rates. In many instances, municipal bond spreads, a proxy for municipal yields relative to index levels, also declined (Chart 4.3.8).

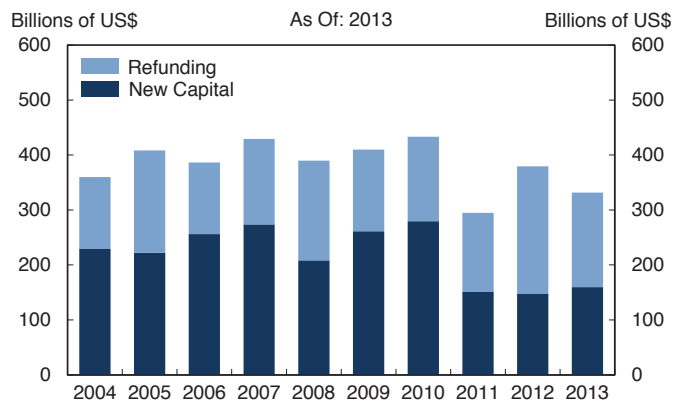
In spite of the relative stability that the sector experienced during 2013, state and local governments continue to face significant long-term challenges. In some municipalities, the slow pace of economic recovery has restrained income and sales tax growth. Additionally, home values remain below peak values in some parts of the country, restraining property tax revenue. Other challenges include increased spending pressure from pension liabilities and other post-employment benefits. Thirteen states contribute less than 80 percent of their annual required contribution to their public pension funds. In some municipalities, pension and other post-employment benefits costs are beginning to crowd out other services.

### 4.3.6 Growth of State and Local Government Employment



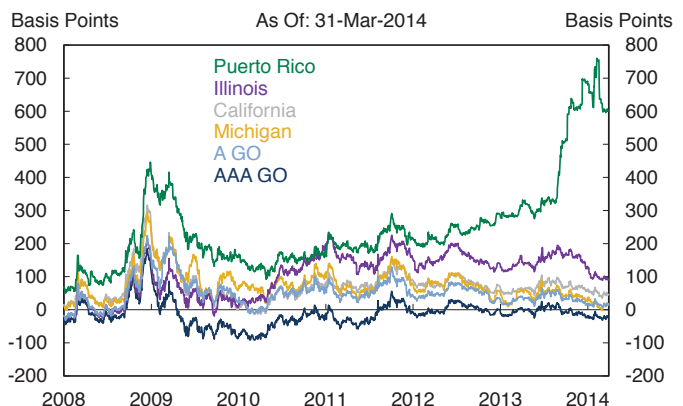
Source: BLS, Haver Analytics Note: Gray bars signify NBER recessions.

### 4.3.7 Municipal Bond Issuance



Source: Thomson Reuters, SIFMA Note: Excludes maturities of 13 months or less and private placements.

### 4.3.8 Municipal Bond Spreads



Source: Thomson Reuters MMD Note: Spreads to 10-year Treasury.

## BOX B: Detroit and Puerto Rico: Municipal Market Impact

Developments in municipal markets—Detroit’s filing for Chapter 9 bankruptcy protection and the downgrade of Puerto Rico’s credit rating to non-investment grade status—have drawn significant investor and media attention. While market participants largely view these events as idiosyncratic, they might have the potential to affect the municipal bond market (**Chart B.1**).

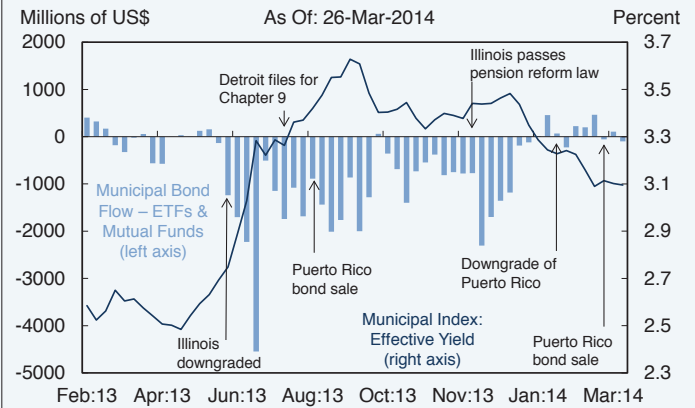
Although Detroit’s bankruptcy is unique in many respects, there are two primary ways in which the unfolding story in Michigan could impact municipalities elsewhere. Investors may begin to demand higher interest rates from cities with weak economic fundamentals similar to Detroit, including population decline, chronic deficits, large unfunded pension liabilities, and an eroding tax base.

Additionally, if the treatment of claims in Detroit’s bankruptcy ultimately differs significantly from other previous municipal bankruptcies, this could create uncertainty and lead to some amount of broader re-pricing of risk by investors.

Puerto Rico’s financial challenges have also drawn investor and media attention. Its overall economy remains weak, having been in a recession since 2006. Additionally, Puerto Rico’s outstanding debt of roughly \$73 billion represents a large percentage of GDP. A significant portion of Puerto Rico’s debt is exempt from federal, state, and local taxes in the United States and is widely held by investors.

Despite downgrades to non-investment grade status by all three major ratings agencies in February 2014, Puerto Rico was able to issue \$3.5 billion in debt in early March, which authorities have said will allow them to meet their obligations until the end of calendar year 2015. However, a material deterioration in the economic and financial conditions in Puerto Rico could heighten concerns of municipal market investors, whose current sentiment remains fragile.

**B.1 Weekly Municipal Bond Fund Flows and Yields**



Source: EPFR, Bank of America  
Merrill Lynch, Haver Analytics

## 4.4 External Environment

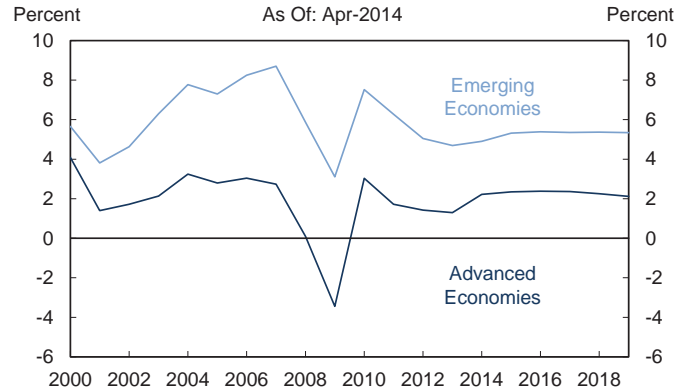
### 4.4.1 Advanced Foreign Economies

GDP growth in the advanced economies remained sluggish in 2013, at slightly below the already subdued pace of the previous two years (**Chart 4.4.1**). However, the quarterly trajectory was more favorable, with most economies seeing a notable pickup in growth during the second half of the year. Growth in the euro area resumed in the second quarter after six consecutive quarters of contraction. Although the region's recovery remains subdued, the exit from recession removes what had been a major drag on global activity.

For the major foreign advanced economies (the euro area, Japan, the United Kingdom, and Canada), real GDP increased 0.6 percent in 2013 on a calendar year, GDP-weighted basis. A slower pace of fiscal consolidation and significant easing in financial stresses helped recovery take hold in the euro area. In Japan, additional discretionary fiscal stimulus, improved sentiment, and strong corporate profits helped support consumer and business spending amid a reflationary monetary policy program.

Thus far in 2014, activity in the major foreign advanced economies appears to have held close to the improved pace maintained during the second half of 2013. The International Monetary Fund (IMF) projects major foreign advanced economies to expand 1.4 percent in calendar year 2014. The IMF expects growth in these economies to pick up to a pace of 1.6 percent over the medium term, as headwinds from fiscal consolidation and deleveraging after the Great Recession continue to fade (**Chart 4.4.2**).

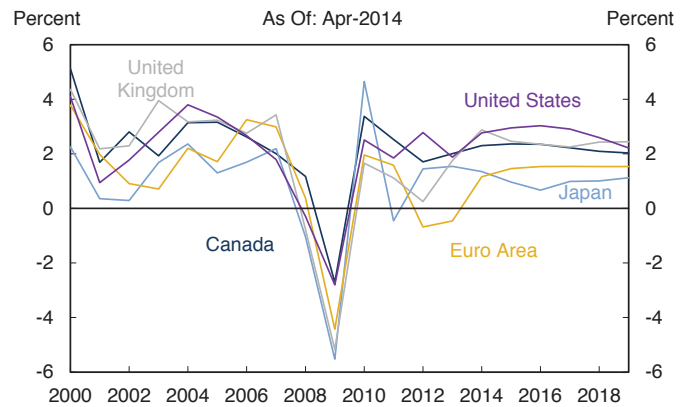
### 4.4.1 Real GDP Growth



Note: Year-over-year percent change. Data after April 2014 is projected.

Source: IMF, Haver Analytics

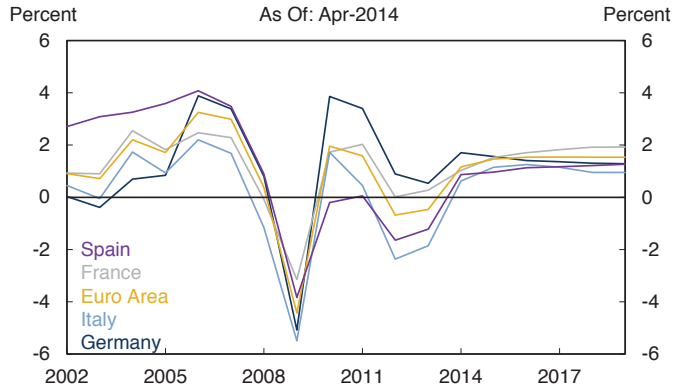
### 4.4.2 Advanced Economies Real GDP Growth



Note: Year-over-year percent change. Data after April 2014 are projected.

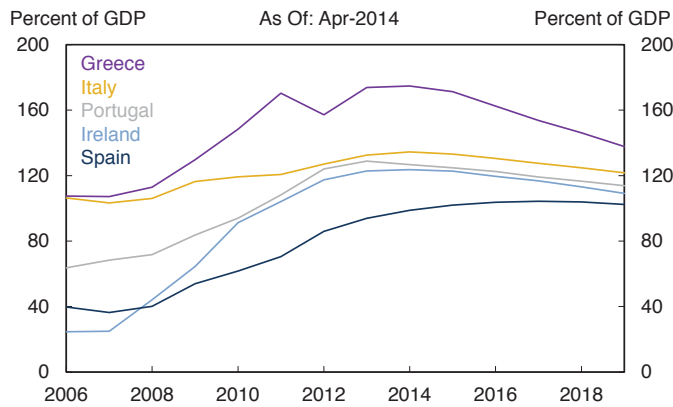
Source: IMF, Haver Analytics

### 4.4.3 Euro Area Real GDP Growth



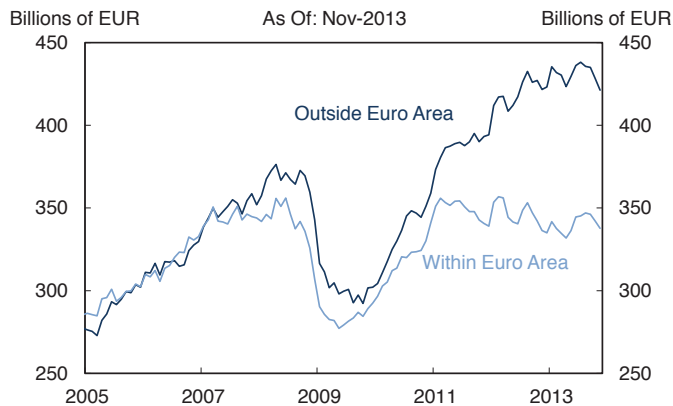
Source: IMF, Haver Analytics  
 Note: Year-over-year percent change. Data after April 2014 are projected.

### 4.4.4 Peripheral Europe: Gross Public Debt



Source: IMF, Haver Analytics  
 Note: Data after April 2014 are projected.

### 4.4.5 Peripheral Merchandise Exports



Source: IMF, Federal Reserve, Haver Analytics  
 Note: Seasonally adjusted, 3-month annualized rolling sum. Peripheral Europe includes Ireland, Italy, Spain, Greece, and Portugal.

## Euro Area

Policy actions by euro area authorities have reduced concerns about a systemic event in the region, and since mid-2012, have helped to substantially ease previously severe market pressures. However, fiscal and financial headwinds remain. After a year and a half of recession, the euro area economy saw a tentative rebound in the middle of 2013, with GDP expanding over the second and third quarters. However, euro area GDP growth remains about 2.5 percentage points below its rate in the first quarter of 2008, and unemployment is running at a near-record high of 12 percent. The pace of economic recovery in the euro area is expected to remain gradual. The IMF forecasts regional real GDP growth in 2014 to track at roughly 1.2 percent, with growth in most periphery countries expected to remain measurably below 1 percent (Chart 4.4.3).

The fiscal consolidation measures implemented to date in the periphery have resulted in progress in stabilizing fiscal deficits and arresting the upward trajectory of public debt burdens. Altogether, euro area governments are estimated to have reduced fiscal deficits from 6.4 percent of GDP in 2009 to 3 percent of GDP at the end of 2013. Euro area periphery public debt levels are now projected to stabilize at high levels over the coming few years (Chart 4.4.4).

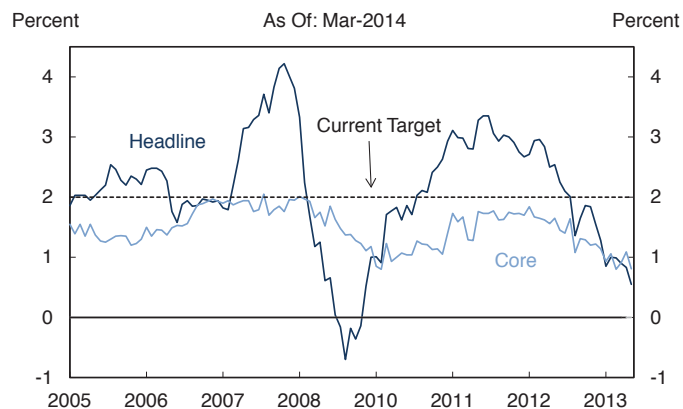
The euro area's overall current account balance shifted from a small deficit in 2008 to a consistent surplus with the surplus reaching 2.4 percent of GDP in 2013. The Netherlands and Germany have continued to run substantial current account surpluses since 2011, while the current account deficits of Italy and Spain and the smaller economies in the periphery have contracted significantly. Weak periphery domestic demand due to deleveraging has not been offset with stronger exports to the core (Chart 4.4.5).

Euro area consumer price inflation has declined to well below the European Central Bank's (ECB) 2 percent target rate. Inflation readings (both headline, which includes volatile items, and core, which excludes those items) were tracking near or below 1 percent during the final months of 2013 (**Chart 4.4.6**). With inflation dropping to multi-year lows in recent months, the euro area faces the risk of a prolonged period of substantially below-target inflation or outright deflation. This could slow recovery, hinder the internal rebalancing that is needed between the core and periphery, and increase the real burden of public and private debts. IMF and ECB forecasts are for euro area inflation to stabilize.

Meanwhile, European authorities are pushing forward with efforts to deepen regional financial integration and enhance market confidence in the capital adequacy of European banks. A single supervisory mechanism for euro area banks is in the process of being established under the ECB (expected to be in place by November 2014) and comprehensive assessments (by the ECB in cooperation with the national competent authorities) of approximately 130 of the largest banking groups also are underway.

European policymakers also have reached agreements to pass legislation harmonizing banking rules and regulation across the European Union (EU), including national deposit guarantee schemes, bank recovery and resolution frameworks and common bail-in rules, and their new capital requirements legislation is now in force. In March 2014, EU finance ministers and the European Parliament reached a provisional agreement on the Single Resolution Mechanism, which establishes a common resolution authority and single resolution fund for European banks.

#### 4.4.6 Euro Zone: Consumer Price Inflation



Source: Statistical Office of the European Communities, Haver Analytics Note: Year-over-year percent change.

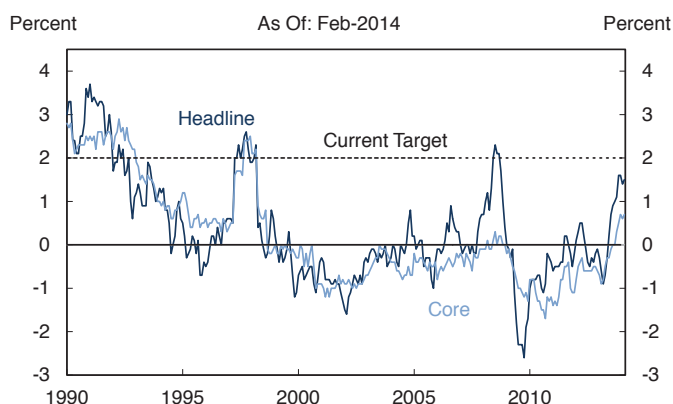
## Japan

In 2013, Japan's new Liberal Democratic Party government launched an economic reform program designed to revive the economy and exit almost two decades of deflation. (The program is popularly termed Abenomics, in reference to Prime Minister Shinzō Abe.) The program consists of the so-called “three arrows”: aggressive monetary stimulus; short-term fiscal stimulus, paired with long-term measures to reduce large, structural fiscal deficits; and structural reforms, to boost the economy's long-term growth potential. The IMF projects that GDP growth will be 1.4 percent in 2014, down slightly from 2013.

Household spending picked up significantly in 2013 partly in response to rising equity prices and broader expectations of economic growth under Prime Minister Abe's policies. Consumption is expected to further boost GDP in the first quarter of 2014, ahead of the April 2014 consumption tax hike. Temporary fiscal stimulus of 1 percent of GDP passed in December will only partially offset the initial impact of the consumption tax increase and the overall fiscal impulse in 2014 will be contractionary.

Japan's larger banks have begun to reduce their sizeable Japanese government bond (JGB) holdings in response to the Bank of Japan's (BoJ) asset purchase program. From March 2013 through December 2013, banks' holdings of JGBs dropped ¥29,474 billion and deposits at the BoJ went up ¥35,685 billion. Domestic lending began to pick up throughout 2013, averaging 2.6 percent growth for the year. There also are signs that Japan may be moving from entrenched deflation to sustained moderate inflation. The overall Consumer Price Index was up 1.5 percent from its year-ago level in February. Consumer price inflation excluding food and energy reached 0.7 percent in February 2014, the highest in roughly 15 years (**Chart 4.4.7**). Survey measures of expected inflation have also risen somewhat.

### 4.4.7 Japan: Consumer Price Inflation



Source: Ministry of Internal Affairs and Communications, Haver Analytics Note: Year-over-year percent change.



## 4.4.2 Emerging Market Economies

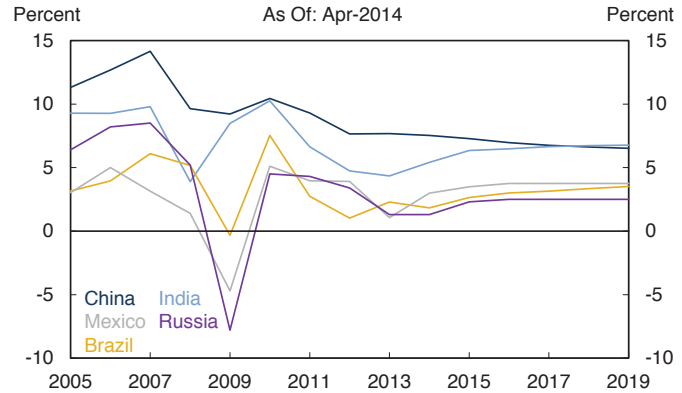
### Emerging Market Economies

Economic growth remained generally sluggish in 2013 across the EMEs (**Chart 4.4.8**). Growth for all EMEs was an estimated 4.4 percent in GDP-weighted calendar year terms, down slightly from 2012 and roughly 2.5 percentage points below growth during the 2003-07 global boom. Growth for EMEs excluding China was 3.1 percent in 2013, also down slightly from 2012 and almost 3 percentage points below the 2003 to 2007 average. Recent indicators—including industrial production, exports, and purchasing manager surveys—show that a slight recovery may be underway. The IMF is expecting a modest pickup in growth to 4.6 percent this year, and 3.4 percent excluding China.

The EMEs continue to act as the main source of global growth. Last year, EMEs contributed three-fourths of global GDP growth, and according to the IMF forecast EMEs will contribute some two-thirds of global growth in 2014 (**Chart 4.4.9**). Importantly, estimates suggest that trend growth has slowed across the largest EMEs. The IMF now forecasts EME real GDP trend growth at roughly 5.25 percent, down some 1.5 percentage points from its forecast just two years ago.

EME asset prices came under pressure beginning in May 2013, with EMEs experiencing reduced capital inflows in the second and third quarter, reflecting in part changing expectations for Federal Reserve policy, deteriorating longer-term EME growth prospects, political unrest, and structural vulnerabilities in some prominent EMEs. While the market selloff in May and June (**see Box C**) broadly affected EME assets, markets displayed discrimination, putting countries with large external financing needs, elevated inflation, and more unpredictable policy frameworks under greater pressure. Policy makers in a number of EMEs responded to market strains by tightening monetary policy and by taking steps to rebuild policy credibility.

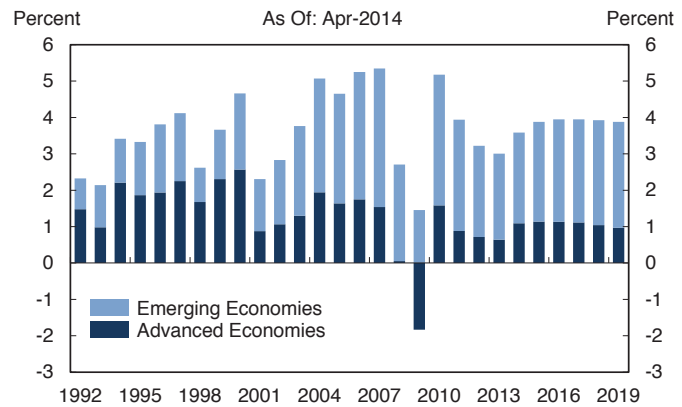
## 4.4.8 Emerging Economies Real GDP Growth



Note: Year-over-year percent change. Data after April 2014 are projected.

Source: IMF, Haver Analytics

## 4.4.9 EME Contributions to Global Growth



Note: Data after April 2014 are projected.

Source: IMF, Haver Analytics

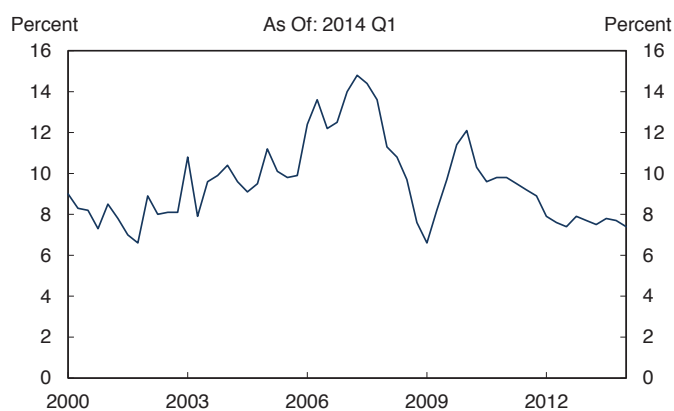
Moving forward, tighter financial conditions and weaker exchange rates across the EMEs represent a key question mark for both the growth and inflation outlooks. EMEs generally have benefitted from strong capital inflows over the past several years, something that has helped support domestic credit growth and financial system deepening. Nonetheless, such rapid domestic credit growth across a number of EMEs has increased asset quality risks and funding vulnerabilities and could weigh on growth prospects moving forward.

### China

Developments in China remain particularly important, as China contributed 35 percent of global GDP growth in 2013. China's economic growth held steady in 2013 at 7.7 percent—the same rate as the previous year—but showed some signs of modest deceleration in mid-2013 and in early 2014 (**Chart 4.4.10**). Growth in China had slowed steadily from the first quarter of 2010 through the third quarter of 2012, reflecting in part the government's desire to slow the pace of credit growth and rein in investment in some sectors of the economy, as well as sluggish external demand in the advanced economies. Chinese authorities announced an important new economic reform agenda in November 2013, which entails, among other things, a hardening of budget constraints for some state-owned enterprises and local governments and enhanced supervision of the nontraditional credit intermediation system. China's current account surplus declined from 10.1 percent of GDP in 2007 to about 2.1 percent of GDP for the four quarters ending in December 2013, driven by factors such as exchange rate appreciation, weak external demand, and increased imports for domestic investment purposes.

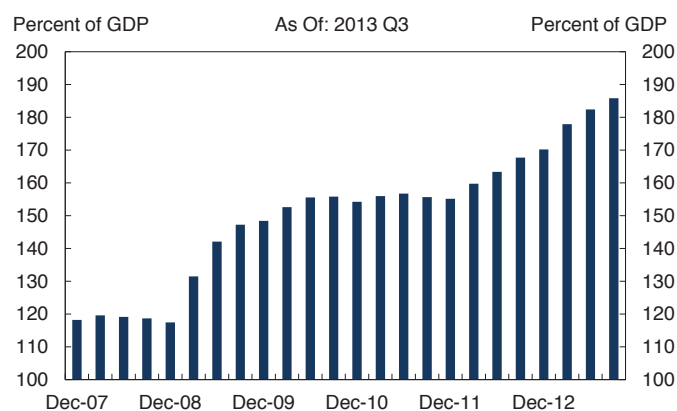
Private sector debt in China has increased rapidly over the past five years. From December 2008 to June 2013, private sector debt grew by 167 percent, over twice as fast as GDP growth over the same period (which was 72 percent) (**Chart 4.4.11**). Nonbank financing channels (off-balance sheet lending, trust loans, and

#### 4.4.10 China Real GDP Growth



Source: China National Bureau of Statistics, Haver Analytics Note: Quarterly data. Percent change from the same quarter of the previous year.

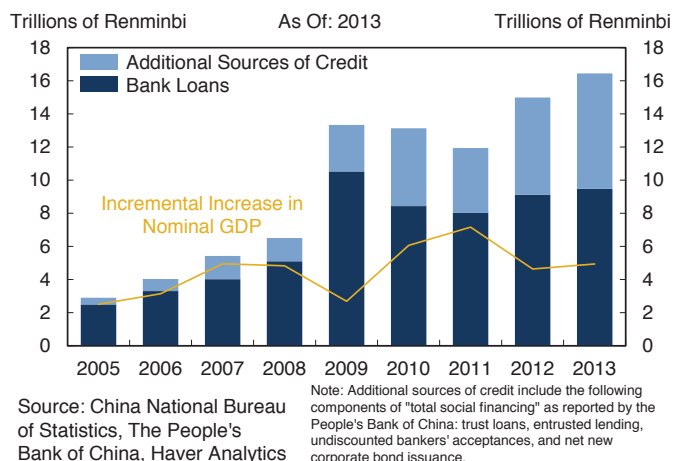
#### 4.4.11 China: Credit to the Private Sector



Source: China National Bureau of Statistics, BIS, Haver Analytics Note: Rolling 4-quarter sum of GDP.

corporate bond issuance) account for an increasing share of the flow of new credit. The rapid growth of credit (**Chart 4.4.12**) has raised questions about the efficiency of credit allocation and the potential for defaults over the medium term. Much of the funding for this new credit has come via wealth-management products (WMPs), which may have increased liquidity risk in the financial sector. Sold to investors as higher-yielding alternatives to time deposits, WMPs are largely off-balance sheet investment vehicles offered by banks, trusts, and securities companies. Increased competition for funds has led to the rapid growth of WMPs—to 10 percent of system deposits—as well as increased reliance on interbank borrowing, particularly at smaller banks.

#### 4.4.12 China: Annual Increases in Credit and GDP



# 5

## Financial Developments

### 5.1 Asset Valuations

#### 5.1.1 Fixed Income Valuations

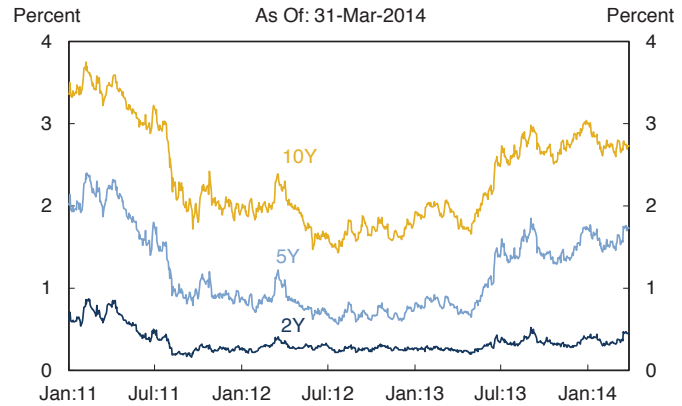
The past year was a year of transition for domestic fixed income as market participants perceived a reduction in the tail risk of contagion from a European financial crisis and focused attention on U.S. fiscal and monetary developments. Fixed income markets experienced a general rise in nominal medium- to long-term yields and some periods of elevated volatility. The increase in volatility was most notable during late spring and summer amid changes in monetary policy expectations and in October during the U.S. government shutdown and debt ceiling debate. Although yields rose in the majority of fixed income sectors, they remain well below long-term averages.

Treasury yields rose year over year across maturities as seen by the change in 10-year yields from 1.86 percent to 2.73 percent (**Chart 5.1.1**). Yields for five-year and seven-year maturities rose on average by 1.02 percent while shorter maturity yields remained unchanged over the same period. The most significant yield increases were seen in the months of May through August 2013, a period of considerable volatility (see **Box C**). The Treasury yield curve steepened (**Chart 5.1.2**), retracing to 2011 levels, reflecting a notable increase in long-term yields.

While fixed income implied volatility remains at historically low levels, periods of elevated volatility did occur in 2013. Fixed income implied volatility, as measured by prices of options on Treasury securities and interest rate swaps, nearly doubled during May and June 2013 (**Chart 5.1.3**).

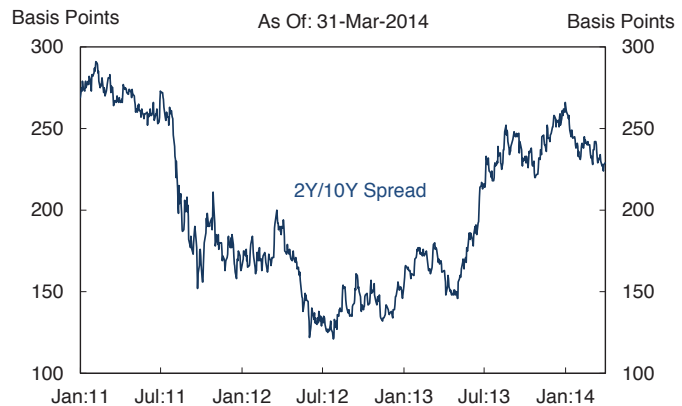
Agency mortgage-backed securities (MBS) experienced significant price declines and higher yields resulting from interest rate

#### 5.1.1 Treasury Yields



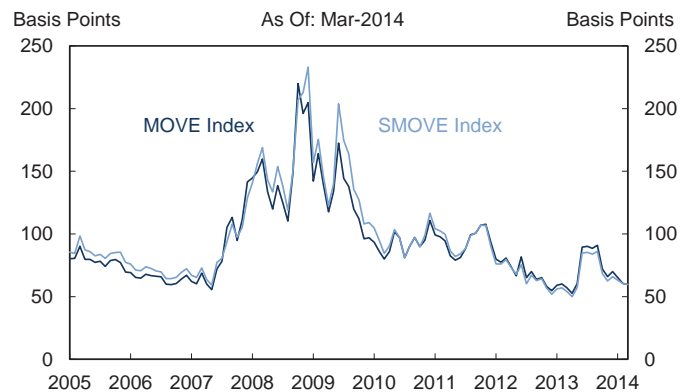
Source: U.S. Department of Treasury

#### 5.1.2 Slope of the Treasury Yield Curve



Source: U.S. Department of Treasury

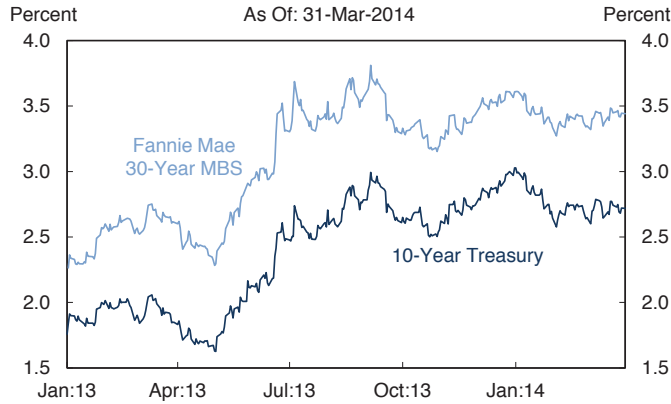
#### 5.1.3 Implied Volatility



Source: Bank of America Merrill Lynch, Haver Analytics

Note: MOVE is the yield curve weighted index of the normalized implied volatility on 1-month Treasury options. SMOVE is the yield curve weighted index of the normalized implied volatility on 1-month swaps.

### 5.1.4 Agency MBS and Treasury Yields



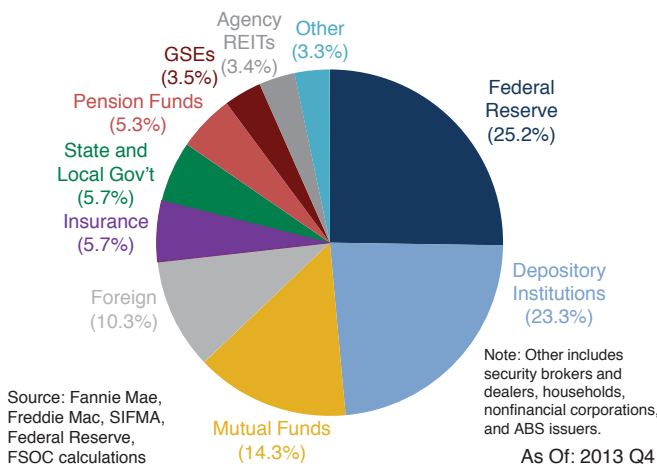
Source: Bloomberg, L.P.

volatility (**Chart 5.1.4**). The combination of significant declines in MBS duration from declining interest rates and increases in borrower refinancing incentives since mid-2012 increased the possibility of a convexity event. As noted in the Council’s 2013 annual report, a convexity event is where an initial increase in long-term interest rates is amplified by many MBS investors actively hedging the duration of their MBS, resulting in rapid increases in long-term interest rates. While agency MBS suffered sizeable losses mid-year, the market impact from a rise in interest rates was not as severe as the 2003 convexity event, when 10-year Treasury yields rose by 1.4 percentage points in a six-week period. By comparison, the 10-year yield rose by 1.0 percentage point in about the same time frame at mid-year 2013. There are several reasons why this convexity event was less severe. First, unlike in 2003, the Federal Reserve held a substantial portion of outstanding MBS in 2013, thus absorbing a significant part of the overall MBS universe duration extension as interest rates rose. Because the Federal Reserve was not engaged in hedging activities that other large-scale investors would be engaged in, this lessened the impact of higher rates resulting from hedges. Second, interest rate options, a major driver of higher rates in 2003’s convexity event, experienced lower volumes due to less participation in this market by the GSEs.

Lastly, the predominant holders of agency MBS outside of the Federal Reserve are composed of banks, investment funds, life insurance companies and pensions (**Chart 5.1.5**). These investors, which tend to rebalance their duration hedges infrequently, have increased their holdings since 2003. While these investors are sensitive to price fluctuations, they tend to have longer investment horizons and very stable sources of funding compared to agency real estate investment trusts (REITs) or hedge funds.

Like Treasury securities, corporate bonds experienced a significant increase in yields in May and June 2013. Investment grade yields year over year increased on average from 3.26

### 5.1.5 Outstanding Agency MBS by Holders

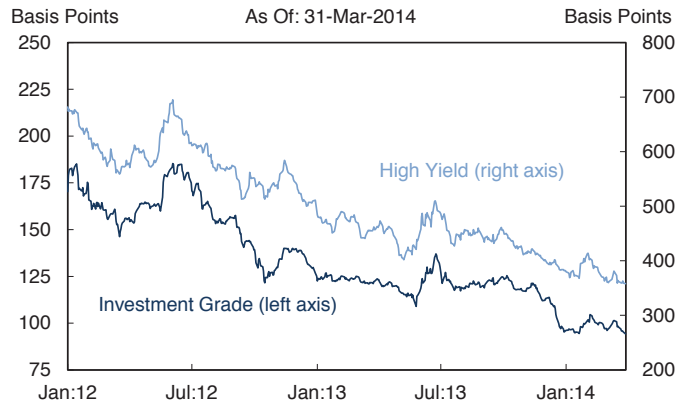


Source: Fannie Mae, Freddie Mac, SIFMA, Federal Reserve, FSOC calculations

percent to 3.65 percent. Average yields for high-yield bonds remained relatively unchanged year over year at 5.7 percent. Credit spreads continued to tighten for both investment grade and high-yield bonds (Chart 5.1.6). Issuance of corporate bonds remained strong, with over \$1.4 trillion, nearly the same amount as 2012 (Chart 5.1.7). Some market participants attribute this level of activity in the corporate bond market to improved credit conditions and low levels of default, while others cite greater demand by a broader set of investors searching for yield.

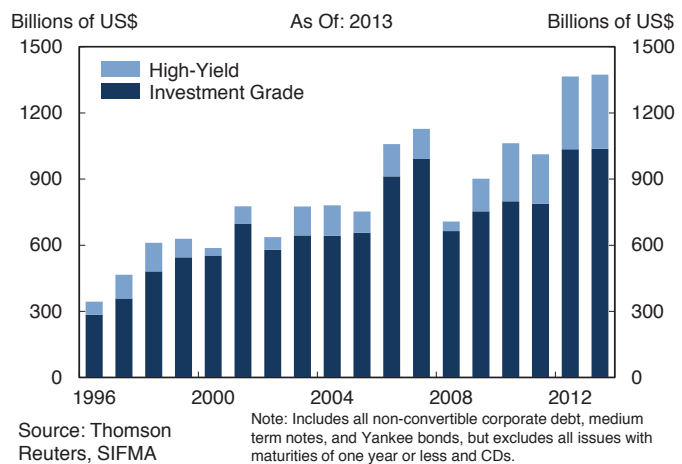
Leveraged loans, generally issued to speculative grade obligors, also had a very strong year of issuance and credit spread performance (Chart 5.1.8, Chart 5.1.9). Strong demand from collateralized loan obligations (CLOs) and from private and public funds searching for yield helped propel leveraged loan growth. CLOs witnessed stronger demand in 2013 than 2012, with gross issuance rising almost \$83 billion (Chart 5.1.10). As with leveraged loans, CLOs have seen a broadening of the investor base as more institutions seek to find higher yields. Analysts and market participants have raised concerns that new investors may be unprepared for the limited liquidity and potential for large credit losses that both markets could experience as firms may be taking on outsized risk in exchange for incremental yield.

### 5.1.6 U.S. Corporate Bond Option-Adjusted Spreads



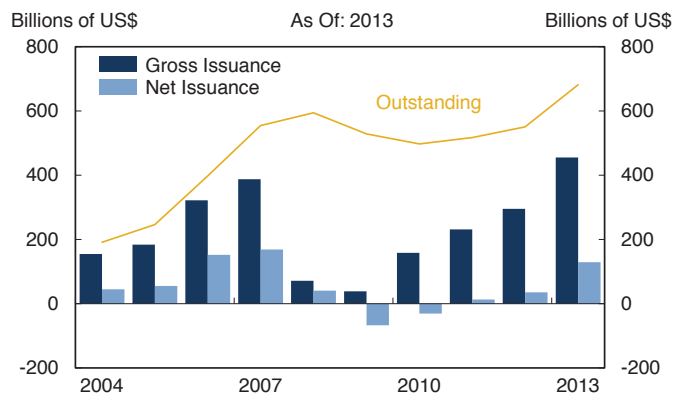
Source: Bloomberg, L.P.

### 5.1.7 U.S. Corporate Bond Issuance



Source: Thomson Reuters, SIFMA

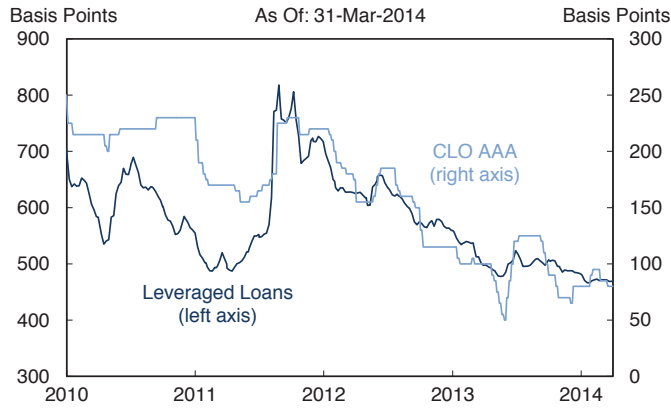
### 5.1.8 Institutional Loans Issuance and Market Size



Source: S&P LCD



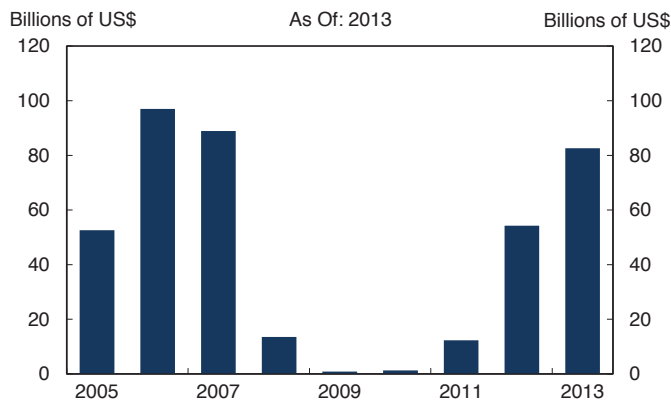
### 5.1.9 CLO and Leveraged Loan Spreads



Source: JP Morgan, S&P LCD Note: Spreads relative to 3-month LIBOR.

The Shared National Credits (SNC) Review for 2013 indicates that while credit quality of syndicated loans remains broadly unchanged from the previous year’s review, a focused review of leveraged loans found material widespread weaknesses in underwriting practices, including excessive leverage, inability to amortize debt over a reasonable period, and lack of meaningful financial covenants. The review included an evaluation of underwriting standards on SNCs that were originated in 2012, and examiners noted an increased frequency of weak underwriting. This trend heightened the agencies’ concern, and agencies reiterated that they expect financial institutions to properly evaluate and monitor underwritten risk in leveraged loans, and ensure borrowers have sustainable capital structures, consistent with the updated leveraged lending supervisory guidance issued in March 2013.

### 5.1.10 Annual CLO Issuance



Source: S&P LCD

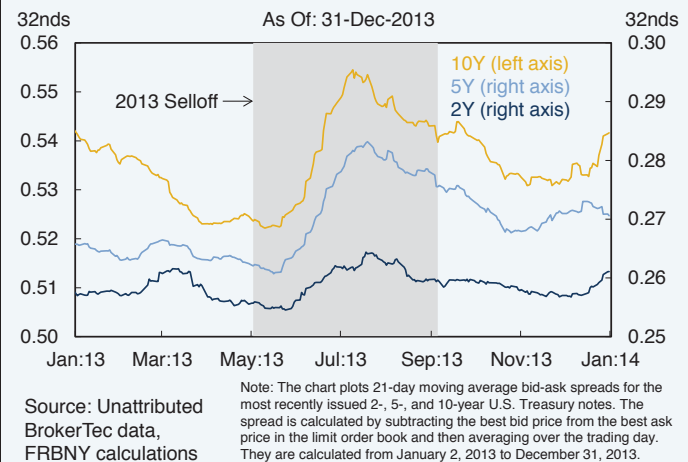
## BOX C: The 2013 Bond Market Selloff, Market Liquidity, and Broker-Dealer Balance Sheets

In its 2013 annual report, the Council pointed to a rapid rise in longer-term yields as a potential vulnerability. Since last year's report, longer-term yields increased substantially, with the sharpest increase occurring between May 2, 2013 and September 5, 2013 when the 10-year Treasury yield rose from 1.69 percent to 3.13 percent. This sharp increase in yield corresponded to a loss of 13.41 percent on the value of 10-year Treasury holdings. The selloff was reportedly triggered by investors' reassessment of the future path of asset purchases by the Federal Reserve.

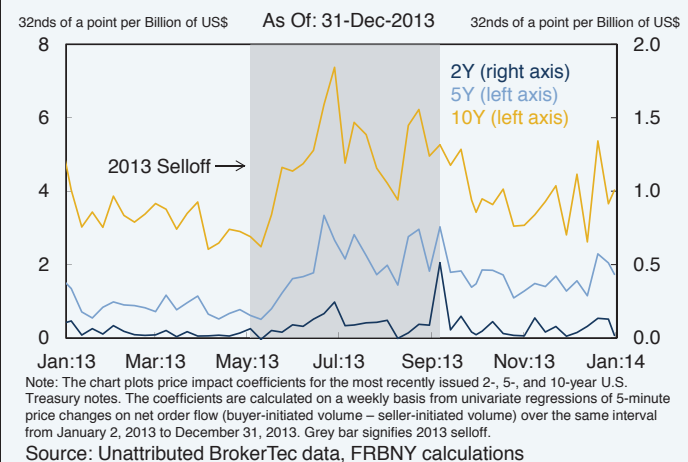
Market liquidity in Treasury markets declined during the selloff. Bid-ask spreads, which measure the cost of buying and selling assets, widened (**Chart C.1**). The price impact, which measures how much prices move in response to selling pressure, increased (**Chart C.2**). Market depth, which measures how much buying and selling can be supported at a given moment, declined (**Chart C.3**). These effects were not limited to Treasury markets, but rather they reverberated to major fixed income markets.

At the time of the selloff, some buy-side market participants and the press speculated whether companies' preparation for enhanced regulatory capital requirements may have magnified the severity of the selloff by reducing broker-dealers' willingness to provide market liquidity. Broker-dealers intermediate between buyers and sellers, putting capital at risk. The less broker-dealers choose to intermediate supply and demand imbalances, the lower market liquidity is likely to be. To gauge broker-dealer market-making broadly, **Chart C.4** shows 10-week changes in broker-dealers' gross positions in fixed-income securities. The biggest decline in long positions in 2013 occurred between May and July (the diamonds labeled 2013 to the extreme left of the lower-left quadrant), suggesting that broker-dealers reduced their market-making activities during the selloff. Other instances in which there were large changes in both long and short positions are limited to the height of the financial crisis in 2008, the bond market selloff of 1994, and the financial market turmoil of 1998.

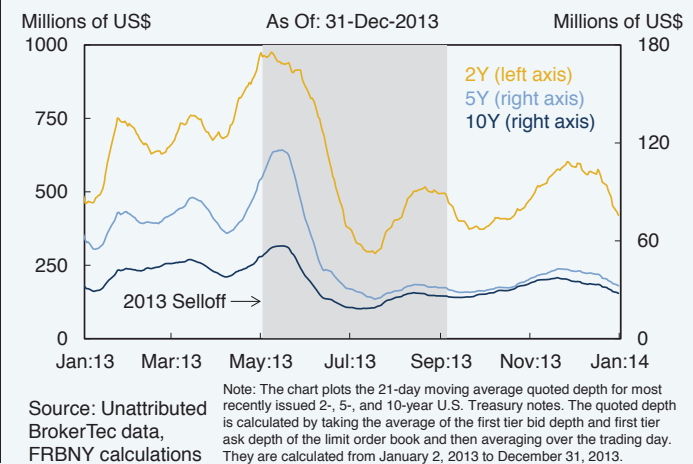
### C.1 Bid-Ask Spreads on U.S. Treasury Notes



### C.2 Price Impact of Trades Increases during the Selloff



### C.3 Quoted Treasury Market Depth



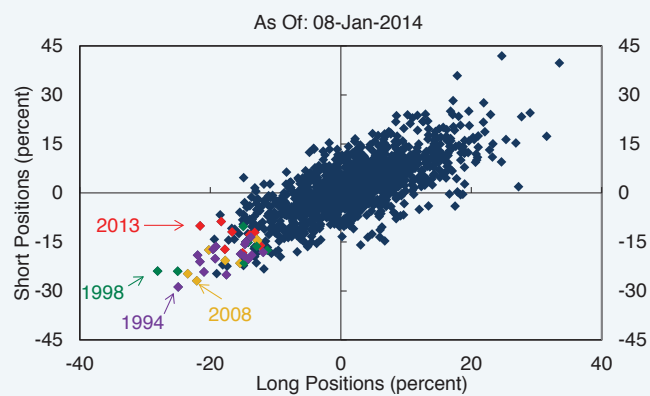
A look at risk measures of broker-dealers helps to better understand why broker-dealers pared positions during the selloff.

Broker-dealer leverage declined markedly during the recent financial crisis, suggesting that broker-dealer risk-taking has moderated since the crisis (**Chart C.5**). Another indicator of risk-taking is value-at-risk (VaR), which is a forecast of the worst loss at the 99 percent confidence interval for a daily horizon. The sum of firm-wide daily VaR across eight large U.S. broker-dealers has trended down since the financial crisis. The decline in broker-dealer VaR reflects the decline in market volatility since the financial crisis as well as the smaller balance sheet capacity of broker-dealers.

The data presented in **Chart C.6** suggests that companies' preparation for enhanced regulatory capital requirements was not a major contributing factor in broker-dealers' willingness to provide market liquidity. In fact, broker-dealer subsidiaries of BHCs with less regulatory capital before the selloff reduced their net positions less than other broker-dealers during the selloff, suggesting that capital constraints at the consolidated BHC were not a meaningful exacerbating factor. In particular, U.S. broker-dealers with a higher VaR gap (which measures the difference between a broker-dealer's VaR and its VaR limit), and U.S. broker-dealer subsidiaries of BHCs with higher Tier 1 capital ratios, Tier 1 leverage ratios, and Basel III common equity Tier 1 ratio buffers (which measures the difference between a BHC's reported ratio and its proposed ratio requirement) before the selloff tended to reduce their net positions more during the selloff. That is, broker-dealer subsidiaries of BHCs with higher capital levels actually sold off more. This relationship suggests that broker-dealer behavior during the selloff was driven more by differences in risk appetite than by enhanced regulatory requirements.

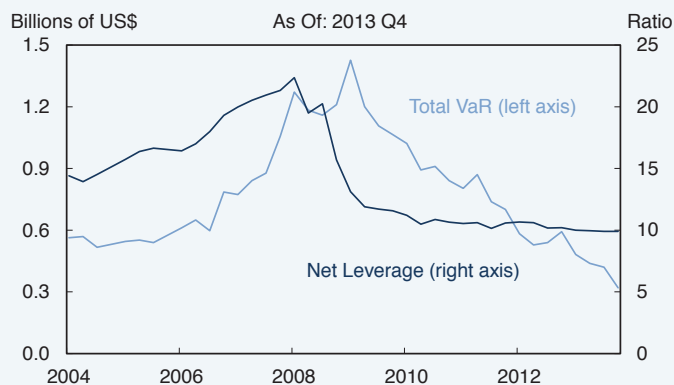
The evidence also suggests that broker-dealers managed their balance sheets more conservatively at a time when investors were repricing interest rate risk rapidly, triggered by changes in expectations about the future path of the Federal Reserve's asset purchase program. Broker-dealers' withdrawal of liquidity may have amplified the sharp rise in rates and volatility.

#### C.4 Change in Broker-Dealers' Long Vs. Short Positions



Source: Federal Reserve, FRBNY calculations  
Note: 10-week changes in dealers' positions in U.S. Treasury securities, agency debt securities, and agency MBS from September 12, 1990 to January 8, 2014. Highlighted points are all those from 1994, 1998, 2008, and 2013 with significant decreases.

#### C.5 Broker-Dealers' VaR and Net Leverage



Source: Flow of Funds, Bloomberg, L.P.

Notes: VaR includes Bank of America, Bear Stearns, Citibank, Goldman Sachs, JP Morgan, Lehman, Merrill Lynch, and Morgan Stanley. Net leverage is total financial assets over equity capital.

#### C.6 Capital Constrained Broker-Dealers Are Associated with Less Selling

##### Correlation between Change in Net Positions and Constraint Prior to the Selloff

Measure of Broker-Dealer Constraint prior to the Selloff:

|   |      |
|---|------|
| • VaR Gap (May 1, 2013)   | -60% |
| • Basel III Common Equity Tier 1 Ratio Surplus (March 31, 2013) | -83% |
| • Q1 Tier 1 Capital Ratio (March 31, 2013)                      | -74% |
| • Q1 Tier 1 Leverage Ratio (March 31, 2013)                     | -6%  |

Note: The table shows pairwise correlations between broker-dealers' changes in net positions in U.S. Treasury securities, agency debt securities, agency mortgage-backed securities, and corporate securities in the 10-week period spanning the May-July run-up in yields, and dealers' constraints shortly before the selloff. To calculate the ratio requirement for the Basel III Common Equity Tier 1 Ratio, we include the 4.5% minimum requirement; 2.5% capital conservation buffer; and the Global Systemically Important Bank (G-SIBs) additional loss absorbency buckets proposed by the Financial Stability Board in November 2012.

Source: Federal Reserve, FRBNY calculations

## 5.1.2 Sovereign/Foreign Corporate Debt and Foreign Exchange

### U.S. Sovereign Debt

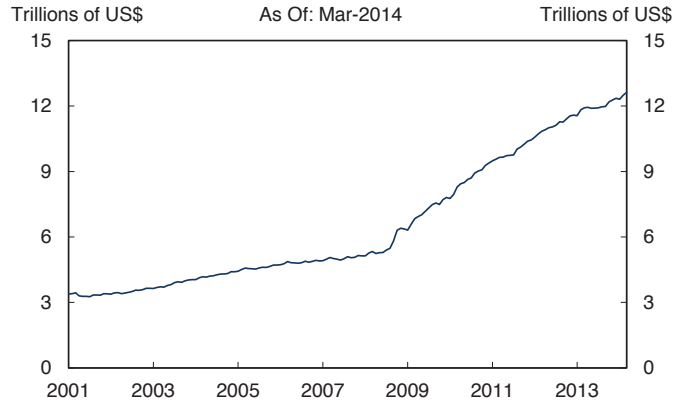
The total amount of outstanding U.S. sovereign debt held by the public (including Federal Reserve holdings, but not other intra-governmental debt) rose to \$12.6 trillion as of March 2014 (Chart 5.1.11). Long-term Treasury yields rose starting in May 2013, in part in response to changing expectations regarding Federal Reserve policy. The Federal Reserve announced a modest reduction in the monthly pace of asset purchases at its meeting in December 2013, amid an improving U.S. economic backdrop and labor market. As of the end of 2013, 10-year Treasury yields had risen 138 basis points since May to 3.04 percent, the highest level since July 2011.

Foreign holdings of Treasury securities continued to grow. Year over year ending February 2014, they rose by \$194 billion to \$5.9 trillion. The largest investors—investors from China and Japan—collectively accounted for \$2.5 trillion of Treasury securities, while other foreign accounts held \$3.4 trillion. Since the end of 2012, the shares and holdings of euro area and Japanese investors have risen, while the combined share of other countries has fallen (Chart 5.1.12).

### European Sovereign Debt

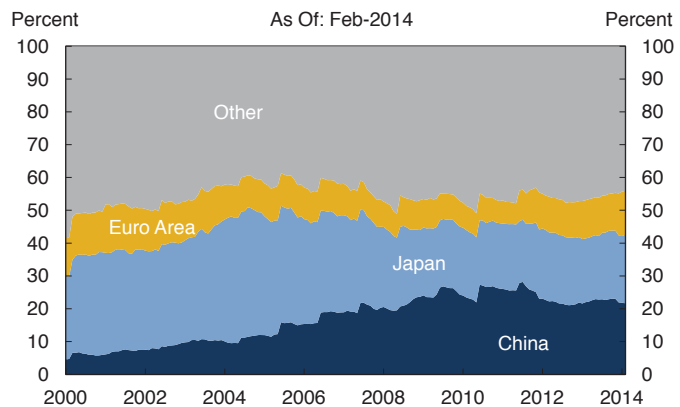
German and other core euro area sovereign debt yields rose over the course of 2013 as concerns about periphery country credit risk continued to abate and economic activity improved. At the end of March 2014, the yield on the German 10-year government bond was 1.57 percent, compared to 1.29 percent a year earlier. Other core country yields rose by a similar magnitude. The compression of periphery spreads began following a July 26, 2012, speech in which ECB President Draghi signaled the creation of the Outright Monetary Transactions (OMT) program, which allows the ECB to make unlimited purchases of sovereign bonds conditional on policy reforms, and vowed to “do whatever it takes” to prevent the breakup

### 5.1.11 Publicly Held Federal Debt Outstanding



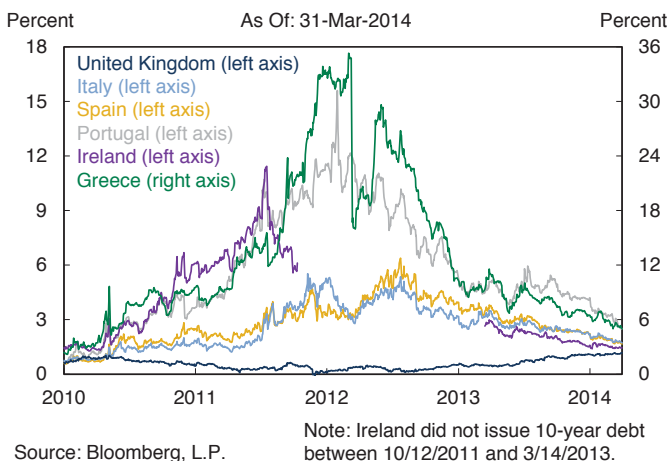
Source: U.S. Department of Treasury, Haver Analytics

### 5.1.12 Foreign Holders of U.S. Federal Debt



Source: U.S. Department of Treasury, Haver Analytics

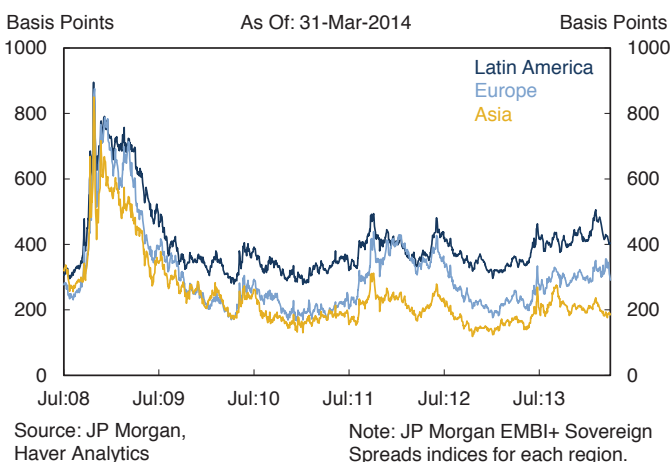
### 5.1.13 Euro Area 10-Year Yield Spreads to German Debt



of the euro area. The spreads on Spanish and Italian 10-year government bonds to German equivalents were respectively 639 and 536 basis points on the eve of the speech and by the end of March 2014, Spanish and Italian spreads to German bonds were 166 and 173 basis points, respectively (Chart 5.1.13). The spreads of government bonds to German equivalents in Ireland and Portugal also narrowed substantially and these nations were able to re-enter debt markets.

Ten-year sovereign yields in the United Kingdom rose over the course of the year, ending March 2014 at 2.74 percent, compared to 1.77 percent a year earlier. Yields were supported by the broader rise in advanced economy interest rates as well as the economic recovery in the United Kingdom.

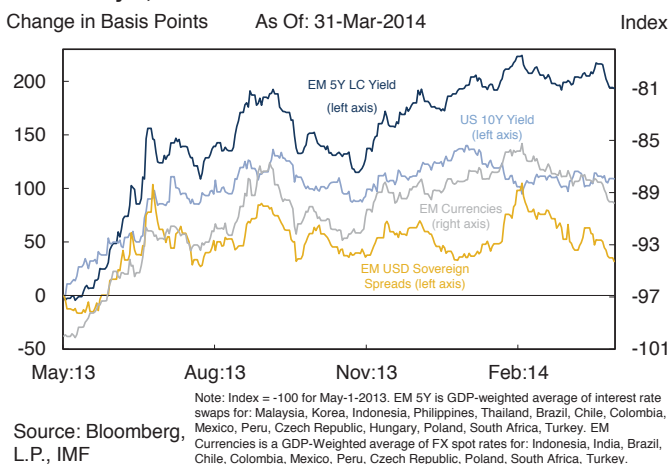
### 5.1.14 Emerging Market Bond Spreads



### Japanese Sovereign Debt

In April 2013, the BoJ implemented a policy known as Quantitative and Qualitative Easing. Under the policy, the BoJ is seeking to expand the monetary base at an annual rate of about 60 to 70 trillion yen. The policy seeks to achieve an inflation rate of two percent in about two years. As part of the policy, the BoJ increased its purchases of government bonds, and extended the duration of its purchases.

### 5.1.15 EM Assets and U.S. Treasuries: Performance Since May 1, 2013



### Emerging Market Debt

Beginning in May 2013, EM sovereign debt spreads widened versus Treasury yields, as measured by the Emerging Market Bond Index Plus (Chart 5.1.14). Investors began to increase their level of concern regarding economic activity (see Section 4.4.2), credit conditions, external financing needs and elevated inflation rates in several EMs. Economic and credit conditions in China in particular were a source of concern regarding EMs. Political risks in several EMEs further weighed on market performance (Chart 5.1.15).

Foreign portfolio inflows to EMEs, which were very heavy since mid-2009 due in part to carry trade strategies, declined sharply in the second quarter of 2013, and had a significant impact on

EME yields (**Chart 5.1.16**). Gross capital flows to EMEs declined in the second and third quarter but remained positive with foreign direct investment flows continuing to comprise the largest component (**Chart 5.1.17**).

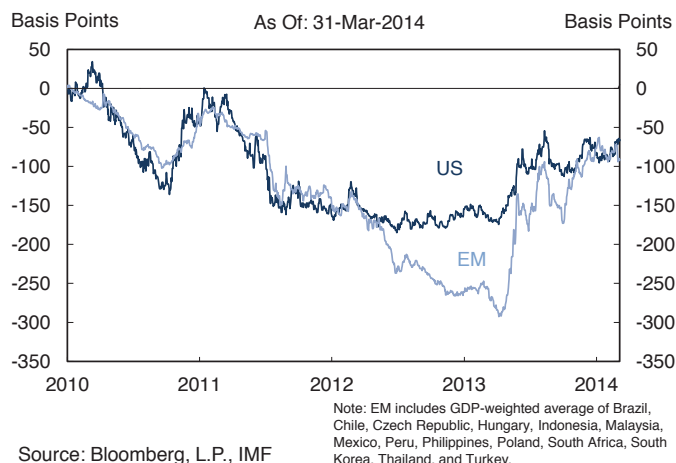
EM financial markets came under renewed pressure in early 2014. Unlike during stress episodes in 2013, changes in expectations of Federal Reserve policy did not appear to play a leading role, as EM asset prices weakened even as long-term Treasury yields declined. Instead, EM market weakness appeared to be driven by a series of country-specific developments in China, Turkey, Argentina, Ukraine, and Russia. Declines appeared to be amplified by a more generalized reduction in global risk sentiment in the aftermath of extended rallies in some risk assets (such as U.S. equities) and weaker data from the United States and China.

In 2013, EMs issued a record amount of corporate debt and the outstanding amount reached its highest-ever share of GDP (**Charts 5.1.18, 5.1.19**). The issuance of U.S. dollar-denominated (USD) corporate bonds, at \$422 billion, was almost four times that of the \$111 billion issuance of sovereign bonds. This rise in issuance comes as EMEs represent an increasing share in global economic activity.

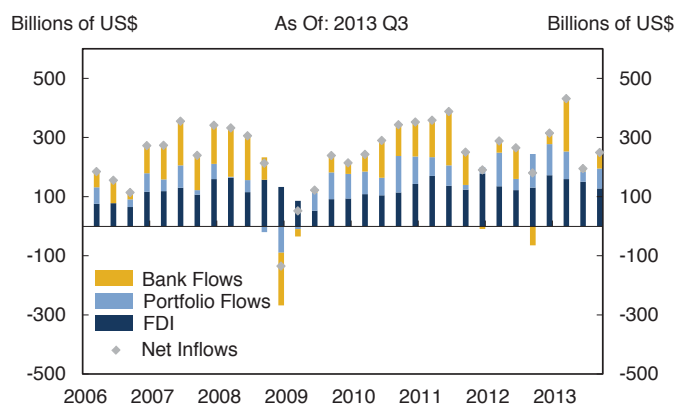
Asian firms were the most active issuers of international debt securities in recent years, followed by Latin American firms. Asian corporates currently account for 40 percent of outstanding EM corporate bonds, with Chinese firms doing much of the borrowing. Brazilian firms account for the majority of Latin American borrowing.

Growth of the EME corporate bond market is generally seen as a positive development reflecting the increasing global integration of firms in EMs and an improvement in access to funding. Portfolio diversification incentives and risk-return preferences suggest an ongoing

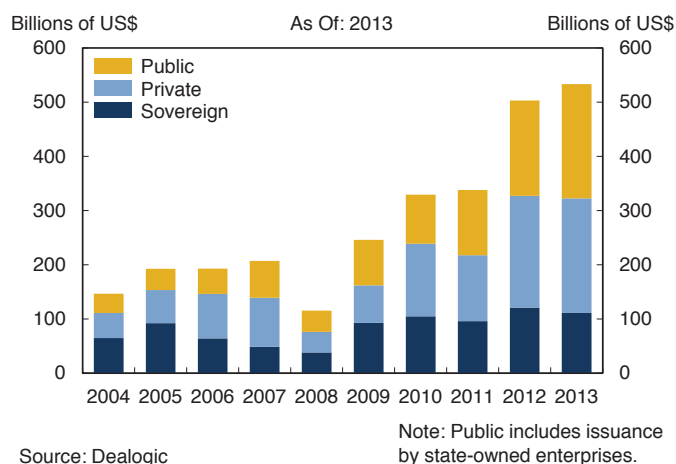
### 5.1.16 Cumulative Changes in 5-year Government Yields



### 5.1.17 Gross Capital Flows to EMEs

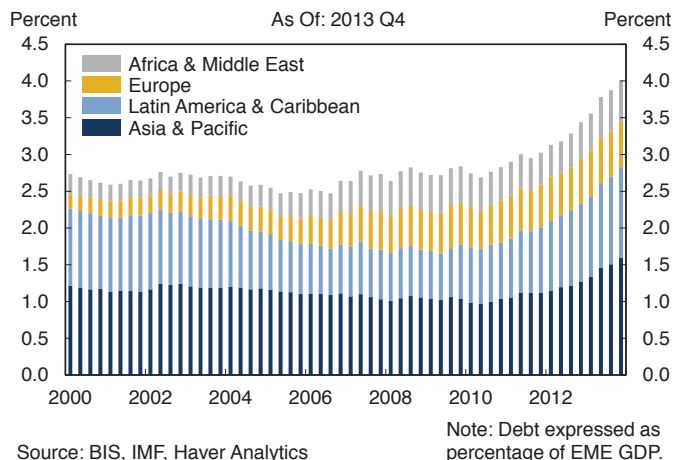


### 5.1.18 EME Gross Global Bond Issuance

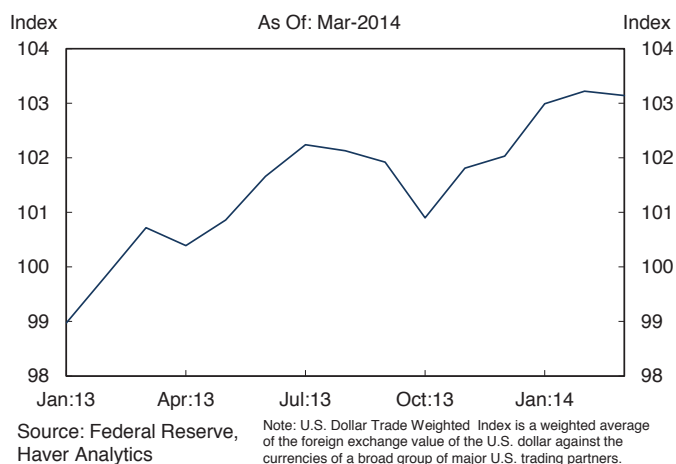




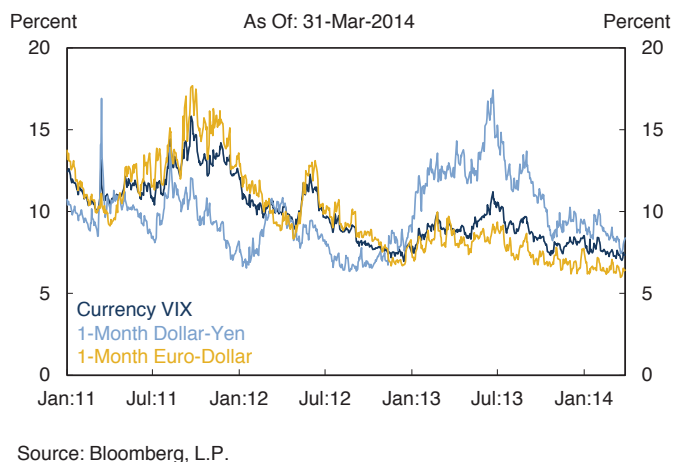
### 5.1.19 EME Corporate Debt Securities Outstanding



### 5.1.20 U.S. Dollar Trade Weighted Index



### 5.1.21 Currency Implied Volatility



demand for EM assets commensurate with their economic and financial growth. These developments, however, come with risks:

- Currency mismatch:** The stock of EME corporate debt reveals that dollar-denominated liabilities still constitute a substantial share of outstanding liabilities. The debt burden of an EME corporate borrower that has foreign currency liabilities but primarily local currency denominated revenues will rise in the event of depreciation in its local currency.
- Market illiquidity:** Low trading volume in the secondary market and a lack of risk management products (i.e. corporate credit default swaps (CDS)) could amplify the market reaction in the event of a selloff, leading to a sharp hike in corporate lending rates.
- Negative transmission linkages to banking sector and real economy:** Heightened corporate default rates could generate losses for domestic banks—both in their loan books, if they are large lenders to heavily indebted corporates, and in their securities holdings, if they hold corporate debt. This could weaken bank asset quality and capital adequacy and constrain credit availability to the domestic economy.

### Foreign Exchange

In 2013, the USD appreciated modestly on a trade-weighted basis, appreciating the most against the Japanese yen and EM currencies (**Chart 5.1.20**). The level of option-implied volatility across major currency pairs has remained near historic lows (**Chart 5.1.21**). Market participants cited improved U.S. economic data and the actual announcement of a decrease in the pace of asset purchases by the Federal Reserve as supporting the dollar. However, the USD depreciated against the euro, the British pound, and the Swiss franc, due to improving sentiment toward these economies (**Chart 5.1.22**).

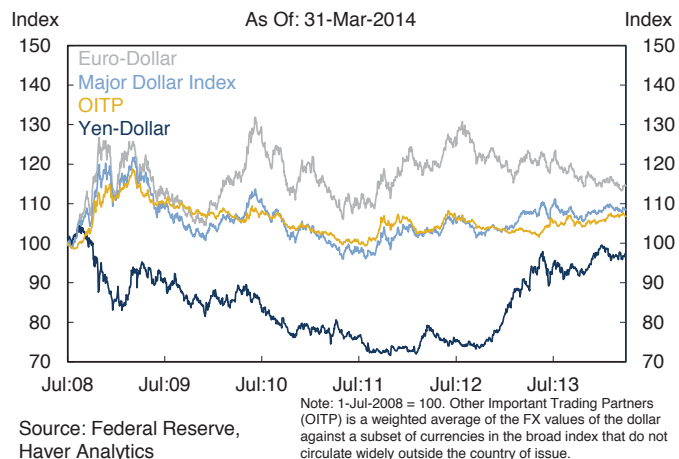
The euro has appreciated 7.4 percent versus the dollar since reaching year-to-date lows in July, and implied volatility continues to trade near multi-year lows. This was partly due to an improvement in economic data across the region, most notably GDP, Purchasing Managers Index, consumer confidence, and to a relatively benign political backdrop. Rising short-term interest rates also contributed to the appreciation of the euro.

The Japanese yen's recent performance has been range-bound, as most of the currency's nearly 20 percent depreciation versus the dollar from late 2012 to early 2013 had coincided with aggressive fiscal and monetary policy changes. Investors also remain highly focused on the outcome of Japan's ongoing structural reform efforts.

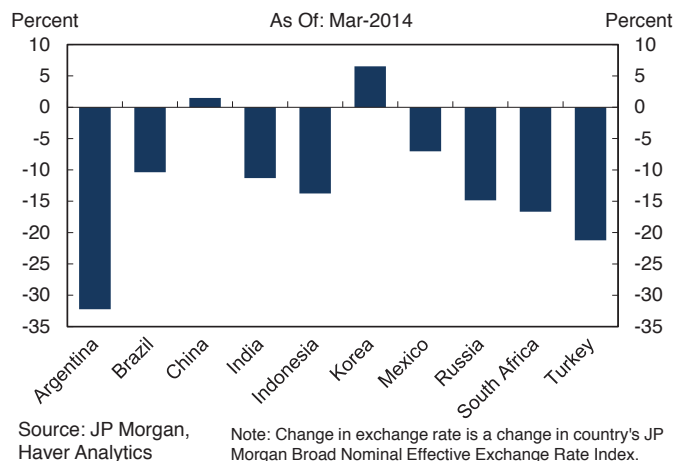
Year over year, ending March 2014, the British pound appreciated against all major currencies, including 9.4 percent versus the USD, on improved economic data and expectations that the Bank of England's (BoE) unemployment threshold of 7 percent could be reached earlier than initially expected, and may result in a reduction of BoE accommodation.

EM currencies have come under pressure on investor concerns about the longer-term impact of less accommodative monetary policy by advanced economy central banks and less optimistic growth outlooks for many EMEs (**Chart 5.1.23**). After the initial April 2013 selloff, some differentiation has occurred, though depreciation pressures remain for some EM currencies. After an initial sharp depreciation, pressures on the Mexican peso and Indian rupee diminished over the latter half of the year. Despite this trend, South Korea and China have seen their currencies appreciate from April 2013 to March 2014.

### 5.1.22 U.S. Dollar Exchange Rates



### 5.1.23 Change in Exchange Rates (April 2013-March 2014)



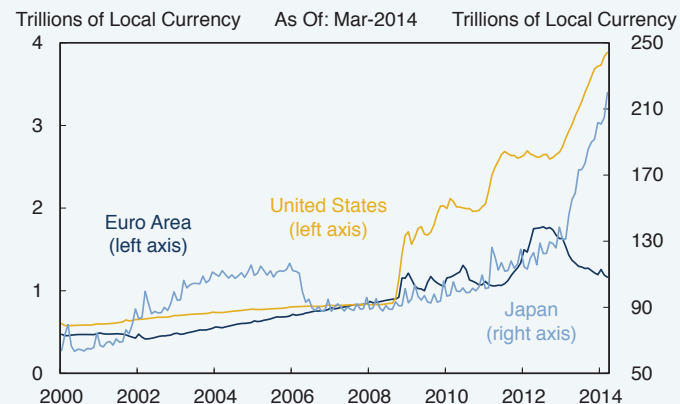
## BOX D: Global Monetary Policy Actions

Even though the economic recovery has solidified over the past year, activity in most advanced economies still remains below potential, and inflationary pressures remain subdued, with inflation well below central bank targets in some instances. In response, central banks in the advanced economies have continued to adjust their policies to sustain their accommodative support (**Chart D.1**). The BoJ substantially increased the size of its asset purchase program, while the ECB further cut its main policy rate, and both the ECB and the BoE introduced forms of forward guidance (**Chart D.2**). Although the economic recovery in the United States led the Federal Reserve to begin to reduce the pace of its asset purchases, it has reinforced its guidance that monetary policy will remain accommodative for some time.

The BoJ has continued to pursue achieving and maintaining a 2 percent inflation rate. Targeting a range of increase in the monetary base of ¥60 to ¥70 trillion annually by purchasing JGBs and also some riskier assets such as exchange-traded funds (ETFs) and Japanese REITs, the BoJ's assets have grown rapidly. The yen depreciated substantially in late 2012 through early 2013, and Japanese sovereign yields remain at very low levels even as sovereign rates in other advanced economies have risen. So far, the shift in policy seems to be successful in helping to stimulate the Japanese economy and raising both inflation and inflation expectations, though year-over-year inflation remains below the BoJ's 2 percent target.

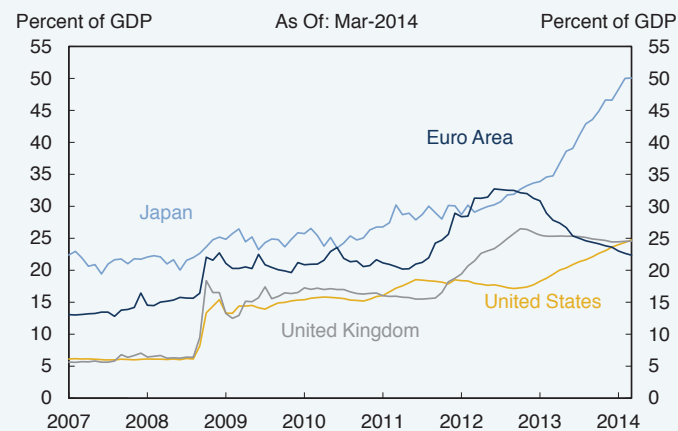
At its August policy meeting, the BoE introduced new forward guidance to provide greater clarity and to “keep market participants from revising up excessively” their expectations of future monetary policy. The BoE's Monetary Policy Committee (MPC) announced that it intended to keep the policy rate at its current level of 0.5 percent and the stock of assets purchased at £375 billion at least until the unemployment rate has fallen to 7 percent, noting that it expected this to occur around mid-2016. The MPC stipulated that its guidance would cease to hold if it expected inflation to rise more than 0.5 percent above its target, or if it thought that inflation

### D.1 Advanced Economy Base Money



Source: Bank of Japan, Federal Reserve, European Central Bank

### D.2 Central Bank Assets



Source: Haver Analytics

expectations had become unanchored or its policies posed a significant threat to financial stability. Following a much more rapid drop in the unemployment rate than was anticipated at the time that its forward guidance was adopted, the BoE recently revised its guidance, tying lift-off of its policy rate not just to the unemployment rate but to the MPC's overall assessment of spare capacity in the U.K. economy. In another effort to stimulate growth, the BoE and U.K. Treasury extended the length and terms of their Funding for Lending Scheme, which was designed to encourage lending to households and small- and medium-sized enterprises; however, in November, in

light of a pickup in the housing market, the terms of this extension were changed to remove support for lending to households while continuing to support lending to small- and medium-sized enterprises.

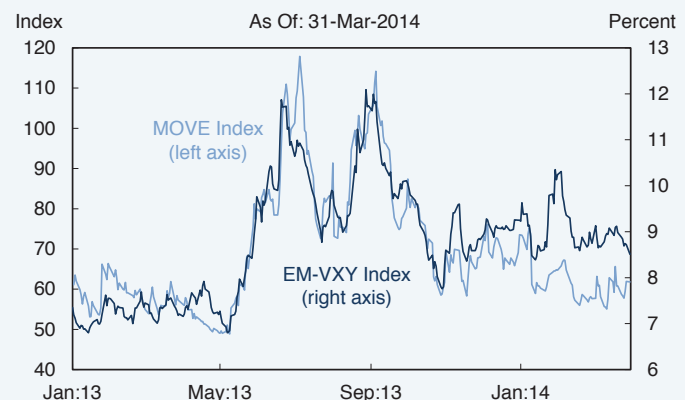
The ECB continued to offer three-month funds through its longer-term refinancing operations; however, as financial conditions improved in the euro area, many banks began to repay funds borrowed from earlier, three-year, ECB loan operations, and overnight interest rates began to drift up somewhat. In light of a still-fragile economic recovery and declining inflation, the ECB sought to provide further monetary stimulus, using both conventional monetary policy and forward guidance. The ECB cut its benchmark policy rate by 25 basis points in both May and November, lowering the rate from 75 to 25 basis points. At its July meeting, the Governing Council of the ECB issued forward guidance by announcing that it “expects the key ECB interest rates to remain at present or lower levels for an extended period of time.”

In the United States, the Federal Open Market Committee (FOMC) maintained the pace of large-scale asset purchases through last year, continuing to add to its holdings of agency MBS and longer-term Treasury securities at a pace of \$40 billion and \$45 billion per month, respectively. At its December 2013 meeting, as the outlook for labor market conditions continued to gradually improve, the FOMC announced that, starting in January, it would modestly reduce the pace of its purchases of agency MBS and longer-term Treasury securities to \$35 billion and \$40 billion per month, respectively. At the same time, the FOMC reinforced its forward guidance on the path of the federal funds rate, indicating that it would consider not only the unemployment rate but also other indicators—including additional measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial developments—in determining how long to maintain a highly accommodative stance of monetary policy. Based on these factors, the FOMC anticipated that it would likely be appropriate to maintain the current federal funds rate target well past the time that the unemployment rate declined to below 6.5 percent, especially if projected inflation continued to

run below the FOMC’s 2 percent longer-run goal. With incoming information broadly supporting the FOMC’s expectation of ongoing improvement in labor market conditions and inflation moving back toward its longer-run objective, the FOMC announced further modest reductions in the pace of asset purchases at its January and March of 2014 meetings, bringing the pace of purchases to \$25 billion per month for agency MBS and \$30 billion per month for longer-term Treasury securities.

The relatively modest EM currency market reaction to the FOMC’s December 2013 and January 2014 announcements could be attributed to the fact that expectations for a reduction in the pace of purchases were already priced into the market. Indeed, there had been more market turmoil in May and June of last year, when speculation that the FOMC would begin to reduce the pace of its asset purchases first intensified (**Chart D.3**). Long-term interest rates in the United States and other foreign economies increased substantially at that time. Interest rates in some EMEs increased, however the dollar appreciated against most other currencies. Some EME central banks also intervened to support their currencies. However, these responses were not uniform; central banks in some of the EMEs with stronger fundamentals, including Mexico and South Korea, had enough leeway to cut their policy rates as economic growth moderated.

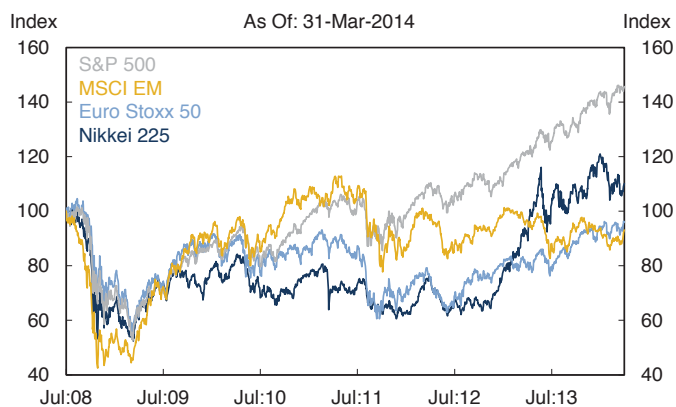
### D.3 Market Volatility



Note: The MOVE Index is a measure of implied volatility on 1-month Treasury options. The EM-VXY Index is a measure of aggregate volatility in currency markets.

Source: Bloomberg, L.P.

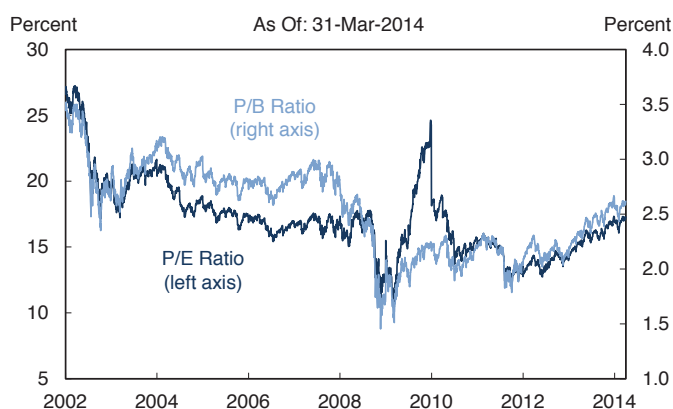
### 5.1.24 Selected Equities Indices



Source: Haver Analytics

Note: 01-Jul-2008 = 100.

### 5.1.25 S&P 500 Key Ratios



Source: Bloomberg, L.P.

### 5.1.26 Returns in Selected Equities Indices

|                         | Change from<br>1-Apr-2013 to<br>31-Mar-2014 | Change from<br>5-Year Low to<br>31-Mar-2014 |
|-------------------------|---|---|
| <b>Major Economies</b>  |   |   |
| U.S. (S&P)              | 20%   | 131%  |
| Euro (Euro Stoxx)       | 22%   | 67%   |
| Japan (Nikkei)          | 22%   | 82%   |
| U.K. (FTSE)             | 3%  | 68%   |
| <b>Selected Europe</b>  |   |   |
| Germany (DAX)           | 23%   | 131%  |
| France (CAC)            | 18%   | 58%   |
| Italy (FTSEMIB)         | 41%   | 75%   |
| Spain (IBEX)            | 31%   | 74%   |
| <b>Emerging Markets</b> |   |   |
| Brazil (Bovespa)        | -10%  | 20%   |
| Russia (RTS)            | -15%  | 79%   |
| India (Sensex)          | 19%   | 126%  |
| China (Shanghai SE)     | -9%   | 4%  |
| Hong Kong (Hang Seng)   | -1%   | 64%   |

Source: Capital IQ

## 5.1.3 Equities and Commodities

### Equities

All major equity indices in advanced economies exhibited significant gains in 2013 (**Chart 5.1.24**). The rise in developed market equities was bolstered by an improved global growth outlook, low interest rates, and accommodative monetary policy (**see Box D**). In the United States, the price performance of equity indices continued to be positive, with a gain of over 20 percent for the S&P 500 Index since April 2013. Corporate equity valuations increased notably, as the price-to-earnings ratio for the S&P 500 rose over the course of the year (**Chart 5.1.25**). These increased valuations reflected corporate earnings growth that started to shift from cost savings to a rise in sales and revenue. In the euro area, the Euro Stoxx Index rose by approximately 22 percent since April 2013 (**Chart 5.1.26**). In the United Kingdom, the FTSE 250 index rose by 3 percent. Finally, Japanese equity markets rose by 22 percent.

In contrast, EM equities declined significantly over the past year. The declines were led by Brazil and Russia, which fell by 10 percent and 15 percent, respectively, and were reflected more broadly in the MSCI Emerging Markets Index, which was down 4 percent. Underperformance in EMs reflected concerns regarding economic activity, credit conditions, and exchange rate risk. Chinese equity markets also weakened due to economic growth concerns as the Shanghai and Hang Seng indices fell 9 and 1 percent, respectively. In Russia, equity markets fell sharply at the start of March 2014 in response to tensions around the purported annexation of Crimea from Ukraine, political instability and violence in Eastern Ukraine, and potential repercussions from U.S. and EU sanctions.

U.S. equity market implied volatility, as measured by the Chicago Board Options Exchange Volatility Index (VIX), averaged roughly 14 percent in 2013. This marks a return of the VIX not only to pre-crisis levels, but also

toward the lowest levels of the past 20 years (**Chart 5.1.27**). Implied and realized volatility fluctuated significantly during the year, with the VIX ranging between 12 and 21 percent. The fluctuations were most acute in early May when discussion of tapering by the Federal Reserve increased, around U.S. fiscal negotiations in October 2013, and again in January 2014 when EM asset price volatility rose amid increasing global growth concerns.

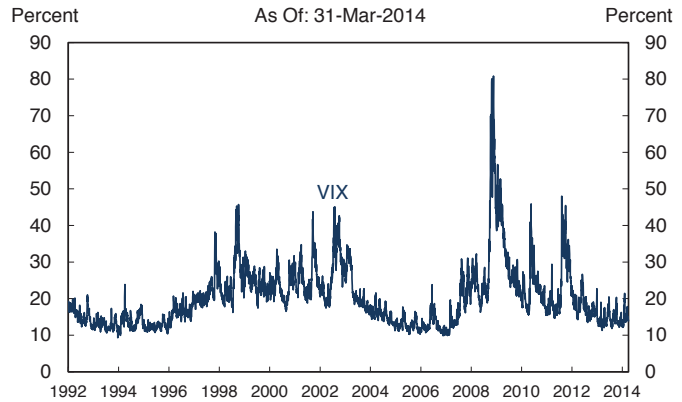
### Commodities

Oil prices varied within a narrow band and experienced less volatility than in prior years as sharp U.S. domestic supply growth offset sanctioned Iranian exports, reductions in Libyan supply, and shocks to the geopolitical risk premium due to the conflict in Syria. Consequently, average retail unleaded gasoline prices in the United States experienced more muted seasonal price spikes in comparison with prior years. The difference between West Texas Intermediate, the principal U.S. oil benchmark, and Brent, the international benchmark, narrowed in 2013 but the spread between the two persists with a backdrop of further projected gains in domestic energy production.

Growth of natural gas production in the United States has slowed as producers have shut down projects or shifted their focus to oil and other more high value liquids amid the low U.S. natural gas prices of the last few years. However, a surge in demand due to unusually cold weather led to a spike in natural gas prices in early 2014.

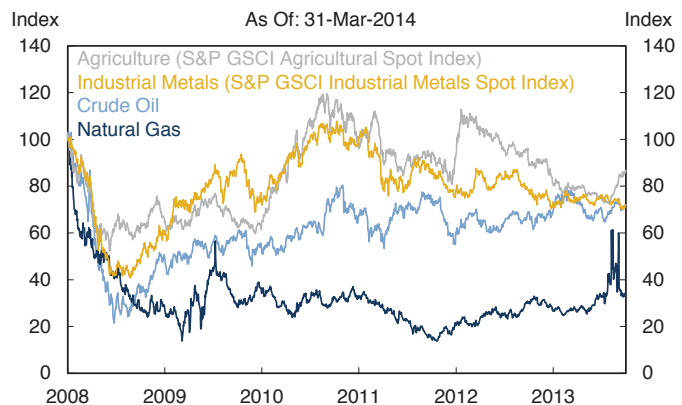
Industrial metal prices that are heavily influenced by demand from Asia remain depressed relative to 2011 peaks as market participants coalesce around lower growth expectations for Asia and the emerging world more broadly (**Chart 5.1.28**).

### 5.1.27 Market Volatility



Source: Capital IQ

### 5.1.28 Commodities

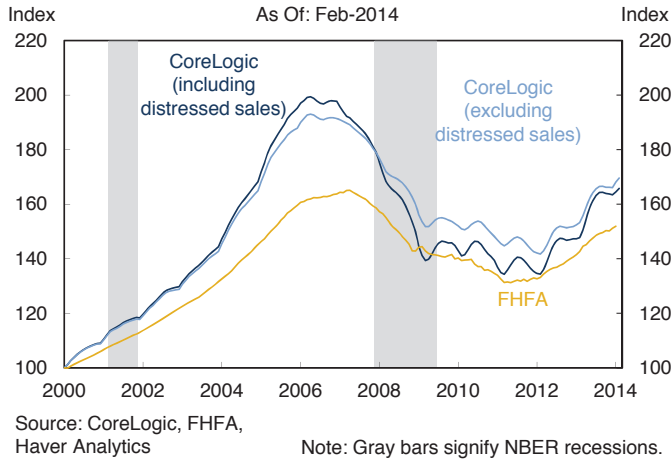


Source: Energy Information Administration, S&P, Haver Analytics

Note: 01-Jul-2008 = 100.



### 5.1.29 National Repeat Sales Home Price Indices



### 5.1.4 Real Estate Markets

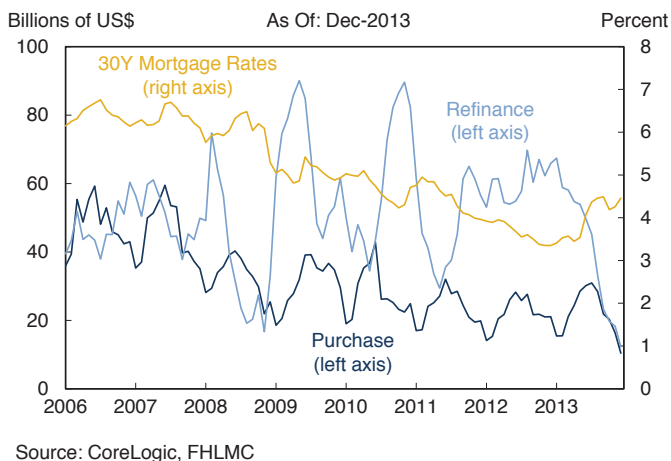
#### Housing Market Overview

Housing prices in 2013 continued to recover, though the pace of recovery slowed in the second half of the year as mortgage rates rose following increased uncertainty and anticipation around the timing of Federal Reserve tapering. Home prices in January 2014 were up 7.4 percent over one year earlier according to the FHFA's repeat sales home price index (**Chart 5.1.29**), which reflects sales of single-family detached homes purchased with conforming loans. From March through October 2013, seasonally adjusted monthly existing home sales remained the highest since 2007 with the exception of November 2009. New single-family home sales continued to slowly recover, rising 4.5 percent over one year earlier in December 2013, still well below historical norms, as both sales and supply of new homes remained muted. Housing starts followed a similar pattern, rising 4.2 percent over one year earlier in December 2013 to a seasonally adjusted annual rate of 1.0 million units, still well below the historical average rate of 1.5 million units. Macroeconomic factors such as unemployment contribute to the low demand for new housing units, as do low rates of household formation that have averaged around half historical levels since 2006.

Refinancing, which made up over three-fifths of the dollar volume of mortgage originations in 2013, fell considerably during the course of the year (**Chart 5.1.30**). While mortgage purchase originations recovered slowly, climbing to a two-year high of \$30.9 billion in July, refinance originations fell in each month of 2013 from a high of \$67.4 billion to \$12.2 billion by year end. Overall, total originations fell in each month except May and purchases have outpaced refinancing originations since October of 2013.

The performance of outstanding loans improved significantly since 2012. Delinquent loans declined from 3.1 million in December 2012 to 2.7 million in December 2013, partly due to reduced rates of negative equity and

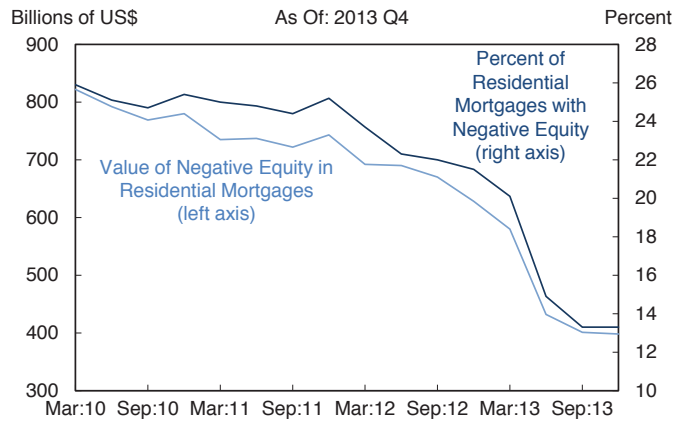
### 5.1.30 Monthly Originations by Purchase and Refinance



improved macroeconomic conditions. As a result of price increases, completed foreclosures on underwater loans, loan modifications, and the amortization of older loans, the fraction of mortgages with negative equity declined markedly from 21.6 percent at the end of 2012 to 13.3 percent in the fourth quarter 2013, with the total value of negative equity falling from \$628 billion to \$398 billion during the same period (Chart 5.1.31). The backlog of mortgages in foreclosure has also showed signs of improvement (Chart 5.1.32). The share of loans with payments more than 90 days past due dropped from 3 percent to 2.6 percent between December 2012 and December 2013 and the share of all loans that were delinquent fell from 7.5 to 6.7 percent. Over the same period, the share of mortgages in foreclosure dropped from 3.7 percent to 2.9 percent.

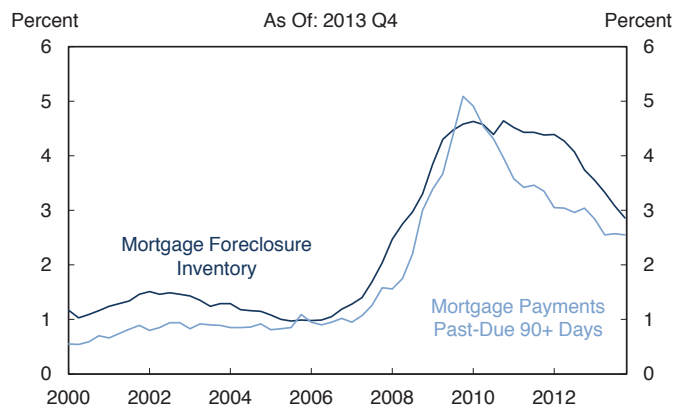
Current credit standards remain more conservative than prior to the financial crisis. The average FICO score of individuals receiving purchase mortgages from Fannie Mae and Freddie Mac reached a two-decade high of 766 in June 2013. Borrowers with credit scores of 760 and above make up an increasing volume of all purchase mortgages. The portion of first lien purchase mortgages that went to borrowers with credit scores in this range rose from 47 percent in December 2012 to 53 percent one year later (Chart 5.1.33). However, there is evidence of credit loosening in refinancing, with the portion of refinance mortgage volume going to borrowers with credit scores of 760 and above falling from 57 percent to 45 percent over the same period. With refinances making up the bulk of mortgages for 2013, the percentage of banks reporting looser standards in the SLOOS exceeded the percentage reporting tighter standards by 4.6 to 8.7 percent throughout the year. While FHFA and the GSEs have made progress in developing a new representations and warranties framework, lenders reportedly continue to employ tighter standards above minimum GSE credit standards, reflecting the perception of increased put-back risk associated with lower-credit-quality and higher loan-to-value ratio loans.

### 5.1.31 Mortgages with Negative Equity



Source: CoreLogic

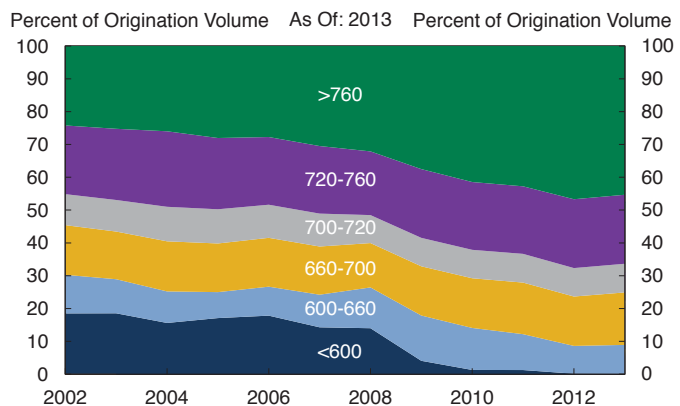
### 5.1.32 Mortgage Delinquency and Foreclosure



Source: Mortgage Bankers Association, Haver Analytics

Note: Percent of all mortgages.

### 5.1.33 Purchase Origination Volume by Credit Score



Source: CoreLogic

Note: Includes first lien purchases only.

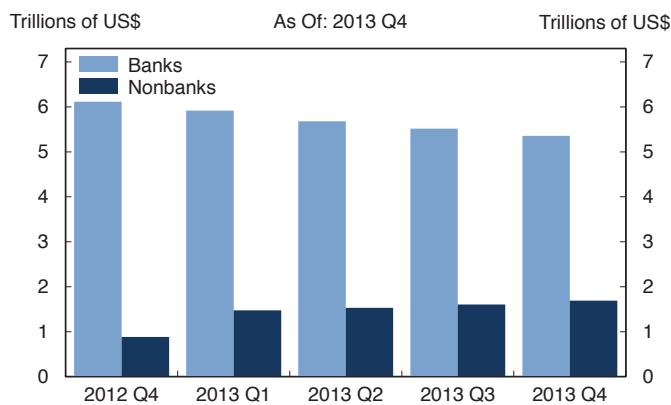
Over the next few years, the bulk of home equity line of credit (HELOC) originations, which were made in increasing volumes leading up to the crisis, are approaching the end of their draw periods, meaning that homeowners face the beginning of repayment of the principal borrowed and in some cases balloon payments of their entire principal balances. In 2014, roughly \$23 billion in outstanding HELOC balances are expected to reach the end of their interest-only periods. Another estimated \$41 billion will reach the end of their draw period in 2015, followed by \$49 billion in 2016 and \$54 billion in 2017.

Investor activity in home purchases increased in 2013, particularly in regions that experienced significant home price increases over this same period. Investors purchased homes for rental. They also participated in this market via equity REITs. In addition, the first rental property securitization bond was issued in late 2013 with the potential for more issuance in the future.

U.S. commercial banks and thrifts continued to transfer MSRMs throughout 2013 (Chart 5.1.34). By the end of the year, banks held \$5.4 trillion in unpaid balance, down \$758 billion from 2012 as many banks sought to reduce holdings subject to enhanced capital requirements that begin to go into effect in 2014. In contrast, nonbank holdings increased by \$806 billion to \$1.7 trillion.

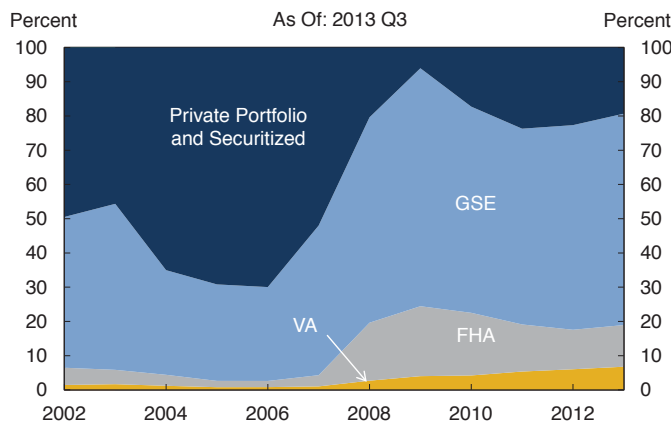
At their peak in 2006, prior to the financial crisis, private portfolios and securitization comprised nearly 70 percent of mortgage originations. With the collapse of the MBS market and the onset of the financial crisis, private capital dried up in mortgage markets, leaving government and agency guarantees to back over 90 percent of originations in 2009 (Chart 5.1.35). With the housing recovery, a limited amount of private capital has taken on credit risk, primarily in jumbo loans for very high-credit-quality borrowers. However, private capital still has less than a third of the market share it had at its pre-crisis peak. Today, the share of all originations through

### 5.1.34 Servicing Growth: Banks vs. Nonbanks



Source: Inside Mortgage Finance

### 5.1.35 Mortgage Originations by Program



Source: Inside Mortgage Finance

the Federal Housing Administration (FHA), the U.S. Department of Veterans Affairs, and GSEs stands at 81 percent. There is evidence that risk-bearing private capital is reentering the market primarily via portfolio lending and whole loans rather than securitization, in part due to barriers to investor reviews of the underwriting of securitized loans that persist. Although private securitization volume doubled in 2013, it still remains less than one percent of all originations.

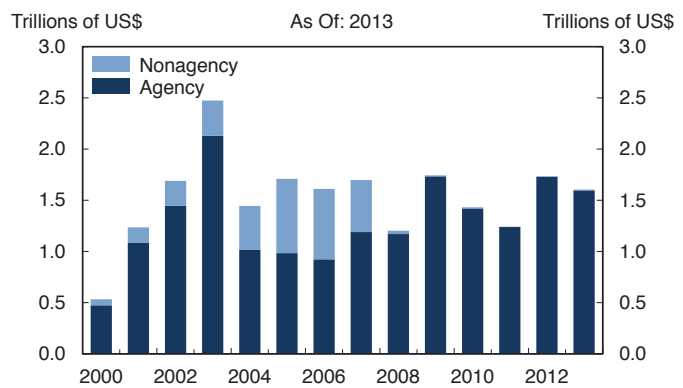
The GSEs completed nearly 4.1 million refinancings in 2013 through December, with the Home Affordable Refinance Program representing 22 percent of this amount. In addition, the FHA Streamline Refinance program completed nearly 512 thousand refinancings. With the uptick in interest rates and depletion of refinance-eligible homes, the GSEs' refinance volume decreased in the fourth quarter of 2013 by 63 percent over the fourth quarter of 2012.

### Government Sponsored Entities

Through the third quarter of 2013, the GSEs accounted for approximately 76 percent of MBS issuances, with practically all remaining issuances coming from Ginnie Mae (Chart 5.1.36). As market conditions recovered, the financial health of Fannie Mae and Freddie Mac also improved. Fannie Mae and Freddie Mac posted net incomes of \$84.0 billion and \$48.7 billion, respectively in 2013 (Chart 5.1.37). While the health of these enterprises has improved, their recent profits are not expected to be indicators of steady future profits, particularly because most of the 2013 income came from one-time sources such as the release of loan loss reserves.

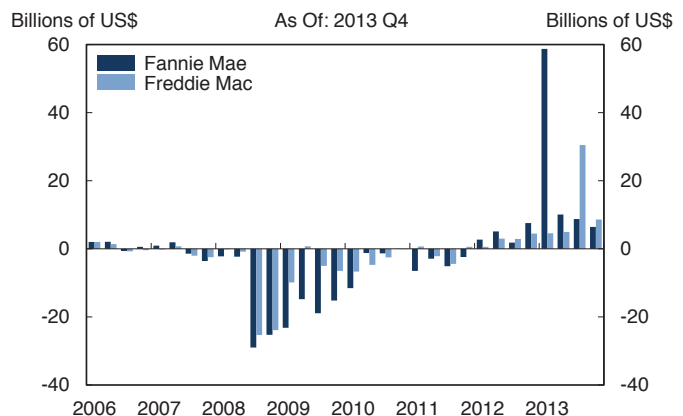
In 2013, under FHFA guidance, the GSEs completed three transactions which were aimed at minimizing taxpayer risk by sharing credit risk with private investors who pre-fund collateral at the time of transactions. These transactions accounted for the bulk of the GSEs' credit risk-sharing transactions associated

#### 5.1.36 Issuance of RMBS



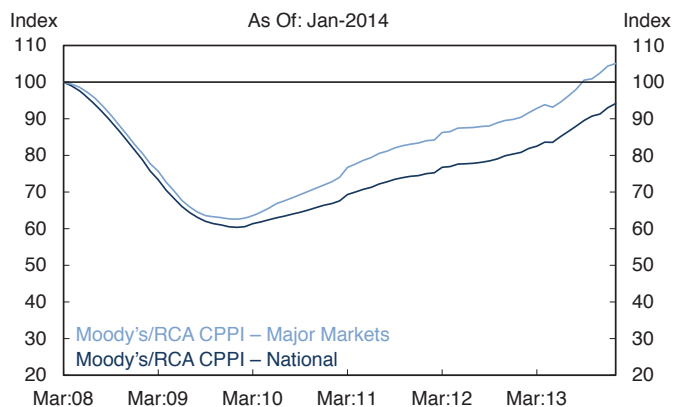
Source: Thomson Reuters, Dealogic, Fannie Mae, Freddie Mac, SIFMA

#### 5.1.37 GSE Net Income



Source: SNL Financial

### 5.1.38 Commercial Property Price Indices



Source: Real Capital Analytics, Moody's Investors Service

Note: Mar-2008 = 100.

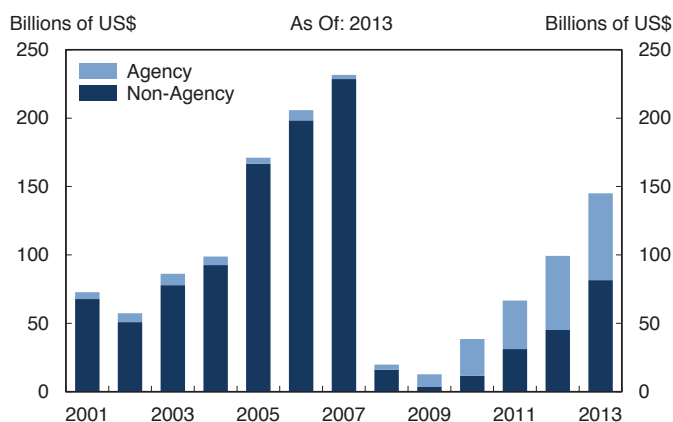
with \$75 billion in mortgages that were completed in 2013. The remaining transactions were based on insurance structures.

### Commercial Real Estate

Commercial real estate (CRE) markets continued to improve in 2013. Price indices rose in CRE markets (Chart 5.1.38), though price appreciation for retail properties continued to lag the rest of the sector. Delinquency rates on CRE loans at banks continued to improve, falling from 4.12 percent in the fourth quarter of 2012 to 2.46 percent in the fourth quarter of 2013.

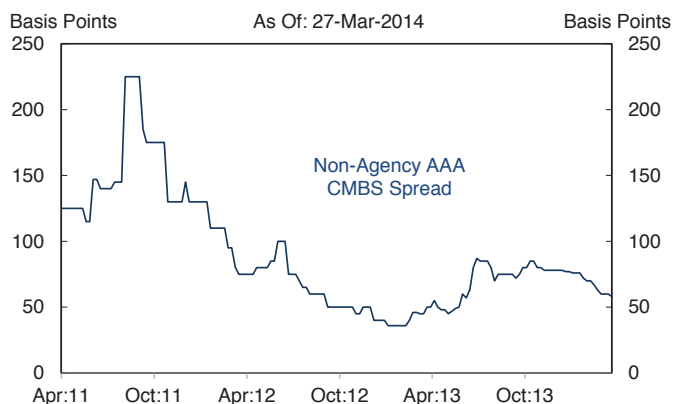
Commercial REITs issued almost \$27 billion in unsecured notes in 2013, higher than any year in the preceding decade. Private commercial mortgage-backed securities (CMBS) issuance rose in 2013 to \$81.6 billion, a level in line with years prior to 2005 (Chart 5.1.39). Market participants expect issuance to slow due to the rising rate environment. Meanwhile, the reduction in CRE delinquencies at banks is reflected in CMBS as well: the fraction of CMBS loan balances in Fitch-rated deals that were 60 or more days delinquent or in foreclosure fell from 7.99 percent in December 2012 to 5.98 percent in December 2013. This improvement is also reflected in slightly lower CMBS senior debt spreads (Chart 5.1.40). However, refinancing risks for these CMBS could be significant if cash flows from the properties do not increase enough to support higher rates in the future.

### 5.1.39 CMBS New Issuance



Source: Commercial Mortgage Alert

### 5.1.40 CMBS Senior Debt Spreads



Source: Barclays

Note: Spread of Non-Agency 3.0 AAA 5-Year CMBS to Swaps.

## 5.2 Wholesale Funding Markets

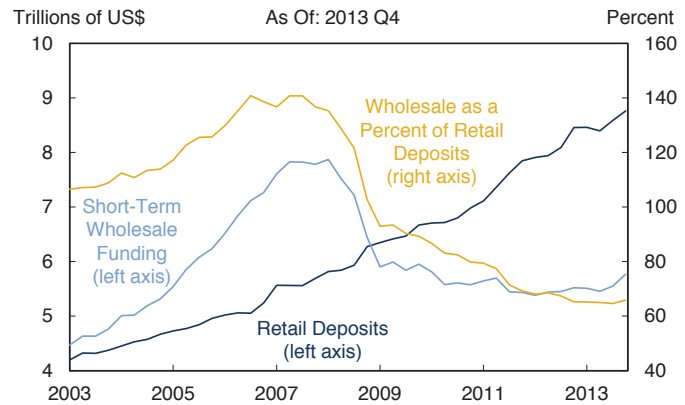
Short-term wholesale funding markets provide financial intermediaries with funds, on a secured or unsecured basis, that supplement other funding sources such as retail deposits and long-term debt. Major short-term wholesale funding types include federal funds, CP, repos, certificates of deposit (CDs) and large time deposits. Financial institutions have varying reliance on short-term wholesale funding. U.S. branches of foreign banks and broker-dealers tend to rely more on short-term wholesale funding than domestic banks, which have access to U.S. retail deposits. Sources of short-term wholesale funding include cash on balance sheets of nonfinancial companies, MMFs, reinvestments of cash collateral obtained from securities lending activities, and cash held by mutual funds, pension funds, and sovereign wealth funds. Domestic banking firms' reliance on short-term wholesale funding measured as a share of retail deposits has decreased since the financial crisis. The decreased reliance on wholesale funding primarily reflects growth in retail deposits (**Chart 5.2.1**).

### 5.2.1 Commercial Paper, Asset-Backed Commercial Paper, and Large Time Deposits

CP outstanding of \$952 billion in December 2013 was essentially unchanged from a year ago (**Chart 5.2.2**). Asset-backed commercial paper (ABCP) outstanding continued to decline over 2013, extending a trend since the financial crisis. As of December 2013, ABCP accounted for 28 percent of total CP outstanding, while financial CP and non-financial corporate CP accounted for 52 and 20 percent, respectively.

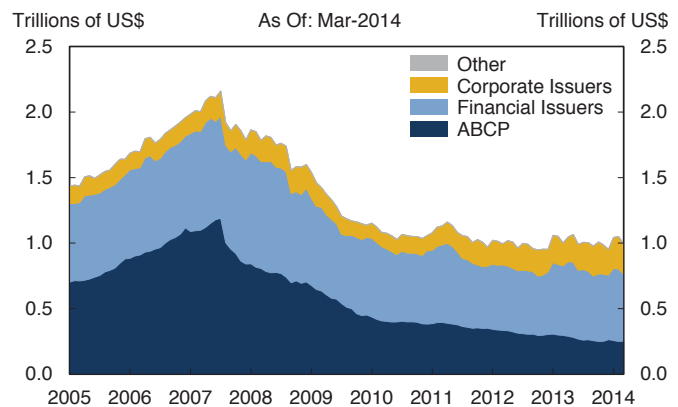
Overall, domestic CP outstanding (excluding ABCP and including both financial and non-financial CP), was generally stable over 2013 (**Chart 5.2.3**). Domestic financial CP issuance declined to all-time low levels, which market participants largely attributed to a reduction in demand for short-term funding from domestic banks, as noted above. In contrast, domestic non-financial CP outstanding modestly

### 5.2.1 Composition of Bank Short-Term Funding



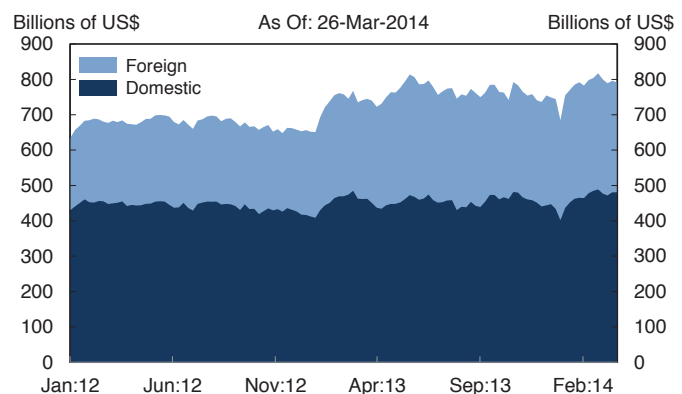
Source: FDIC, Federal Reserve, Haver Analytics

### 5.2.2 Commercial Paper Outstanding



Source: Federal Reserve, Haver Analytics

### 5.2.3 Commercial Paper Outstanding

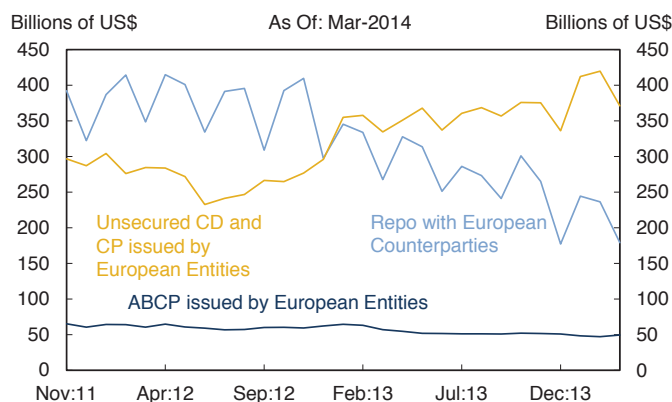


Note: Does not include ABCP. Domestic includes CP issued in the U.S. by entities with foreign parents.

Source: Federal Reserve



### 5.2.4 U.S. MMF Holdings of European Entities' CP, CD, and Repos



Source: SEC Form N-MFP filings, OFR Calculations

Note: Assets valued at amortized cost.

increased, consistent with increased overall corporate funding needs.

Foreign CP outstanding increased by approximately 30 percent year-over-year in 2013, driven by increased issuance by euro area financial institutions. This has generally been attributed to improving investor sentiment with regard to Europe and low U.S. money market rates prompting some “search for yield” behavior. Consistent with these trends, U.S. prime MMFs increased the amount and extended the average tenor of their unsecured euro area exposures (**Chart 5.2.4**). However, prime MMFs continue to have small direct exposure to peripheral euro area institutions.

### 5.2.5 Premium for Borrowing U.S. Dollars for 3 Months



Source: Bloomberg, L.P.

Note: Premium for borrowing U.S. dollars is the negative of the 3 month Euro-U.S. Dollar FX Swap.

U.S. commercial bank large time deposits, which include wholesale CDs, modestly increased in 2013 to reach \$1.6 trillion. Similar to dynamics in the CP market, growth was led by deposits at foreign institutions, which increased 14.2 percent. Large time deposits at domestically chartered banks declined 4.1 percent.

Consistent with relatively benign conditions in offshore USD funding markets, the premium for borrowing USD via FX swap markets remained small (**Chart 5.2.5**). Moreover, the premium for borrowing USD against euros in the three-month tenor was negative in late 2013. This indicates the existence of a premium for borrowing euros, which happened for the first time since early 2008, reflecting eased conditions in dollar funding markets and tighter conditions in euro money markets.

### 5.2.2 Repo Markets

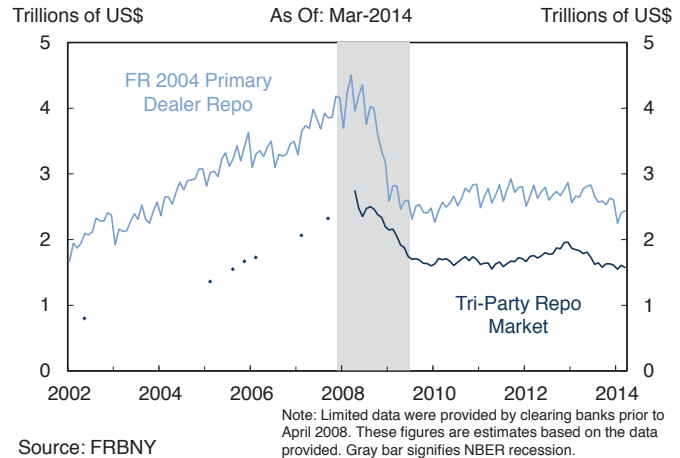
A repo is the sale of securities for cash with an agreement to buy back the securities at a specified date and price. This arrangement resembles a secured loan with securities as collateral. Securities broker-dealers play a significant role in repo markets. There are three repo market segments: the tri-party market, in which broker-dealers primarily obtain funding from cash investors and transact utilizing the collateral management and

settlement services of the two tri-party repo clearing banks (JPMorgan Chase and Bank of New York Mellon); GCF repo, which is centrally cleared by FICC over the tri-party platform; and bilateral repo, in which transactions are executed without the services of the two tri-party clearing banks.

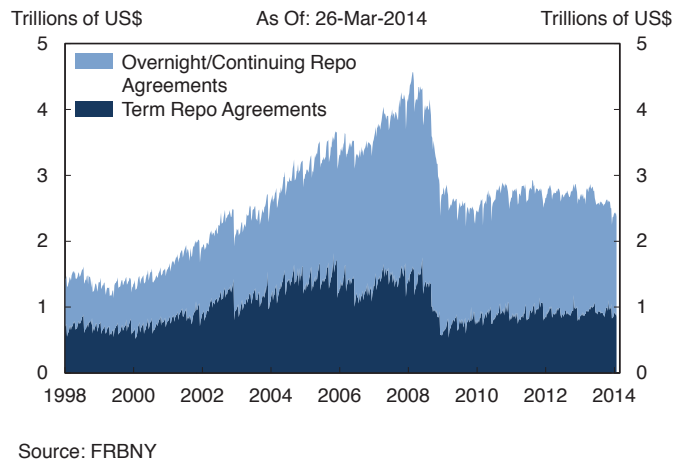
Repos outstanding decreased in 2013, as measured both in the tri-party repo statistics and in the Federal Reserve Bank of New York (FRBNY) primary dealer survey (**Chart 5.2.6**). The decrease was particularly pronounced for agency MBS and, to a lesser extent, Treasury securities. Many institutions reduced their reliance on wholesale funding more generally, both repos and other forms of wholesale funding, in response to an influx of retail deposits. Market observers also have cited other factors in reference to the decline in repo activity, such as the purchases of Treasury securities and agency MBS by the Federal Reserve, as part of its large-scale asset purchases, as well as deleveraging by financial institutions in anticipation of enhanced capital regulations, notably the supplementary leverage ratio. The relative size of the primary dealer term repo market compared to the overnight repo market remained similar in 2013 versus the prior year (**Chart 5.2.7**).

The majority of tri-party repo financing remains collateralized by assets that are eligible for use in Federal Reserve open market operations, such as Treasury securities, agency debentures, and agency MBS. As of December 2013, these types of collateral accounted for 75 percent of all tri-party repo collateral (**Chart 5.2.8**). The remaining 25 percent of collateral used in tri-party repos includes corporate bonds, equities, agency and private label collateralized mortgage obligations, ABS, CP, other money market instruments, whole loans, and municipal bonds. Haircuts in the tri-party market have been stable in the last few years across all collateral classes, suggesting an unchanged stance towards collateral quality and potential price volatility.

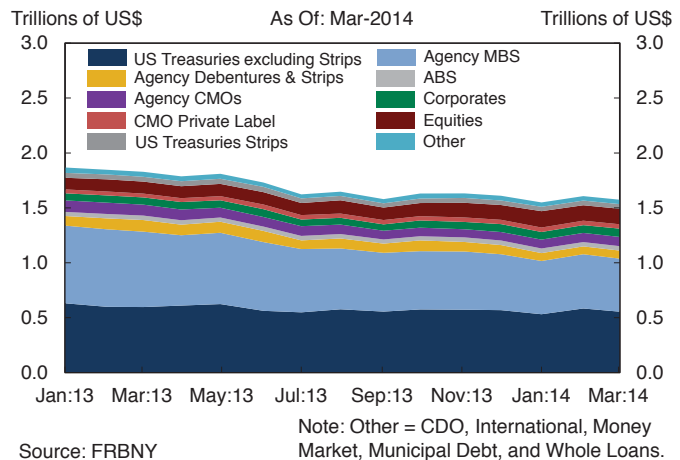
### 5.2.6 Value of the Repo Market



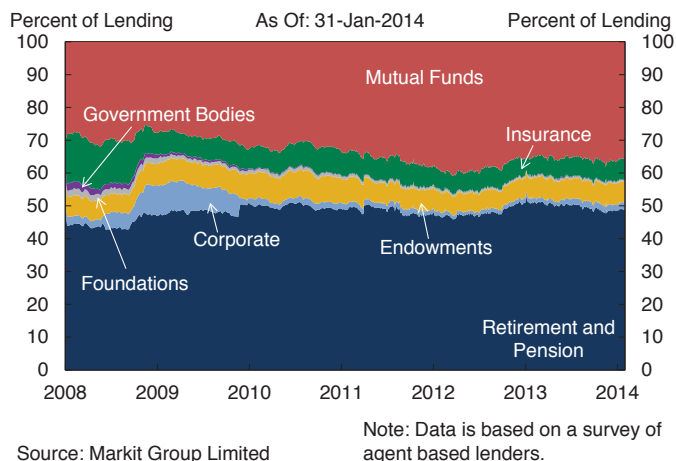
### 5.2.7 Primary Dealer Repo Agreements



### 5.2.8 Collateral in Tri-Party Repo



### 5.2.9 Share of Securities Lending by Lender Type

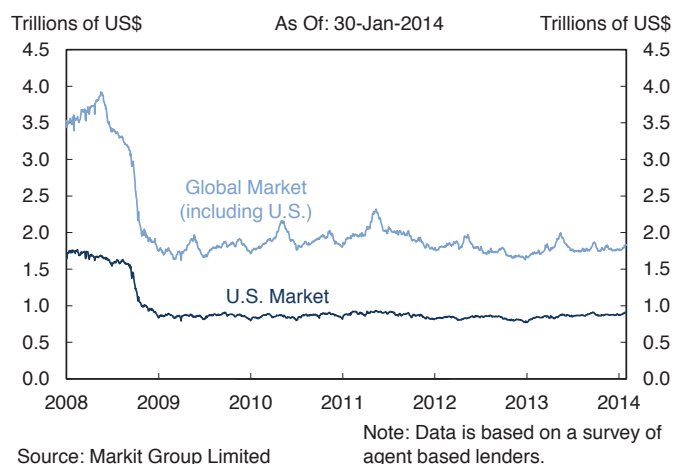


While risks to financial stability remain in the tri-party repo market, over the past two years, the industry has made significant progress in implementing the vision of the Tri-Party Repo Infrastructure Reform Task Force (see Section 3.1.1).

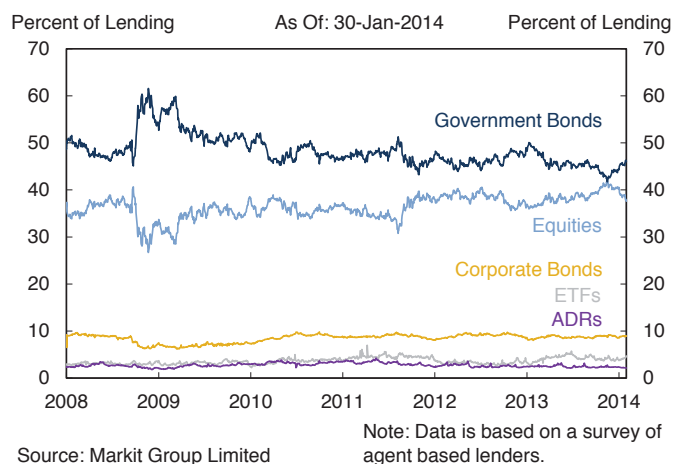
### 5.2.3 Securities Lending

Securities lending is a transaction involving the temporary transfer of a security by one party (the lender) to another (the borrower), in exchange for collateral in the form of either cash or non-cash instruments. Institutions may want to borrow securities to facilitate short selling, for derivative hedges, to deliver a security to another party to settle a transaction, or to obtain a particular security to post as collateral in another transaction. The main lenders of securities are institutional investors, such as pension plans, mutual funds, and insurance companies (Chart 5.2.9). The main borrowers are hedge funds, broker-dealers, derivatives traders, and market makers. Most domestic securities lending is done against cash collateral. Typically, the lender of a security pays an interest rate to the borrower for the cash collateral. Lenders seek to earn a higher return by investing the cash collateral in a MMF or other short-term investment fund which, in turn, may invest in CP, repos, and other short-term wholesale funding instruments as discussed above.

### 5.2.10 Value of Securities on Loan



### 5.2.11 Composition of Securities Lending by Security Type

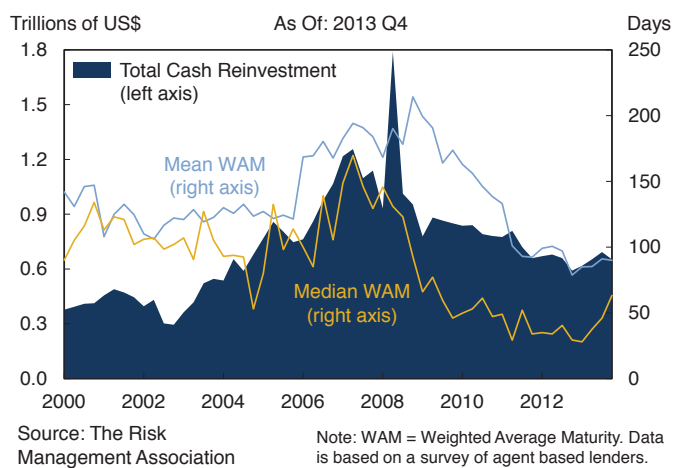


The global value of securities lending transactions remained fairly flat in 2013, at an average value of around \$1.8 trillion, effectively unchanged from 2012, according to available estimates (Chart 5.2.10). The composition of assets being lent, both globally and in the United States, remained consistent with 2012, with government bonds and equities continuing to comprise the vast majority of securities lent in 2013 (Chart 5.2.11). Overall, market commentary suggests little change in lending terms throughout 2013, which is further supported by results of Senior Credit Officer Surveys on Dealer Financing Terms.

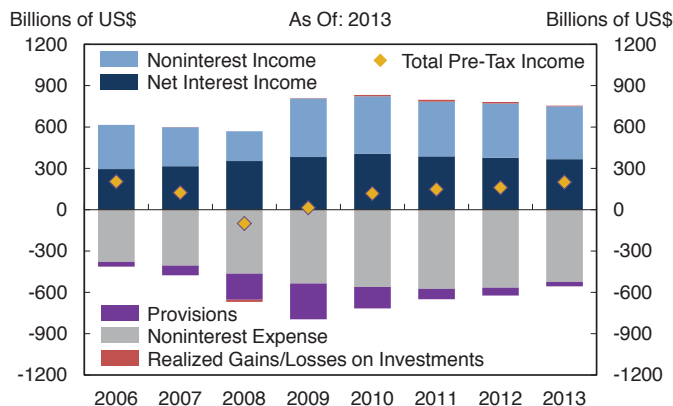
Both securities lending on a cash-collateral basis and on a non-cash collateral basis pose some risks. In securities lending on a non-cash collateral basis, a party usually swaps, or temporarily exchanges their lower quality assets, by posting them as collateral for higher quality assets, such as Treasury securities. This process is typically termed “collateral transformation.” Risks of collateral transformation are twofold: the value of the lower quality collateral could decline beyond the initial margin such that additional collateral must be posted to maintain adequate overcollateralization, which can force deleveraging if the borrower does not have the additional collateral needed; and financial institutions providing collateral swaps might introduce additional counterparty and liquidity risk exposure.

As is the case of non-cash collateral, loans of securities against cash collateral also pose risks. Before the crisis, cash collateral was often reinvested in assets with longer weighted-average maturities, causing significant maturity and credit mismatches between their invested assets and their liabilities (cash) that became problematic when collateral needed to be returned on a same-day basis. However, despite recent data showing an increased share of lending on a cash collateral basis, the weighted-average maturity of cash reinvestment remains well below levels seen in the pre-crisis timeframe (**Chart 5.2.12**), which suggests that the investment strategy of these cash collateral reinvestment pools remains conservative, at least with respect to duration risk.

### 5.2.12 Securities Lending Cash Reinvestment

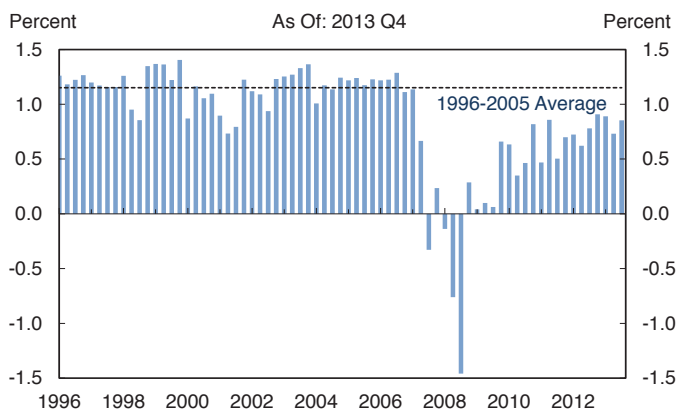


### 5.3.1 Aggregate BHC Pre-Tax Income



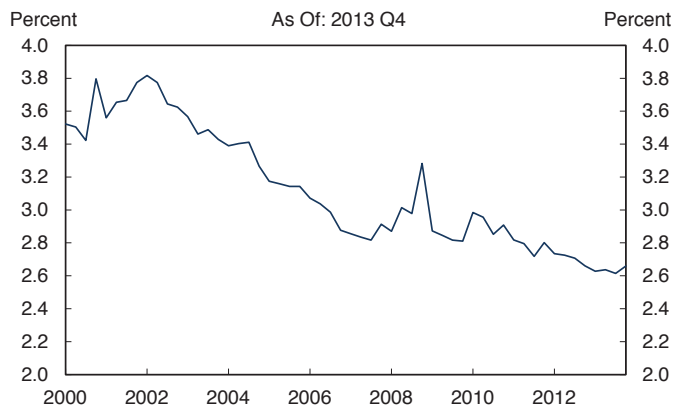
Source: FR Y-9C

### 5.3.2 Return on Average Assets for BHCs > \$10B



Source: FR Y-9C

### 5.3.3 Annualized Net Interest Margin



Source: FRBNY Quarterly Trends Report

Note: For domestic BHCs and commercial banks.

## 5.3 Bank Holding Companies and Depository Institutions

### 5.3.1 Bank Holding Companies and Dodd-Frank Act Stress Tests

#### Performance

BHCs are companies with at least one commercial bank subsidiary. Subsidiaries of BHCs may also include nonbanks such as broker-dealers, investment companies, or insurance companies. As of the fourth quarter of 2013, there were 1,054 BHCs in the United States (excluding Puerto Rico) with greater than \$500 million in assets, whose aggregate assets totaled \$18.0 trillion.

The domestic banking sector in 2013 continued to face a challenging interest rate environment, enhanced regulatory requirements, and a sluggish, but slowly recovering, macroeconomic environment. Beginning in May 2013 and continuing for the remainder of the year, shifting expectations about the timing of the Federal Reserve's reduction in asset purchases resulted in higher Treasury yields that weighed on capital markets and mortgage banking revenues. Despite headwinds, earnings grew in the sector in 2013, mostly as a result of expense control measures and lower loan-loss provisions as credit quality continued to improve. Aggregate pretax income for all BHCs increased 25 percent in 2013 to \$199.1 billion (**Chart 5.3.1**). Nevertheless, the return on assets across BHCs remained lower than the levels that prevailed in the 10 years before the crisis (**Chart 5.3.2**).

BHC net interest margins (NIM) continued to decline through most of 2013, as they have for more than a decade, although the rate of compression decelerated (**Chart 5.3.3**). NIM compression was driven by the run off of higher-yielding securities amid relatively low reinvestment yields and increased competition across some loan categories. In addition, deposit costs remained near the zero-bound, limiting the extent to which BHCs could benefit

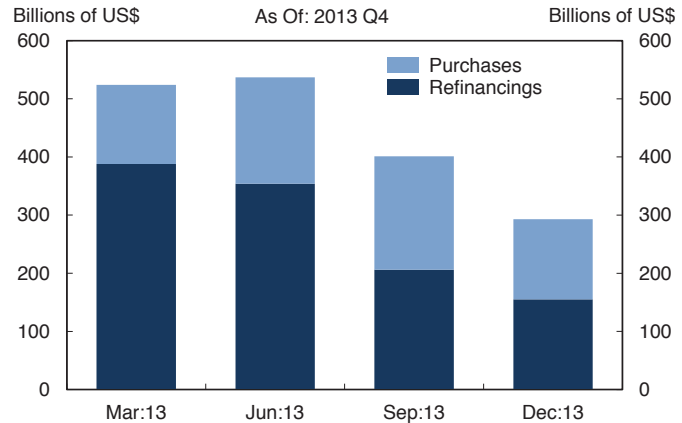
from lower funding costs. Moreover, some large BHCs took steps to increase holdings of lower-yielding, high quality liquid assets to improve their liquidity profiles, further pressuring NIMs.

The rise in Treasury yields and steepening of the yield curve that began in May 2013 have not yet translated into wider NIMs. Further, short-term rates remain low, so banks have not benefited from yield increases on their floating-rate assets. BHCs mitigated the effects of the compressed rate environment through various cost control measures, including restructurings and compensation reductions. For example, some banks began reducing expenses in their mortgage banking businesses in the latter half of 2013, as higher MBS rates and lower origination volumes adversely affected mortgage-related revenues **(Charts 5.3.4, 5.3.5)**.

Despite continued margin pressure, the largest banks did not appear to assume outsized credit or duration risk, although competition for loans has increased in the more profitable small business and middle market segments. However, some smaller banks continue to lengthen the maturity of their asset portfolios, as evidenced in the estimates of the asset/liability maturity and repricing interval gap **(Charts 5.3.6, 5.3.7)**.

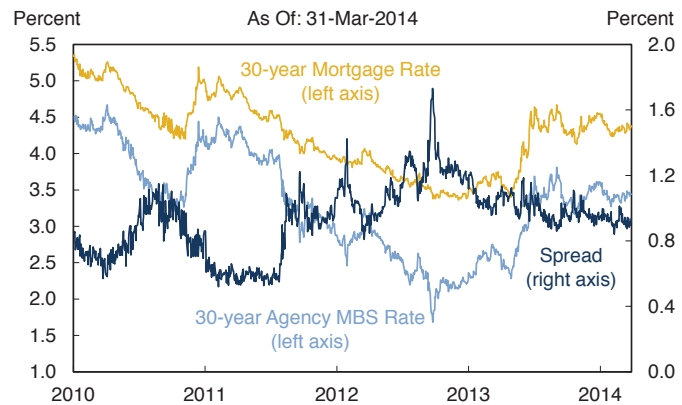
Large BHCs reduced some legal uncertainty in 2013 as a result of settling certain outstanding legal matters, primarily related to pre-crisis mortgage lending **(see Section 6.1.5)**. In addition to reduced legal uncertainty, BHCs benefited from greater clarity on impending regulations **(see Section 6)**. Nevertheless, BHCs still face ongoing investigations into certain matters, such as manipulation of LIBOR and FX markets. These incidents highlight the need for BHCs to have effective risk management policies and practices in place to address potential legal risk.

### 5.3.4 Total Residential Mortgage Originations



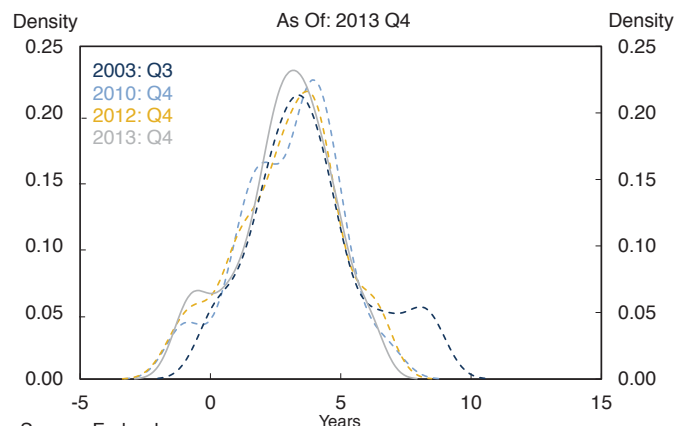
Source: Mortgage Bankers Association

### 5.3.5 U.S. Mortgage Spread



Source: Bloomberg, L.P.

### 5.3.6 Maturity Gap at Large Banks

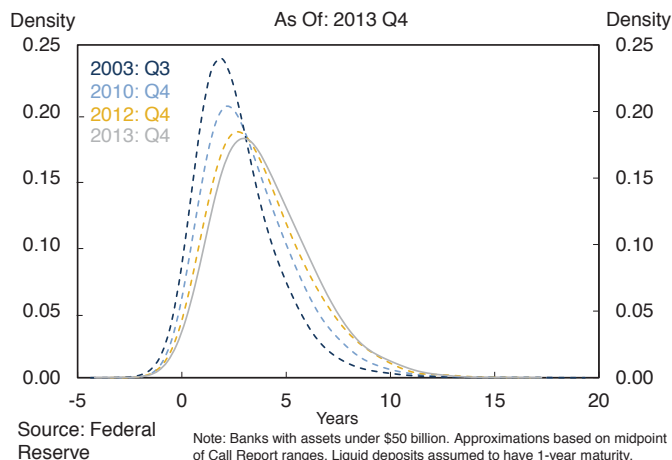


Source: Federal Reserve

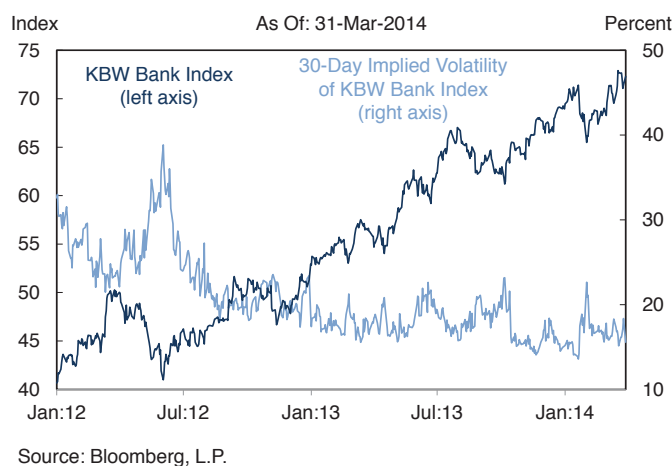
Note: Banks with assets over \$50 billion. Approximations based on midpoint of Call Report ranges. Liquid deposits assumed to have 1-year maturity.



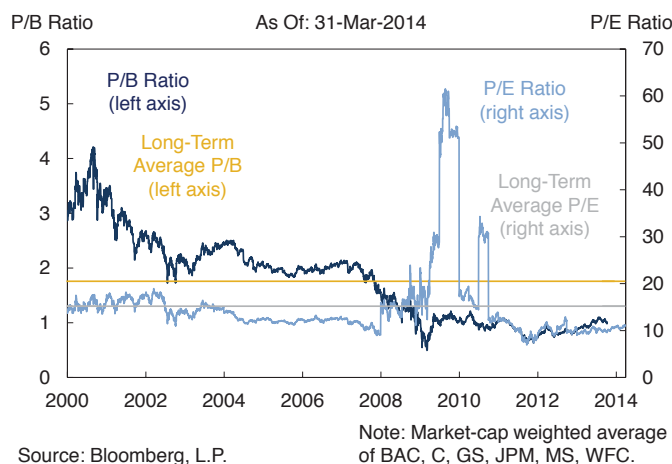
### 5.3.7 Maturity Gap at Small Banks



### 5.3.8 KBW Bank Index and Implied Volatility



### 5.3.9 Average P/B and P/E Ratios of 6 Large Complex BHCs



### Market Indicators

BHC share prices rose in 2013. As of the end of March, the KBW bank index had increased 29 percent year over year and implied volatility had declined (**Chart 5.3.8**). The market value of the six largest BHCs increased 31 percent in aggregate and the market-capitalization weighted-average price-to-book ratio for this group was slightly above 1.0 at year end. Valuations are at the highest level since early 2011, though they remain well below pre-crisis levels (**Chart 5.3.9**). Five-year CDS spreads of these six BHCs tightened approximately 20 to 50 percent in 2013, and finished the year near pre-crisis levels, due primarily to continued strengthening of bank balance sheets (**Chart 5.3.10**). Advanced systemic risk measures, which attempt to gauge systemic risk at the six largest BHCs in real time, continued to decline in 2013 and remain well below crisis levels (**Chart 5.3.11**).

### Capital

Aggregate capital ratios, as defined per the Federal Reserve's Capital Assessments and Stress Testing reporting requirements (that is, the Y-14A report) for BHCs increased modestly in 2013 with the Tier 1 common capital ratio increasing 25 basis points to 11.70 percent. The domestic implementation of Basel 2.5 in January 2013 led to a large increase in risk-weighted assets (RWAs) in the first quarter of 2013 (**Chart 5.3.12**), negatively affecting Tier 1 common capital ratios, particularly at the largest banks with significant market risk and trading activities. Nevertheless, this decline was offset by increases in retained earnings, driven by positive operating results and by modest capital raising.

Large BHCs, in aggregate, improved their Basel III common equity Tier 1 capital in 2013 despite the rise in interest rates during the second half of the year. The rise in rates led to a large decline in net unrealized gains on available-for-sale (AFS) securities portfolios.

During 2013, most BHCs increased their capital distributions. Dividends paid by BHCs that participated in the 2013 Comprehensive Capital Analysis and Review (CCAR) increased approximately 19 percent in the aggregate while share repurchases increased approximately 76 percent from 2012. However, capital distributions remain subdued relative to pre-crisis levels.

### Liquidity

Liquidity profiles continued to improve in 2013. As of the fourth quarter of 2013, the consolidated liquidity ratio (liquid assets/total assets) of all BHCs reached 22 percent, far above historical levels (**Chart 5.3.13**).

The improvement in consolidated liquidity ratios since the crisis is driven in part by inclusion of two large broker-dealers that converted to BHCs in 2009, as well as the acquisitions of broker-dealers by BHCs in 2008. Broker-dealers typically have significant holdings of liquid assets, which are often encumbered and funded with shorter-term wholesale funding (**see Section 5.4**).

In recent years, BHC liquidity profiles also have benefitted from large inflows of deposits, which have grown 29 percent since the first quarter of 2009, compared to 4 percent growth in total loans. The strong deposit growth, amid subdued loan growth due to economic uncertainty and an uneven recovery, has resulted in BHCs increasing cash balances and holdings of liquid securities.

The potential implementation of the LCR in the United States as part of the Basel III liquidity framework has also been a driver for improved liquidity profiles. The LCR as proposed by banking agencies, which would be fully implemented by 2017 if adopted, would require banking institutions to hold a sufficient amount of highly liquid assets to meet their liquidity needs during a short period of severe liquidity stress.

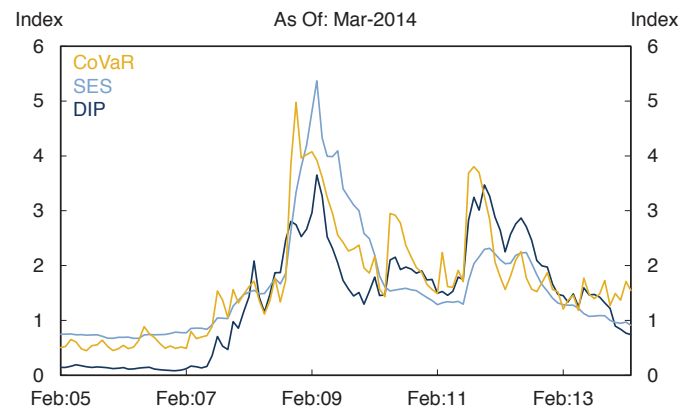
### 5.3.10 CDS Spreads of 6 Large Complex BHCs



Source: Markit Group Limited

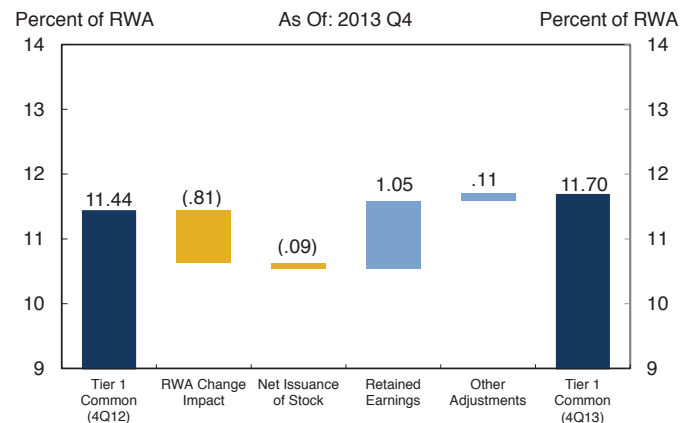
Note: Equal-weighted average of BAC, C, GS, JPM, MS, WFC.

### 5.3.11 Systemic Risk Measures



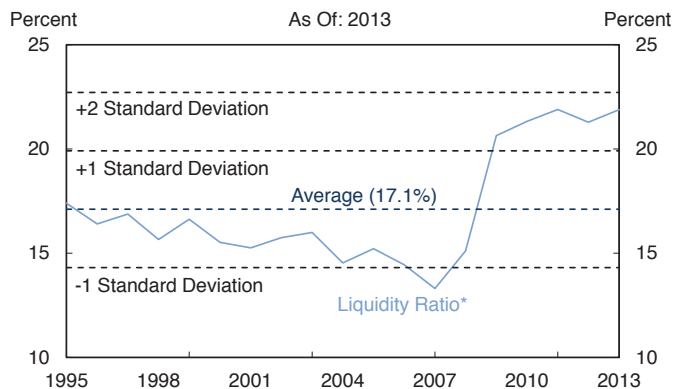
Source: Bloomberg L.P., OFR calculations. Note: Sample consists of BAC, C, JPM, WFC, GS, and MS. Measures are standardized by their historical volatility.

### 5.3.12 Change in Tier 1 Common Ratios for Aggregate U.S. BHCs



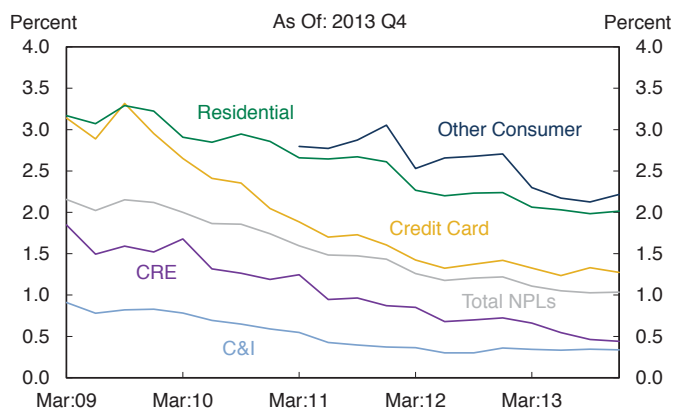
Source: FR Y-9C

### 5.3.13 Consolidated BHC Liquidity Ratio



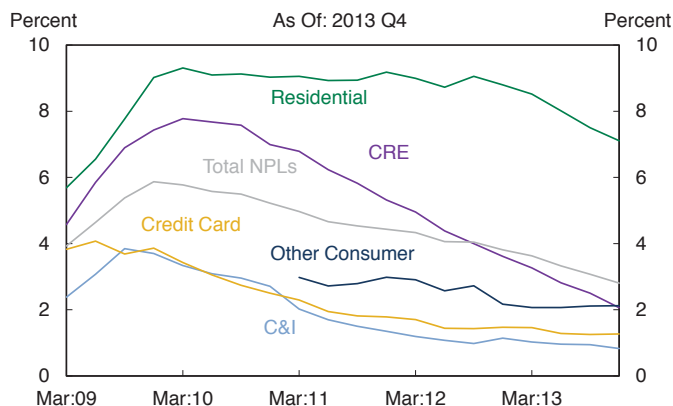
Source: FR Y-9C, SNL Financial, FSOC calculations  
 Note: Liquidity Ratio is the sum of Cash & Due From, FFS, Repos, U.S. Treasuries, U.S. Gov. Agencies and U.S. Gov. Sponsored Agencies divided by Total Assets. All top-tier BHCs included.

### 5.3.14 Nonperforming Loans (30-89 Days)



Source: SNL Financial

### 5.3.15 Nonperforming Loans (90+ Days and Nonaccrual)



Source: SNL Financial

### Asset Quality

Asset quality also continued to improve in 2013. Nonperforming loans declined across all major categories (**Chart 5.3.14**), led by declines in CRE. Residential loan delinquencies declined sharply during the year but remain elevated, as extended foreclosure timelines in many states keep longer dated delinquencies from being resolved (**Chart 5.3.15**).

Net charge-offs (i.e., reductions to loan loss reserves) also declined significantly during the year, with declines across all loan categories, and in aggregate reached pre-crisis levels. As of the fourth quarter of 2013, the industry-wide net charge-off ratio was 63 basis points, a 37 basis point decline from the prior year (**Chart 5.3.16**). Provisions (i.e., additions to loan loss reserves) as a share of loans also decreased to historical lows in 2013. Loan loss reserves have fallen since 2010, but remain slightly above pre-crisis levels. The ratio of loan loss reserves to annualized net charge offs has increased sharply over the past three years as net charge offs (ratio denominator) have declined much more significantly than loan loss reserves (ratio numerator) (**Chart 5.3.17**).

### DFAST and CCAR

In March, the Federal Reserve released the results of the 2014 annual Dodd-Frank Act stress tests (DFAST) and the CCAR. A total of 30 BHCs with \$50 billion or more in total consolidated assets participated in the annual stress tests and CCAR, including 18 BHCs that participated in 2013.

DFAST is a forward looking exercise conducted by the Federal Reserve to evaluate whether the 30 BHCs have sufficient capital to absorb losses resulting from stressful economic and financial market conditions, using hypothetical supervisory scenarios designed by the Federal Reserve. In the nine quarters of the planning horizon covered in the stress test, the aggregate projected tier 1 common ratio for the 30 BHCs fell to a minimum level of 7.6 percent under the severely adverse scenario from 11.5 percent in

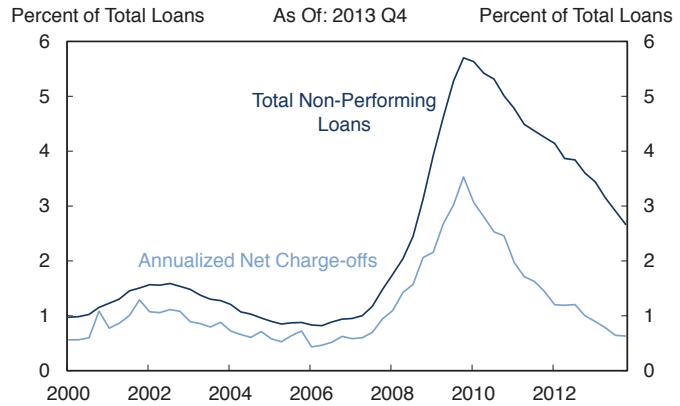
the third quarter of 2013 (**Chart 5.3.18**). The summary results showed that under the severely adverse scenario, projected minimum tier 1 common ratios for individual firms ranged from 0.7 to 8.1 percentage points lower than actual tier 1 common ratios in the third quarter of 2013.

Through CCAR, the Federal Reserve evaluates the capital planning processes and capital adequacy of the 30 BHCs, including the firms' proposed capital actions such as dividend payments and share buybacks and issuances. The Federal Reserve considers both qualitative and quantitative factors in analyzing a firm's capital plan. In 2014, the Federal Reserve did not object to the capital plans of 25 of the 30 BHCs and objected to the capital plans of five BHCs (**Chart 5.3.19**). Four of the objections were based on qualitative concerns about BHCs' capital planning processes. One of the objections was on quantitative grounds, as the firm's tier 1 common ratio fell below the 5 percent threshold under the severely adverse scenario. Following issuance of the initial CCAR results, Bank of America Corporation disclosed that it had incorrectly reported data used in the calculation of regulatory capital ratios in the stress tests. Based on these errors, the Federal Reserve determined that the firm must resubmit its capital plan and suspend planned increases in capital distributions. Bank of America must address the quantitative errors in its capital plan as part of the resubmission and undertake a review of its regulatory reporting to ensure there are no further errors.

### Insured Commercial Banks and Savings Institutions

As of the fourth quarter of 2013, the banking industry was composed of 6,812 FDIC-insured commercial banks, savings institutions and BHCs with total assets of \$14.7 trillion. There were 2,056 institutions with assets under \$100 million and 666 institutions had assets over \$1 billion. The number of institutions fell by 271 firms during 2013 due to failures and mergers. Failures of insured depository institutions

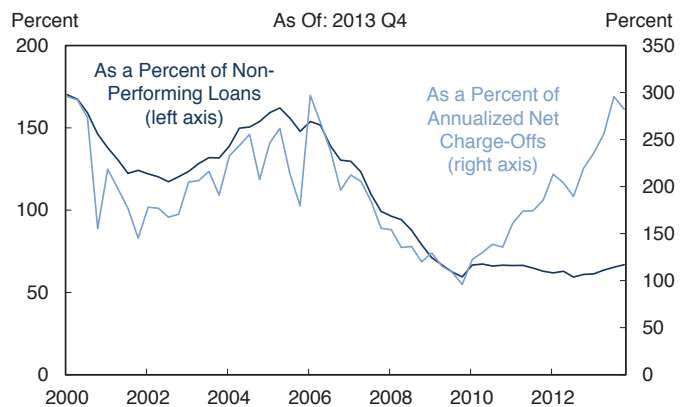
### 5.3.16 Credit Quality



Source: FRBNY Quarterly Trends Report

Note: For domestic BHCs and commercial banks.

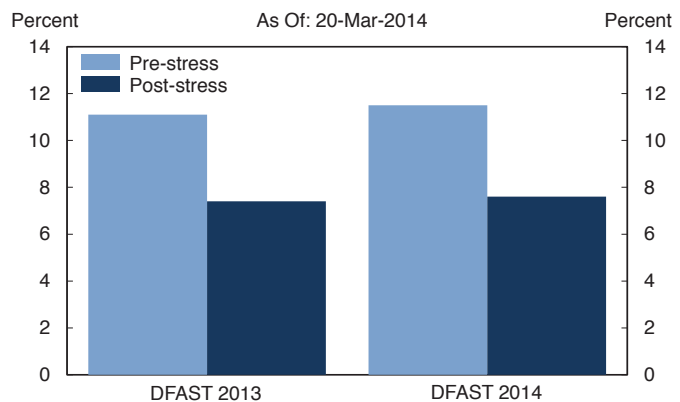
### 5.3.17 Loan Loss Reserves



Source: FRBNY Quarterly Trends Report, FSOC Calculations

Note: For domestic BHCs and commercial banks.

### 5.3.18 Initial and Stressed Tier 1 Common Capital Ratios



Source: Federal Reserve

Note: 2013 aggregate ratios are for 18 participants. 2014 aggregate ratios are for 30 participants. Stress ratios using severely adverse supervisory scenario.

### 5.3.19 Federal Reserve's Actions in CCAR 2014

| Non-Objection to Capital Plan |                   | Objection to Capital Plan |
|-------------------------------|-------------------|---------------------------|
| Ally Financial                | JPMorgan Chase    | Citigroup                 |
| American Express              | KeyCorp           | HSBC North America        |
| Bank of America*              | M&T Bank          | RBS Citizens Financial    |
| Bank of New York Mellon       | Morgan Stanley    | Santander Holdings USA    |
| BB&T                          | Northern Trust    | Zions                     |
| BBVA Compass                  | PNC Financial     |                           |
| BMO Financial                 | Regions Financial |                           |
| Capital One                   | State Street      |                           |
| Comerica                      | SunTrust          |                           |
| Discover Financial            | U.S. Bancorp      |                           |
| Fifth Third Bancorp           | UnionBanCal       |                           |
| Goldman Sachs*                | Wells Fargo       |                           |
| Huntington Bancshares         |                   |                           |

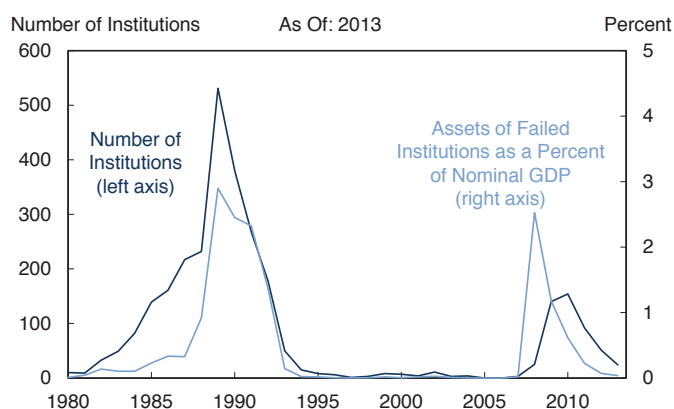
Note: Firms in blue are first-time CCAR participants. \*Bank of America and Goldman Sachs resubmitted their capital plans after receiving results of DFAST. Bank of America is resubmitting its capital plan after incorrectly reporting regulatory capital.

Source: Federal Reserve

continue to decline since the financial crisis, as 24 institutions with \$6 billion in total assets failed in 2013 (**Chart 5.3.20**). This is the smallest number of failures since 2007.

As of December 31, 2013, 467 institutions, or 6.9 percent of all institutions, were on the FDIC's "problem bank" list, which includes institutions with financial, operational, or managerial weaknesses that require corrective action in order to operate in a safe and sound manner. That total is more than 45 percent lower than the most recent peak of 888 problem banks at the end of March 2011.

### 5.3.20 FDIC-Insured Failed Institutions



Source: BEA, FDIC, Haver Analytics

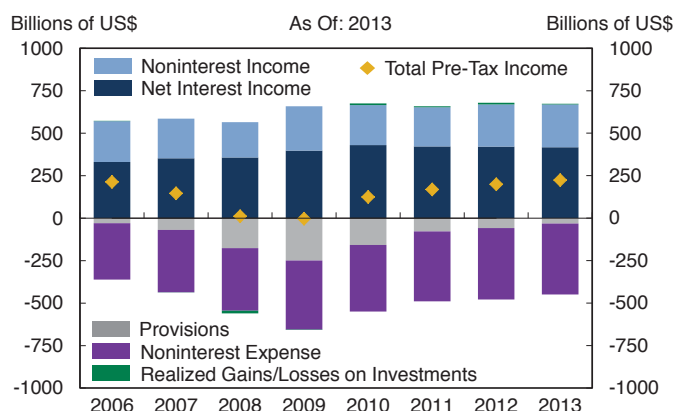
Note: No FDIC-insured institutions failed during 2005 and 2006.

Pre-tax income for all U.S. commercial banks and savings institutions totaled \$224 billion in 2013, representing a 12 percent increase from 2012. Continued improvement in credit quality, with an associated reduction in loan loss provisions and other expenses, has been the principal driver of the recovery in pretax net income since 2009 (**Chart 5.3.21**). The positive trend in asset quality indicators has been accompanied by a reduction in overall portfolio risk as evidenced by the post-crisis decrease in RWAs relative to total assets (**Chart 5.3.22**).

### 5.3.2 U.S. Branches and Agencies of Foreign Banks

Foreign banks also have a large presence in the United States. Together, assets of U.S. branches and agencies of foreign banks total \$2.4 trillion. By comparison, FDIC-insured institutions—which do not include U.S. branches and agencies of foreign banks—hold \$14.7 trillion in assets.

### 5.3.21 Commercial Bank and Thrift Pre-Tax Income



Source: FDIC

Note: Includes all FDIC-insured commercial banks and thrifts.

Cash and cash equivalents, particularly reserve balances at the Federal Reserve, have grown sharply since the crisis and continue to represent the largest asset category for foreign branches and agencies (**Chart 5.3.23**).

U.S. branches and agencies of foreign banks also dedicate a significant portion of their balance sheets to loans. Direct C&I loans outstanding by these banks typically constitute the largest portion of their loan portfolios.



The liability structures of U.S. branches and agencies of foreign banks also vary considerably. These U.S. branches lack access to the stable source of funds represented by households' checking, savings, and other transaction accounts, as they are not permitted to offer deposits insured by the FDIC. Instead, wholesale funding, particularly CDs issued primarily to institutional investors, provides the majority of funding for these institutions (Chart 5.3.24).

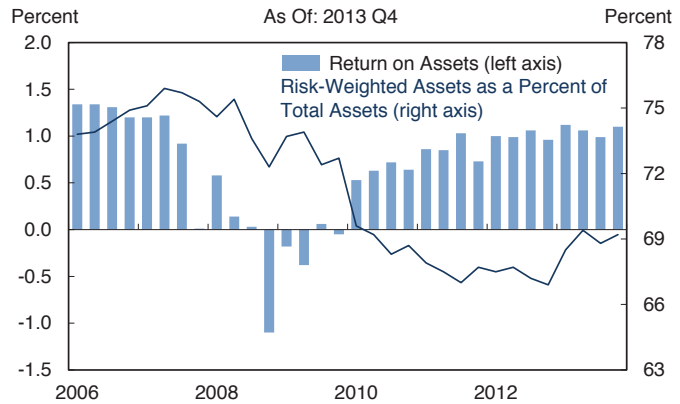
Pre-crisis, U.S. branches and agencies of foreign banks, in aggregate, obtained wholesale dollar deposits in the United States and used those deposits to provide dollar funding to their parent organizations and related affiliates, which in turn used the funds for lending and investment. Beginning in 2011, this trend reversed. For some institutions, flows from parent and related entities into U.S. branches and agencies served to stabilize U.S. branches experiencing deposit withdrawals stemming from European sovereign and banking sector concerns. More recently, dollar inflows to U.S. branches and agencies of foreign banks, in conjunction with an increase in U.S. deposit-taking (such as negotiable CDs) on the part of these institutions, have funded an accumulation of reserve balances at the Federal Reserve.

### 5.3.3 Credit Unions

Credit unions are member-owned depository institutions. As of the fourth quarter of 2013, there were 6,554 federally insured credit unions with aggregate assets of nearly \$1.1 trillion. More than three quarters of credit unions (5,099) had assets under \$100 million, while 426 credit unions had assets over \$500 million.

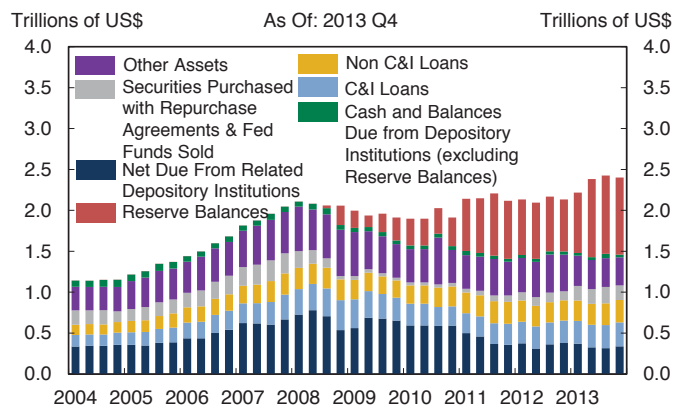
Corporate credit unions—which provide critical services to the broader credit union system—continue to consolidate and deleverage as they refocus their business models on providing operational support to consumer credit unions, raising capital, and adjusting to the new regulatory environment. As of December 2013, there were 15 corporate credit unions with \$18.5 billion in assets serving consumer credit

### 5.3.22 Risk-Weighted Assets and Return on Assets



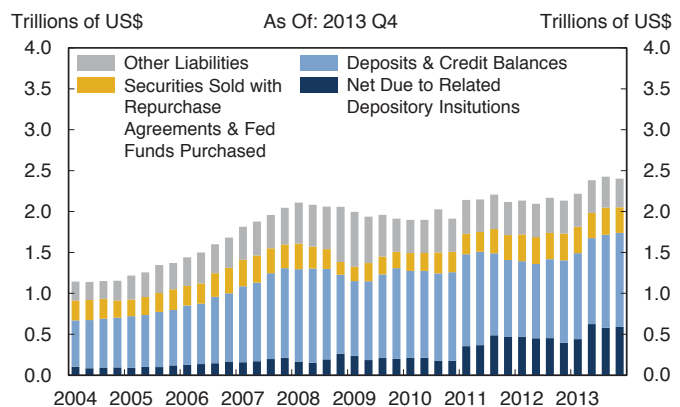
Source: FDIC, Haver Analytics Note: All FDIC-insured institutions.

### 5.3.23 U.S. Branches and Agencies of Foreign Banks: Assets



Source: Federal Reserve, Haver Analytics Note: Other assets includes government securities, asset-backed securities, and other trading assets.

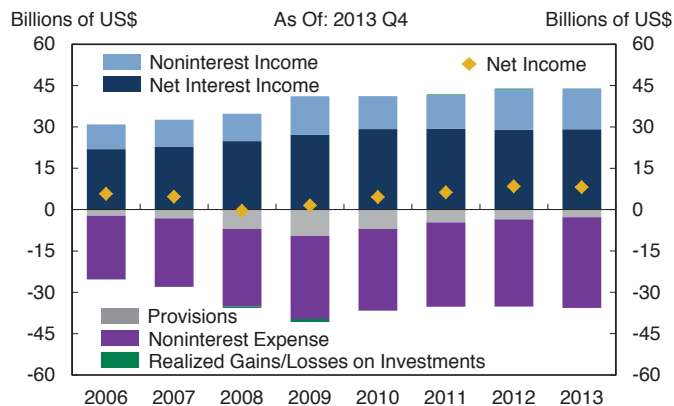
### 5.3.24 U.S. Branches and Agencies of Foreign Banks: Liabilities



Source: Federal Reserve, Haver Analytics Note: Other liabilities includes transaction accounts, non-transaction accounts, and other borrowed money.

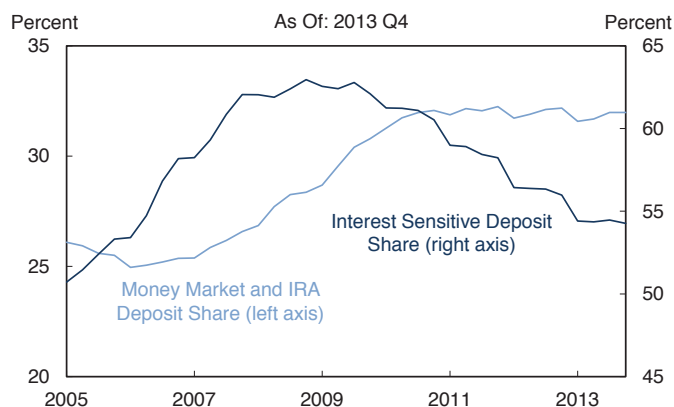


### 5.3.25 Federally Insured Credit Union Income



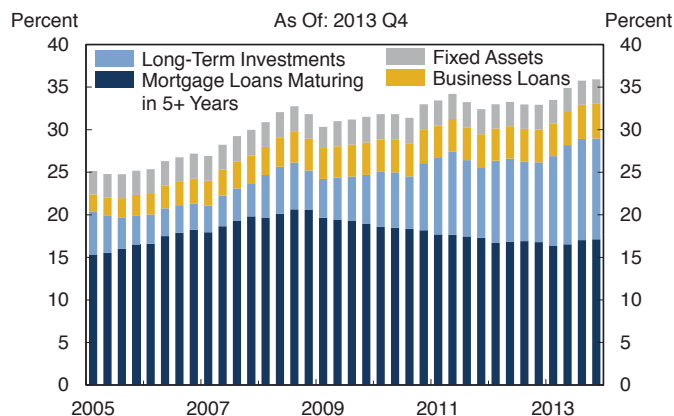
Source: NCUA

### 5.3.26 Credit Union Deposits



Source: NCUA

### 5.3.27 Credit Union Long-Term Assets



Source: NCUA

Note: Percent of net long-term assets.

unions—a decline from 27 corporate credit unions with \$96 billion in assets in December 2007.

Annual net income at credit unions was about \$8.14 billion in 2013 (Chart 5.3.25), a decline of 3.8 percent from 2012. The amount of outstanding loans at credit unions increased by 8.0 percent (year-over-year) during 2013. This was an increase from 4.6 percent in 2012. The credit union system experienced return on average assets (ROA) of 78 basis points in 2013, a decrease from 85 basis points in 2012. The decline in ROA reverses a four-year period of rising ROA. In 2011 and 2012 ROA increased even as net-interest margin compressed. The ROA growth during this four-year period was primarily driven by reductions in provisions for loan losses. As provisions for loan losses have returned to their pre-crisis levels, the industry-wide trend of NIMs is more clearly reflected in earnings. NIMs declined to 2.8 percent in 2013 from 2.9 percent in 2012 and are down 45 basis points from 2010.

A key concern for the industry is ongoing challenges related to the low interest rate environment and the eventual transition process to a higher rate environment, potentially with a flatter yield curve. Although interest rate sensitive deposits continue to decline as a share of total liabilities, they remain well above pre-crisis levels and the share of money market accounts and individual retirement accounts continues to increase (Chart 5.3.26). Net long-term assets continue to increase as a share of assets despite the decline in the share of mortgages maturing in five years or longer (Chart 5.3.27). It appears that, having exhausted other sources of earnings growth, some credit unions are reaching for yield by lengthening their term of investments to boost near-term earnings.

Investments in total have increased, rising from 19 percent of assets in the fourth quarter of 2006 to over 28 percent in the second quarter of 2013. Total investments as a share of assets declined somewhat during the second half of 2013 to just under 27 percent. But over the year, investments with a maturity of less than three years fell 13 percent—a decline of almost \$25 billion—while investments with a maturity of more than three years rose by 31 percent—a rise of \$30 billion (Chart 5.3.28). The slight increase in long-term interest rates in 2013 has already had a substantial effect on the market value of these investments. At the end of 2012, credit unions had an unrealized gain of \$2.8 billion from held-to-maturity and AFS securities. By the end of 2013, this gain had reversed to an unrealized loss of \$2.4 billion (Chart 5.3.29). In addition to federally insured credit unions, there are 133 non-federally insured credit unions operating in nine states. These credit unions, which are insured privately and not backed by NCUA share insurance, had \$13.4 billion in combined assets at the end of 2013 and served 1.2 million members.

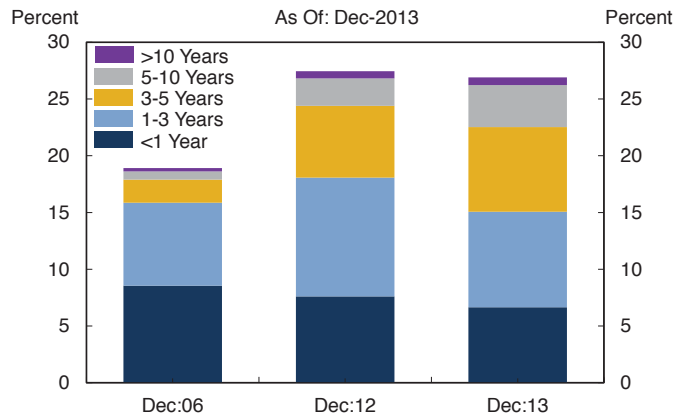
## 5.4 Nonbank Financial Companies

### 5.4.1 Securities Broker-Dealers

As of the fourth quarter of 2013, there were 4,378 domestic and foreign-owned securities broker-dealers registered with the SEC. The U.S. broker-dealer sector remains relatively concentrated, with about 60 percent of industry assets held by the top 10 broker-dealers at the end of 2013, the largest of which are affiliated with domestic BHCs or foreign banks. Aggregate annual revenues of broker-dealers increased by approximately 3.4 percent in 2013 to \$71.2 billion, with increases in all categories, except in trading and other revenues related to the securities business (Chart 5.4.1).

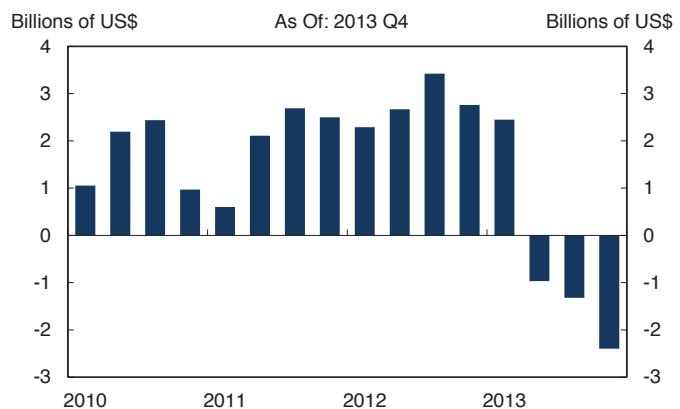
Assets held within the U.S. broker-dealer industry declined modestly in 2013 to \$4.6 trillion (Chart 5.4.2). Broker-dealer leverage similarly declined slightly in 2013, after decreasing markedly during the crisis to a level last seen in the early 1990s and remaining

### 5.3.28 Credit Union Investments by Maturity



Source: NCUA

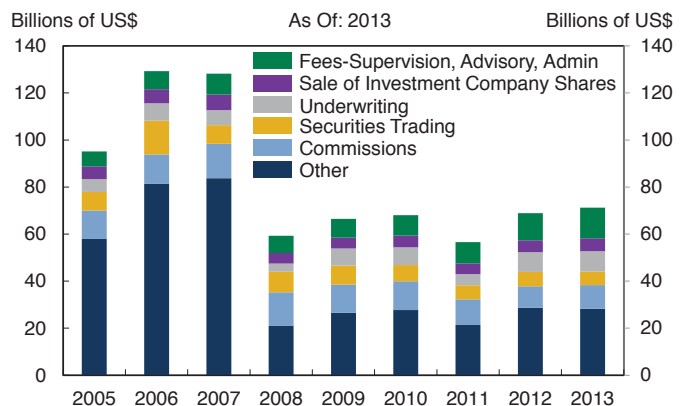
### 5.3.29 Credit Union Unrealized Gains on AFS and HTM Securities



Source: NCUA

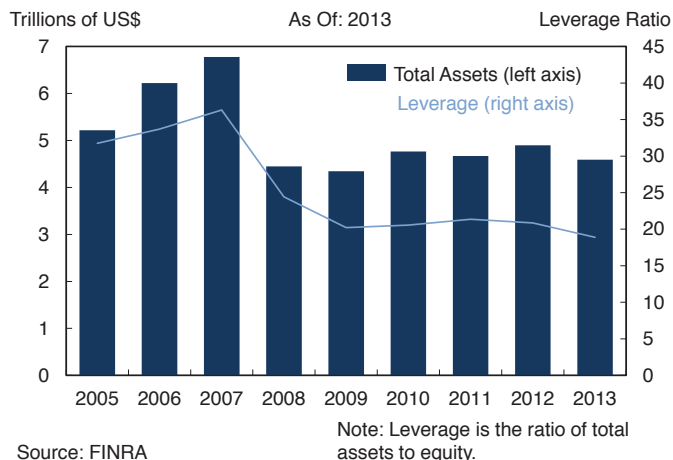
Note: AFS=Available for Sale and HTM=Held to Maturity.

### 5.4.1 Broker-Dealer Revenues



Source: FINRA

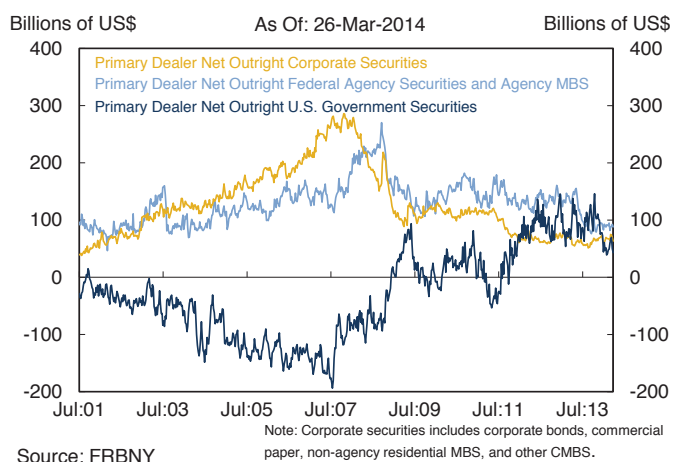
## 5.4.2 Broker-Dealer Assets and Leverage



relatively stable since the crisis. Measured as total assets as a multiple of equity, broker-dealers operate at 19 times leverage in aggregate (well below the peak of 36 times in 2007); measured as total assets as a multiple of regulatory capital, broker-dealers operate at 13 times leverage in aggregate.

Dealer assets consist primarily of securities borrowed in securities financing transactions and trading inventory held for market-making and proprietary trading purposes. After the financial crisis, there were significant changes in the composition of net positions held by large dealers operating in the U.S. For example, primary dealers (dealers that have a trading relationship with the Federal Reserve) increased holdings of U.S. government securities and reduced holdings of corporate securities, including ABS, agency MBS and agency debt, reflecting changes in risk appetite and balance sheet capacity (**Chart 5.4.3**).

## 5.4.3 Primary Dealer Securities



In 2013, further changes occurred in the positions held by primary dealers, which pared net positions across rate-sensitive assets, such as Treasuries, agency MBS, and agency debt. Dealer holdings of Treasuries declined significantly in the second half of the year. These declines likely reflect a reduction in dealer risk appetite and adjustments to regulatory changes. It also appears that dealers were affected by events in May and June 2013 that caused uncertainty on the general direction of monetary policy, and concomitant volatility in bond prices and interest rates. In response to these developments, dealers sold off bonds to cut their risk exposures and reduce inventory (**see Box C**).

## 5.4.2 Insurance Companies

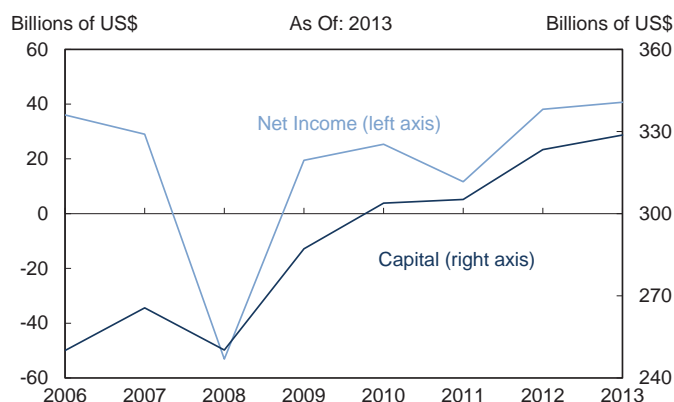
The U.S. insurance industry is composed of over 3,700 operating insurance companies, which are broadly defined by the insurance products they sell: Life insurers provide coverage for human life contingencies such as unexpected death and retirement savings products like annuities, while property and

casualty (P/C) insurers provide coverage on homes, cars, and businesses. All figures in this section are from statutory insurance filings, which only include operating insurance companies and underestimate the total size of the U.S. insurance industry because subsidiaries such as asset managers and foreign subsidiaries are excluded. According to statutory data, the U.S. life insurance industry has approximately \$6.0 trillion in assets, which is more than three times those of P/C insurers who hold \$1.7 trillion. Approximately 80 percent of life insurance assets are held in the 25 largest companies, compared to a 67 percent concentration for the P/C industry.

Life insurance revenue from insurance and annuity products decreased to \$583 billion in 2013 from the record \$645 billion set in 2012. Expanded product distribution channels and a more favorable interest rate environment led to higher fixed annuity sales, but a number of one-time transactions and increased reinsurance cession overcame the improved fixed annuity sales and led to the decrease in total revenues. Despite rising significantly in 2013, interest rates remained well below historical averages and continued to weigh on life insurance investment yields. Life insurers' investment portfolios turn over at a slow rate because they mostly hold long duration assets until maturity. Since market interest rates are still below the yield earned on maturing assets, life insurers' average portfolio yields continued to decline in 2013, albeit at a slower rate than in 2012. Nonetheless, the life sector's net income rose 6.8 percent to \$41 billion, a record high (Chart 5.4.4). Rising equity markets benefited life insurers as customers paid higher fees on higher equity account balances.

P/C revenue from insurance products increased 3.9 percent to \$544 billion in 2013, a record high. Rates charged by insurers to policyholders increased moderately in most commercial lines of business led by strong sales of workers' compensation and demand for personal auto insurance. Net income increased to a record level of \$70 billion, or an increase of 91.5

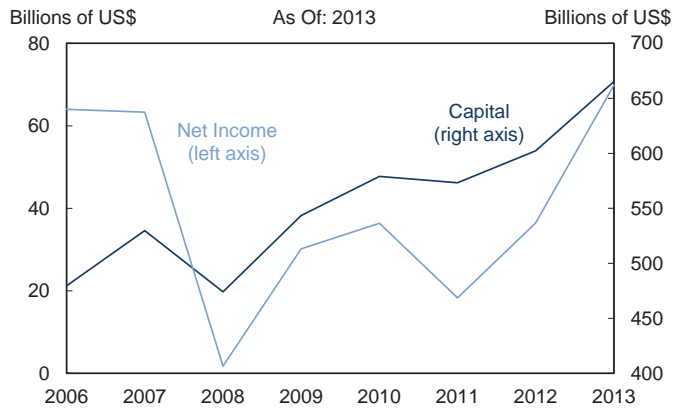
#### 5.4.4 Life and Other Insurance: Capital and Net Income



Source: NAIC

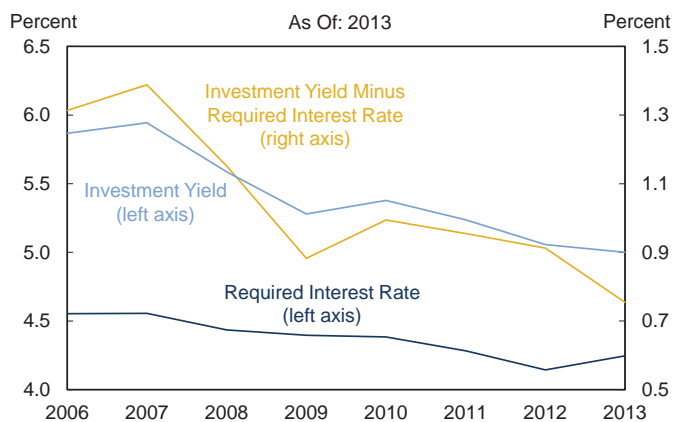
Note: Includes accident and health.

### 5.4.5 Property and Casualty Insurance: Capital and Net Income



Source: NAIC

### 5.4.6 Life Insurers: Impact of Low Rate Environment



Source: NAIC, SNL Financial

percent from 2012, as expenses and losses paid on claims declined and there were no major storms during the hurricane season in 2013 (Chart 5.4.5). Improved profitability increased capital held by P/C operating insurance entities to \$665 billion, or an increase of 10.4 percent over 2012.

As noted above, low interest rates present a challenge to insurers as net yield on invested assets continued to decline in 2013 (Chart 5.4.6). Life insurance companies are more sensitive to interest rates than P/C companies because investment income accounts for a higher percentage of revenue (21 percent in 2013) than for the P/C sector (9 percent in 2013). In addition, many life insurance and annuity products are spread-based, and a protracted low interest rate environment may stress life insurers' profits as the spread between investment yields and the rate promised to policyholders compresses. Legacy products in particular (including annuities, long-term care, and universal life insurance with secondary guarantees) have been less profitable in the current interest rate environment, as they were originally priced and sold under differing market conditions. To adapt to current financial conditions as well as changing demographic trends, companies have redesigned offerings and discontinued product lines. The current low interest rate environment also may affect the use of captive reinsurance: the low rates affect the present value of insurers' contract obligations (increasing the present values of future obligations), and therefore may encourage use of reinsurance for insurance products with liability valuations that are interest-rate-sensitive (see Box E).

## BOX E: Concerns Related to Captive Reinsurance

Captive insurance entities were originally formed by corporations and non-profit organizations seeking to self-insure their own insurable business risks such as general liability, workers' compensation, employee benefits, and automobile coverage. Over time, commercial life insurance companies formed captive reinsurers to reinsure policyholder risks. As with primary insurers, captive reinsurers are regulated by their licensing state or country of domicile. However, because captive reinsurers originally only provided self-insurance coverage of business insurable risks as opposed to policyholder risks, state captive regulation originally developed separately from primary insurance regulation, which places more emphasis on solvency and policyholder protection. Although captive reinsurance transactions must be approved by both the captive and primary insurer's regulators, the opportunity for regulatory arbitrage arises because of state-by-state differences in oversight, accounting, and capital requirements for the two types of entities. In addition, in most instances, unlike primary insurers, reinsurance captives are required neither to file public statutory financial statements nor to follow the same regulatory accounting practices as primary insurers.

Some life insurance organizations have been using captive reinsurance companies for many years to, at least in part, obtain relief from certain regulatory requirements. Importantly, the use of captive reinsurance by a life insurer impacts results reported on a regulatory accounting basis rather than U.S. generally accepted accounting principles (GAAP) accounting. For example, life insurance captives became popular for reinsuring level premium term life insurance and universal life insurance with secondary guarantees. Both products have statutory liability reserve requirements that exceed the expected economic risks and the use of captive reinsurance transactions allow for the reduction of required regulatory capital. In the last decade, the use of captive reinsurance by life insurers has grown significantly and has expanded to other types

of product risks, the full scope of which has yet to be determined. Of particular concern is the use of captives to reinsure insurance products with liability valuations that are volatile, cyclically sensitive, or interest rate sensitive, such as variable annuities with guaranteed living benefits and long-term care insurance.

In addition, captive reinsurers may hold riskier asset portfolios, including higher exposures to derivatives, than is generally permitted under state law for primary insurers. Also, instead of holding high-quality liquid collateral in trust to cover reserves reinsured to captives, insurance companies can sometimes collateralize a portion of the reserves held at captives with bank letters of credit that are guaranteed by their parent holding companies or, as allowed in some states, use a direct guarantee from the parent holding company in lieu of any third-party collateral. If the parent company providing a guarantee to a captive were to experience financial distress and become unable to properly capitalize the captive, the primary insurer could lose credit for the reinsurance on its statutory balance sheet and could experience a capital shortfall as a result. This could complicate the orderly resolution of a large insurance organization. Furthermore, an insurance organization could face funding rollover risk in a period of financial distress to the extent that its captive uses bank letters of credit to support longer-duration liabilities.

All of these factors can add complexity and reduce transparency around the financial condition and potential resolvability of certain life insurance companies. Regulators and rating agencies have noted that the broad use of captive reinsurance by life insurers may result in regulatory capital ratios that potentially understate risk. During times of financial market volatility when reserve and capital levels for some products should increase, an insurance company that uses captive reinsurance may not be required to hold higher reserves and capital. This could become a financial stability concern if a large, complex insurance organization were to experience financial distress.



## Regulatory Developments

State insurance regulators are continuing work to address the challenges of state-by-state differences in the oversight of captives. Specifically, state regulators, through the National Association of Insurance Commissioners (NAIC), are seeking to develop and then implement consistent regulatory controls for reinsuring term life insurance and universal life insurance with secondary guarantees; proposing changes to the NAIC's accreditation program for state regulators which would require U.S. reinsurance captives to be subject to the U.S. solvency framework; and considering further refinements to collateral requirements for captive reinsurance transactions involving letters of credit. State regulators are also in the process of preparing for the implementation of a principles-based reserve valuation system, which would allow life insurers to "right-size" reserves based on credible insurance company experience data. The implementation of principles-based reserving may eliminate the need to use captive reinsurance for the purpose of reducing reserves that are significantly higher than expected losses.

In addition to the work being done by state insurance regulators, reports completed by Council members and member agencies including the Treasury's FIO and OFR have identified concerns regarding life insurers' use of captives. The Federal Reserve also recently issued a Supervision and Regulation Letter concerning the effects of risk transfer activities on capital adequacy, which would apply to captive reinsurance risk transfer transactions for insurance companies it supervises when they become subject to the Federal Reserve's risk-based capital framework. Further, the FIO is monitoring both the role and impact of captives in the sector and the potential for regulatory improvements at the state level.

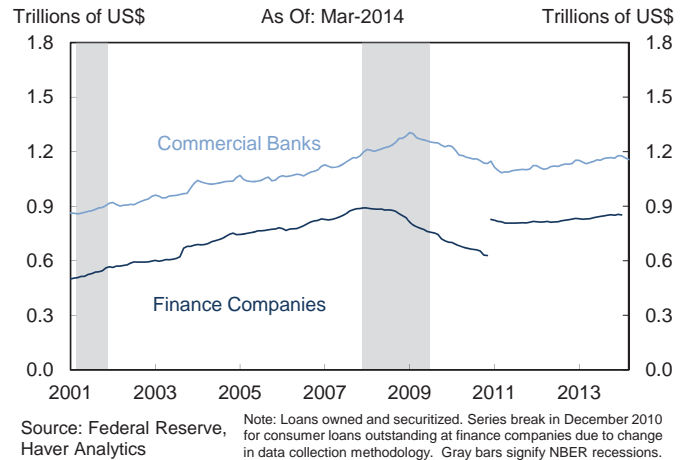
### 5.4.3 Specialty Finance Companies

Specialty finance companies provide credit to both consumers and businesses. Examples of consumer credit include revolving credit and student, mortgage, and auto loans, while examples of business credit include equipment leasing, accounts receivable factoring and other major capital asset financing. Specialty finance companies may be either independent companies, captives of vehicle or equipment manufacturers, or subsidiaries of financial holding companies. Credit activity in the specialty-lending sector continued to expand in 2013, yet still remains below pre-crisis levels. Overall, nonbank financial companies owned approximately \$855 billion of consumer loans, \$157 billion of real estate loans, and \$402 billion of business loans at year end 2013 (Charts 5.4.7, 5.4.8).

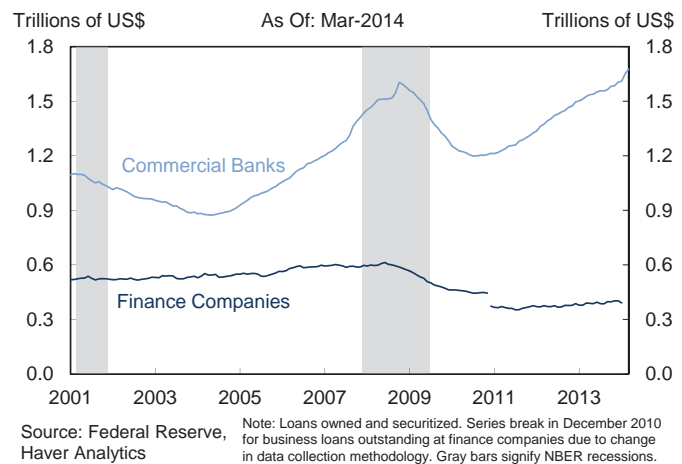
The securitization market for these credit types originated by both bank and nonbank financial companies remained healthy in 2013, while overall issuance volume declined approximately 7.5 percent from 2012 due in part to a decrease in securitization of government guaranteed student loans. In the auto ABS market, which comprises the largest share of consumer ABS, many benchmark prime issuers reduced their securitization volumes, electing to tap alternate funding sources, such as corporate bond markets. Subprime auto ABS issuance increased moderately year-over-year. Student loan ABS issuance declined in 2013 as the amount of government-guaranteed issuance continues to dwindle after the elimination of the Federal Family Education Loan Program in 2010 (Chart 5.4.9).

Senior credit spreads on credit card and auto ABS are slightly wider than they were at the start of 2013, as the spread widening that occurred following the June 2013 selloff (See Box C) did not fully retrace due to more moderate demand in anticipation of changes to the interest rate environment. Subordinate tranche credit spreads tightened moderately during the second half of 2013, due to a combination of reach for yield by investors and

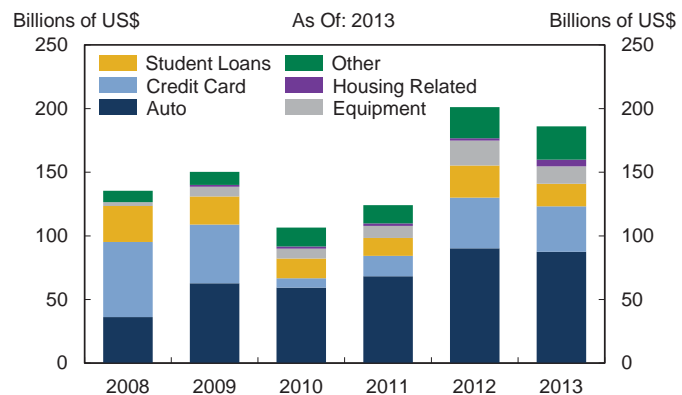
### 5.4.7 Consumer Loans Outstanding



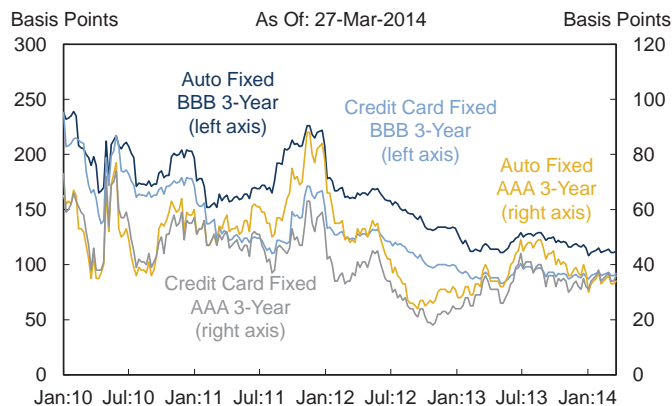
### 5.4.8 Business Loans Outstanding



### 5.4.9 ABS Issuance



### 5.4.10 Selected ABS Spreads



Source: Barclays

Note: Spreads to Treasury securities.

lower subordinate tranche supply relative to senior tranches (**Chart 5.4.10**).

### 5.4.4 Agency REITs

Agency MBS REITs use short-term debt, mainly in the form of bilateral repos, to fund the purchase of agency MBS. Most agency MBS REITs also use derivatives to hedge at least a portion of the inherent duration mismatch between their assets and liabilities. However, prepayment risk and basis risk limit the efficacy of hedging with interest rate derivatives.

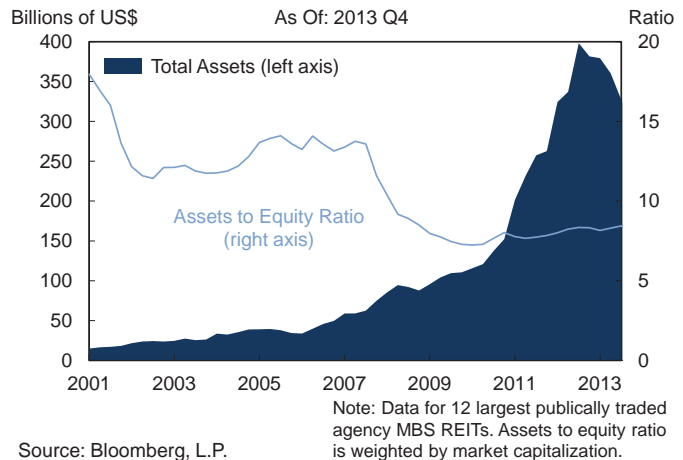
Consequently, agency MBS REITs' investment strategy exposes them to interest rate risk resulting from changes in the yield curve and convexity risks, or the risk of MBS prices falling at an increasing rate when rates rise. Convexity risk is particularly acute for agency MBS REITs since their use of leverage can magnify the negative effects of any material increase in interest rate volatility. Additionally, agency MBS REITs are exposed to rollover risk, or the risk of an increase in financing costs or a pullback in the willingness of lending counterparties to extend credit when their short-term repo matures.

On net, REITs earn the yield on the underlying MBS less the cost of financing and hedging the portfolio. REITs' earnings are not taxed at the corporate level. They are only taxed when equity holders receive the earnings in the form of a dividend. To maintain their REIT status, these entities must comply with various income and asset tests, as well as distribute at least 90 percent of their taxable income to equity holders. Given their tax status, dividend payout requirements and use of leverage, REITs are able to offer relatively high dividend yields which some institutional and retail equity investors find attractive.

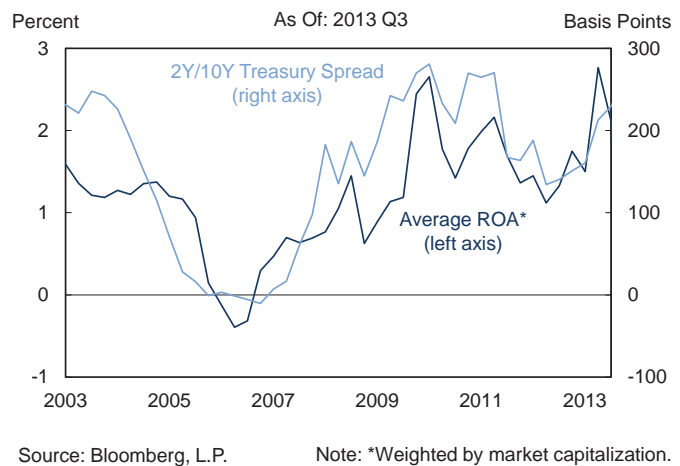
The year 2013 proved to be a particularly challenging year for agency MBS REITs as rising interest rates and widening MBS spreads weighed heavily on their portfolios. The events that transpired throughout 2013 gave observers insight into how these entities would react to adverse market conditions. In the face

of declining asset values, many REITs sold a portion of their agency MBS holdings, reduced leverage and bolstered hedges (Chart 5.4.11). The 12 largest publically traded agency MBS REITs reduced their agency MBS exposure by roughly \$111 billion, or 28 percent of peak holdings. While it appears this REIT selling may have exacerbated negative price action in agency MBS, there were no major market disruptions. The heavy losses and aforementioned defensive portfolio positioning resulted in a significant reduction of net income, which in turn inhibited their ability to maintain dividend payouts. Correspondingly, shares of major agency MBS REITs declined notably, with many falling between 20 and 30 percent year-over-year (Chart 5.4.12). The market value of equity for most REITs declined 10 to 20 percent below their corresponding book value, a rare occurrence for agency MBS REITs. When the market value of equity declines below the book value, agency MBS REITs will find it difficult to raise new equity capital and purchase additional agency MBS. On these occasions, REITs have an incentive to sell agency MBS holdings and repurchase shares in the open market, a trend that materialized and persisted throughout the second half of 2013. Lastly, despite heightened MBS price volatility in last years' selloff, agency MBS REITs did not report any material changes to funding conditions.

#### 5.4.11 Total Agency REIT Assets and Leverage



#### 5.4.12 Agency REITs: Return on Assets



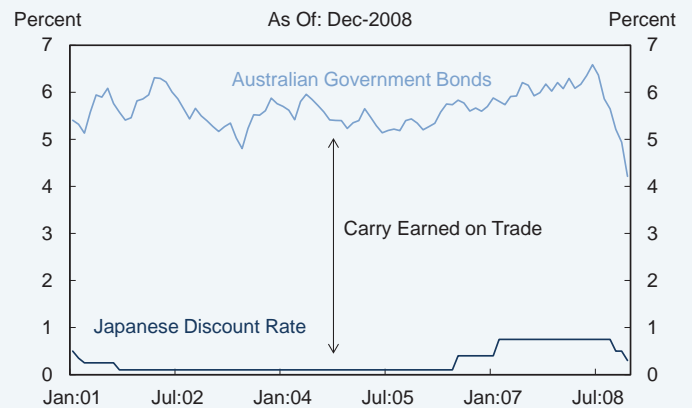
## BOX F: Carry Trade Strategies and Susceptibility to Shocks

In recent years, carry trades have become an increasingly popular investment strategy. “Carry” broadly means the difference between the yield or return on a financial contract or asset and the cost of funds. If the yield or return is higher (lower) than the cost of funds, the investor is said to have positive (negative) carry. Volatile swings in asset prices or spikes in borrowing costs can quickly erase expected gains from positive carry. A sharp rise in volatility among seemingly uncorrelated assets can cause a forced exit of carry trades leading to market dislocations.

The carry trade is most often found in currency and fixed income markets. For example, in 2001, an investor could borrow Japanese yen (JPY), at funding costs close to zero, and invest in Australian (AUD) denominated government securities yielding over 5 percent. As long as the AUD/JPY exchange rate remained stable or the Australian dollar strengthened, the investor would maintain positive carry of about 5 percent or more (**Chart F.1**). This trade persisted until global asset markets experienced significant volatility during the summer of 2008. When volatility increased, investors exited this trade, which strengthened the yen and exacerbated currency movements that negatively impacted this strategy (**Chart F.2**).

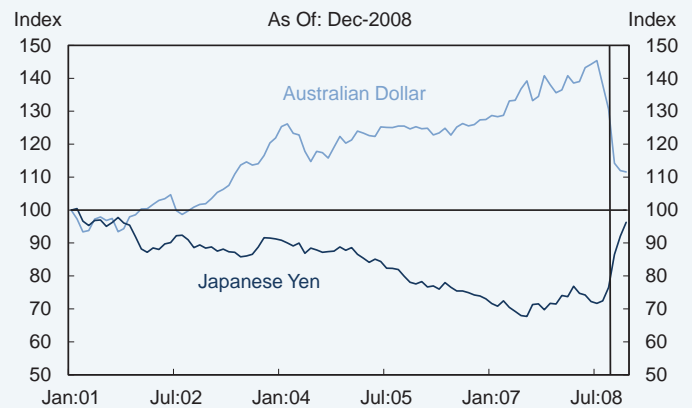
Periods of low market volatility, such as in recent years, make carry trades popular among investors. Persistently low interest rates can also incentivize a search for yield and a higher degree of risk taking in carry trades. These incentives can lead to a buildup of leveraged risks among market participants. Should risks become greater than expected, investors may exit carry trades on a “first out” basis. Such a scenario, especially in illiquid markets, could lead to forced selling in which one trade after another is exited. This could cause negative spillover effects with financial stability implications to markets and institutions.

**F.1 Interest Rate on Government Bonds and Discount Rate**



Source: IMF, Federal Reserve

**F.2 Real Effective Exchange Rate Returns**



Source: BIS, Federal Reserve

Note: Vertical line placed at September 2008. Jan-2001 = 100.

## 5.5 Investment Funds

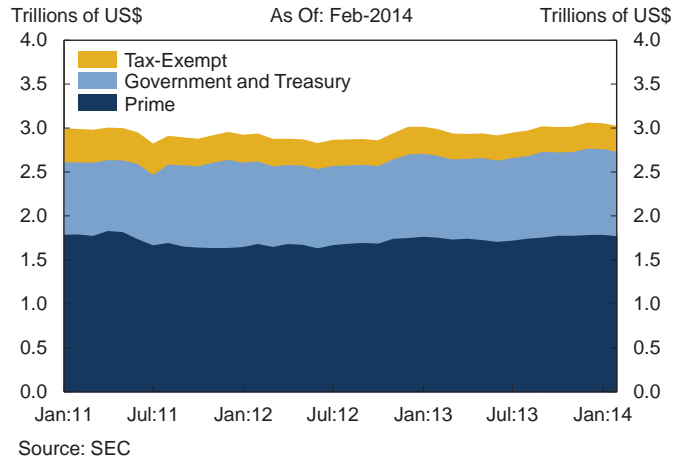
### 5.5.1 Money Market Funds

MMFs are a type of mutual fund that invests in certain high quality short-term securities as defined by the SEC. Subject to compliance with the investment restrictions, MMFs are permitted to use the amortized cost method of valuation and/or the penny-rounding method of pricing to facilitate a stable NAV, commonly \$1 per share, for subscriptions and redemptions. There are three main categories of MMFs: prime funds, which invest primarily in corporate debt securities; government and Treasury funds, which invest primarily in U.S. federal government securities; and tax-exempt funds, which invest primarily in short-term, tax-exempt securities of local and state governments. Prime MMF assets increased slightly in 2013 from \$1.76 trillion to \$1.79 trillion, while government and Treasury MMF assets increased from \$949 billion to \$981 billion (**Chart 5.5.1**). Tax-exempt MMFs declined from \$299 billion to \$281 billion. Taken together, MMFs held just over \$3 trillion in assets as of December 2013, or about 18 percent of total mutual fund assets under management (AUM), according to the Investment Company Institute.

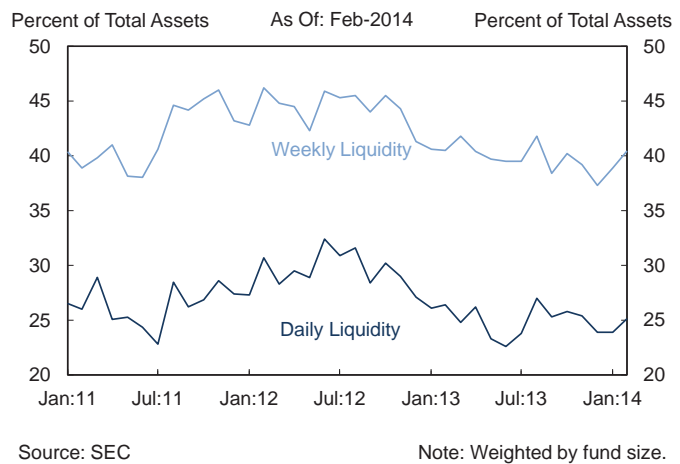
The last two years have been a period of persistent consolidation in the MMF industry, with the number of MMFs dropping from 629 at the start of 2012 to 555 at the end of 2013. In the sustained low-interest rate environment, competitive measures have led fund managers to offer fee waivers to MMF investors to prevent negative net yield, which contributed to fund consolidation.

During 2013, MMFs decreased liquidity levels and increased the weighted-average life of their fund portfolios (**Charts 5.5.2, 5.5.3**). In particular, the weighted-average life of non-traditional repo held in MMF portfolios lengthened from 17.7 days at the end of 2012 to 30.3 days at the end of 2013.

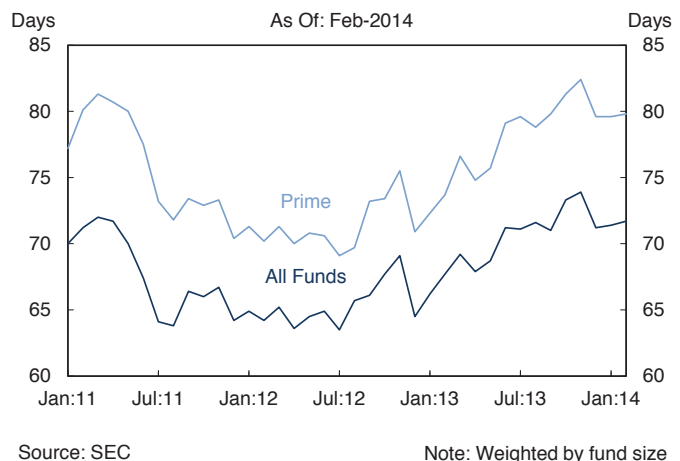
### 5.5.1 MMF Assets by Fund Type



### 5.5.2 Liquidity of Prime MMFs

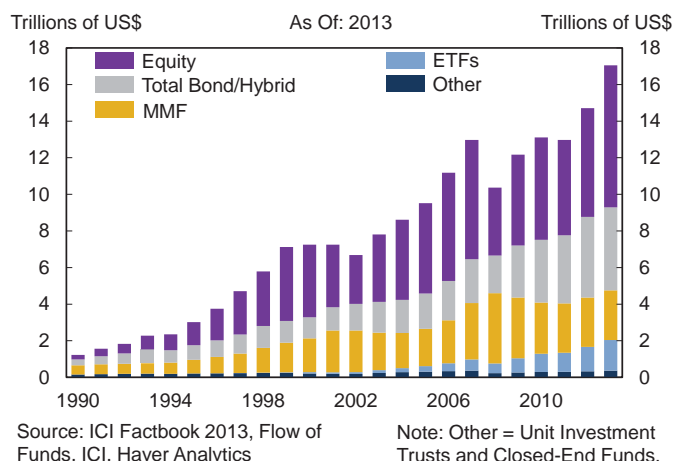


### 5.5.3 Weighted Average Life of MMFs





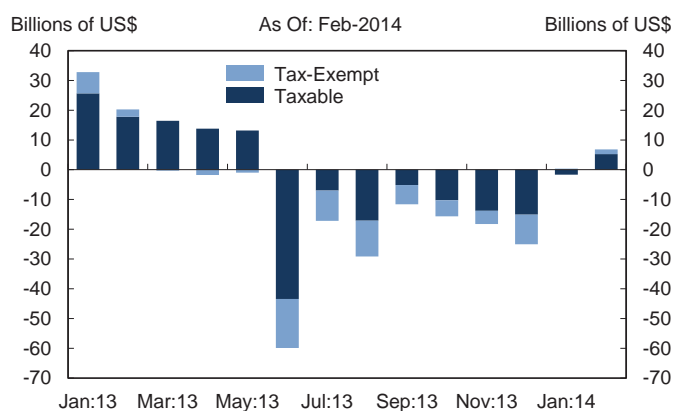
### 5.5.4 Growth in Assets of the Investment Company Industry



While the ranking changed slightly from 2012 to 2013, prime MMFs continued to have the heaviest geographical exposures to the United States, Canada, Japan, France, and Australia/New Zealand. Notably, MMF exposure to Chinese banks has increased steadily since exposures first appeared in portfolios in November 2011. However, at \$5.9 billion at the end of 2013, it is still a very small percentage of prime MMF assets (0.3 percent).

Another notable change for MMFs in 2013 was the introduction of the Overnight Fixed-Rate Capped-Allotment Reverse Repurchase Agreement Operational Exercise, which the Federal Reserve has undertaken as part of its effort to test potential tools for future implementation of monetary policy. As a consequence of this exercise, investors in short-term funding markets, including MMFs, now have an additional, albeit potentially temporary, high-quality liquid investment option. As of December 31, 2013, prime MMFs held 44 percent of these repos, and all MMFs together held over 78 percent.

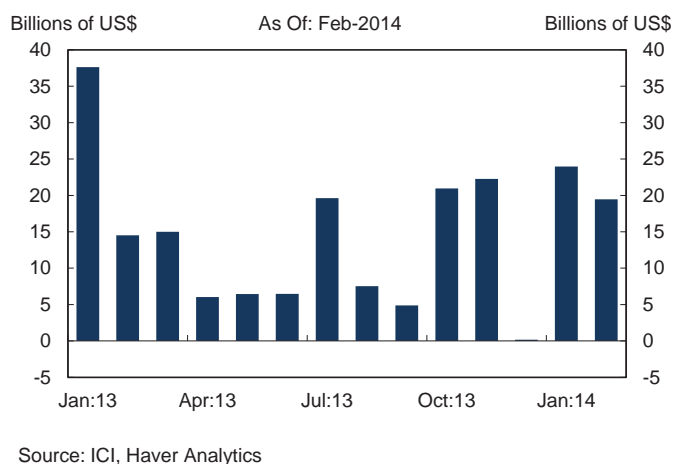
### 5.5.5 Monthly Bond Mutual Fund Flows



### 5.5.2 Mutual Funds

The U.S. mutual fund industry has grown from AUM of approximately \$1 trillion in 1990 to \$17 trillion in December 2013 (Chart 5.5.4). Long-term (equity and bond/hybrid) funds, with assets of almost \$12.3 trillion, made up 72 percent of total AUM as of December 2013.

### 5.5.6 Monthly Equity Mutual Fund Flows



In the wake of the 2008 financial crisis there was a significant flow of cash into bond funds, accompanied by a lesser but still significant flow of cash out of equity funds. From January 2009 to December 2012, approximately \$1,044 billion of new cash flowed into bond funds while approximately \$306 billion flowed out of equity funds (Chart 5.5.4). This trend reversed in 2013 as taxable bond funds had net redemptions of \$25 billion (compared to net inflows of \$254 billion in 2012) while tax-exempt bond funds had net redemptions of \$58 billion (Chart 5.5.5). This contrasts with equity funds, which had a net inflow of \$161 billion in 2013 (89 percent into international funds

and 11 percent into domestic stock funds) after recording a net outflow of \$153 billion in 2012 (Chart 5.5.6). Equity funds had not had net inflows since 2007.

The month of June 2013 marked a turning point in bond fund flows. After taxable bond funds had net inflows of \$87 billion from January through May 2013, they had net redemptions of \$112 billion from June through December, as markets anticipated that the Federal Reserve would reduce its \$85 billion-per-month bond buying program and economic conditions improved. Taxable bond funds had net inflows for every week from January through May and net outflows for all but three weeks from June through December.

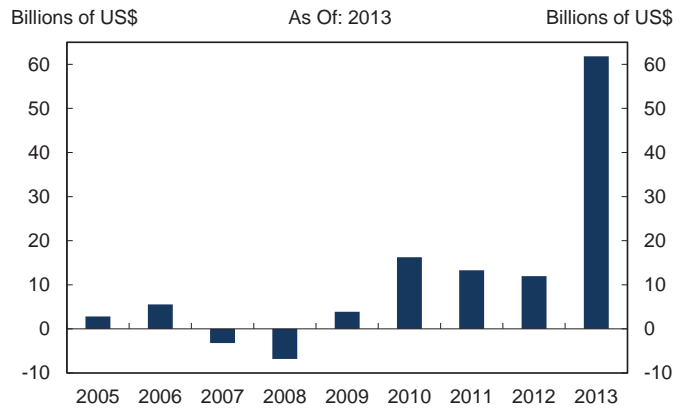
By far the most popular bond fund category in 2013 was corporate short-term bond funds. These funds, which primarily invest in lower-rated bank loans, had net inflows of \$62 billion in 2013, or about five times the 2012 net inflow (Chart 5.5.7). With interest rates still near historical lows, investors who are reluctant to take on interest rate risk in the form of longer duration bonds have been attracted to this fund category.

### 5.5.3 Pension Funds

As of the third quarter of 2013, the combined AUM of private and public pensions, including federal pensions and defined contribution plans, were almost \$16 trillion (Chart 5.5.8).

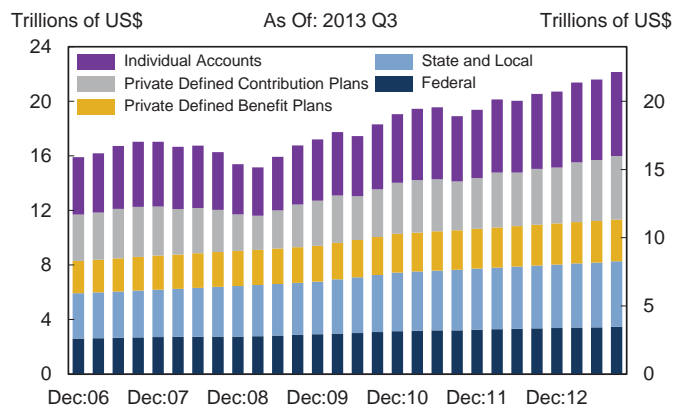
Corporate defined benefit funded status—the estimated share of fund liabilities covered by current assets—improved in 2013 (Chart 5.5.9). One estimate of the funded status of the 100 largest corporate pension plans reached 94 percent in November 2013, and some large plans reached full funding in 2013. The improvement of the aggregate corporate funded status resulted in part from the increase in the corporate pension liability discount rate over the course of 2013. Corporate pension discount rates are closely tied to corporate bond rates, which rose during the year in tandem with the rise in Treasury yields. Additionally,

### 5.5.7 Bank Loan Mutual Funds: Annual Flows



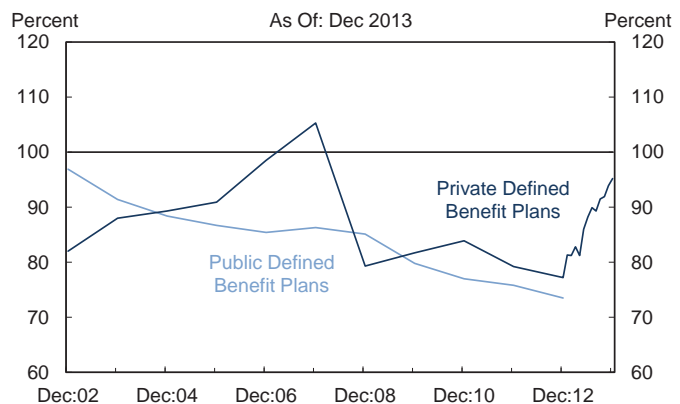
Source: Morningstar, Inc.

### 5.5.8 Retirement Fund Assets by Plan Type



Source: Flow of Funds, Haver Analytics

### 5.5.9 Public and Private Pension Funding Level



Source: Public Fund Survey, Milliman

high returns in equities and alternative assets helped to improve funded status.

In contrast, based on 2013 data, several important multi-employer plans have low funding levels due to several causes, including the structure of the multi-employer pension system and changing demographics of plan participants. The Pension Benefit Guaranty Corporation multi-employer insurance fund also faces a projected inability to meet its obligations due in part to the combination of insufficient premium payments and critical funding status of a set of multi-employer plans.

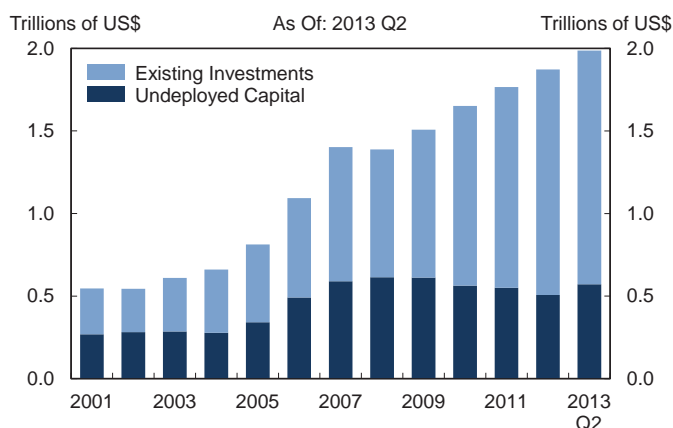
U.S. public pension funds are also notably underfunded with a roughly 74 percent aggregate funding level. Of note, however, is that these estimates are based on 2012 data (the latest available) and do not include 2013 equity market gains. On the other hand, public pension funds generally use a different set of accounting rules than private pension funds, enabling them to assume a discount rate based on long-run returns. These estimated long-run returns are significantly higher than average post-crisis returns, and could result in an artificially high funding status.

Several localities and states, such as Detroit, Chicago, Vallejo, Puerto Rico, Connecticut, and Illinois currently face very low levels of public pension funding. States and municipalities may face important constraints in addressing pension funding gaps. Detroit's bankruptcy case could become a precedent for other cash-strapped municipalities (see Section 4.3.2). Also, pension benefits may be protected by statute or constitutional law. Additionally, some attempts by public pensions to curtail benefits have been challenged in court, and related litigation is ongoing.

#### 5.5.4 Private Equity

U.S. private equity AUM increased to approximately \$2 trillion in 2013 (Chart 5.5.10). Sponsor-backed debt issuance remained strong in a historical context, with refinancing being the main use of proceeds in the first half of

#### 5.5.10 U.S. Private Equity AUM



Source: Preqin

2013, and debt related to new leveraged buyouts increasing notably in the latter half of 2013. The issuance of sponsor-backed payment-in-kind bonds, which are financing vehicles used by private equity firms that are typically viewed as highly risky for investors, spiked in the third quarter 2013. Nonetheless, both the volume of payment-in-kind bonds and their percentage of total issuance remain substantially below pre-crisis levels (**Chart 5.5.11**).

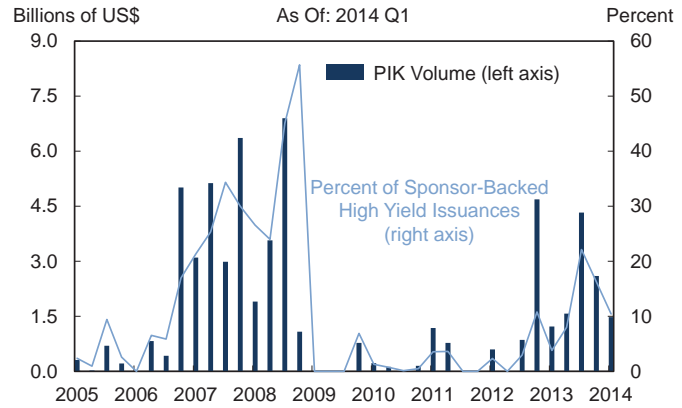
### 5.5.5 Hedge Funds

Hedge fund industry assets grew to an estimated \$2.6 trillion in 2013, a 17 percent increase from 2012 (**Chart 5.5.12**). The growth in 2013 was mainly driven by positive investment performance (**Chart 5.5.13**). Large funds continued to receive the majority of aggregate net inflows in 2013 (**Chart 5.5.14**). Meanwhile, funds of hedge funds continue to lose popularity relative to standalone funds, as 2013 was the sixth consecutive year of net capital outflows for these types of funds.

Responses to the Federal Reserve’s Senior Credit Officer Opinion Survey on Dealer Financing Terms conducted in June 2013 indicated that hedge fund financial leverage was roughly halfway between the pre-crisis peak and post-crisis trough. The findings differed somewhat by hedge fund strategy: about one-fifth of dealers reported that equity-oriented and macro-oriented funds were utilizing levels of leverage near to or at the pre-crisis peak.

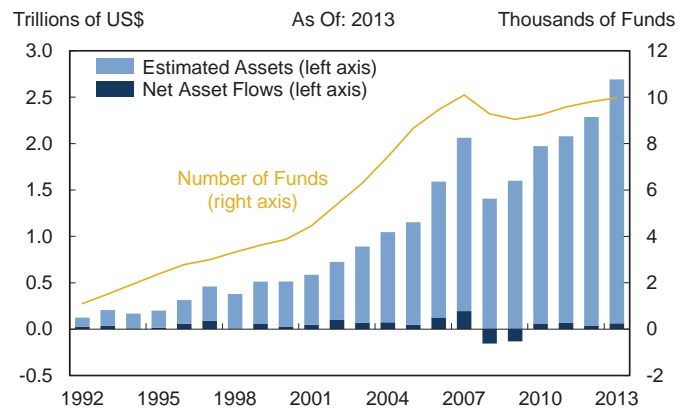
According to form PF data from year-end 2012, the mean financial leverage of the top 100 funds—measured by gross asset value divided by NAV—ranges from 1x to 18x for funds in the first and fourth quartile of the distribution of financial leverage, respectively. The source of this leverage is primarily repo transactions and prime broker financing. For gross leverage, defined as gross notional exposure divided by NAV, the corresponding measures range from 1x to 57x. Gross notional exposure includes synthetic leverage provided by derivatives, measured as the sum of absolute notional values of long and short positions.

### 5.5.11 Sponsor-Backed Payment-in-Kind Bonds



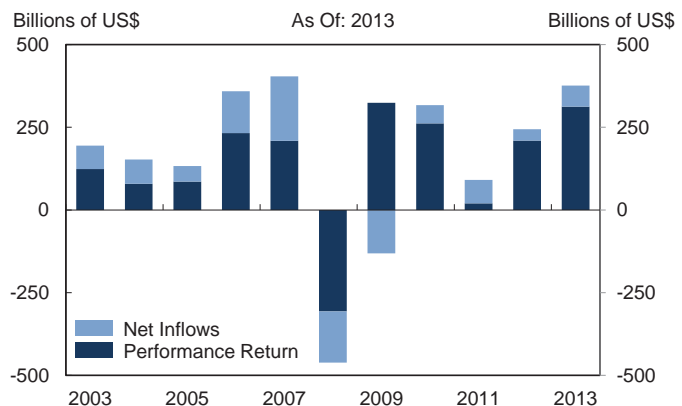
Source: S&P LCD

### 5.5.12 Hedge Fund Assets and Net Asset Flows



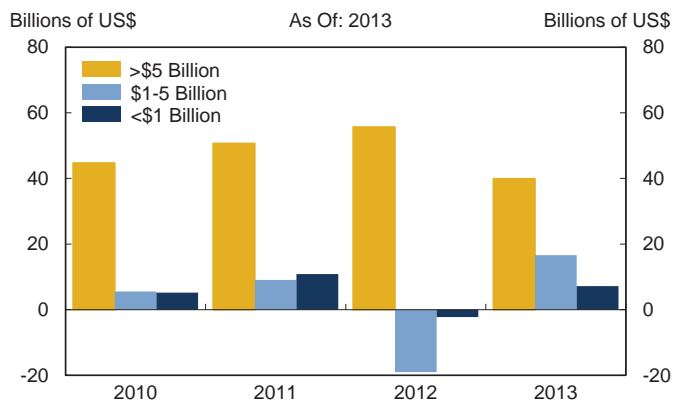
Source: Hedge Fund Research, Inc.

### 5.5.13 Change in Hedge Fund AUM



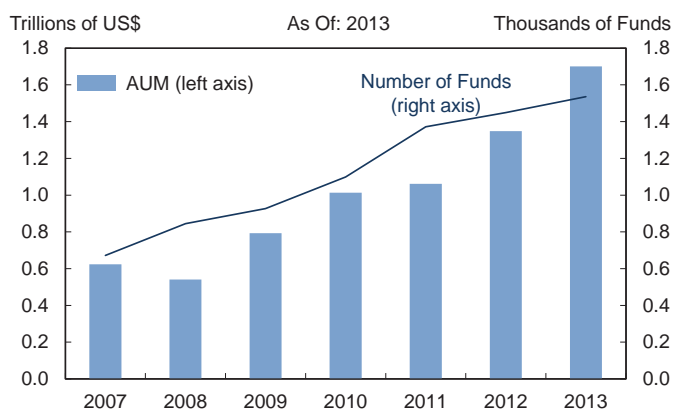
Source: Hedge Fund Research, Inc.

### 5.5.14 Hedge Fund Net Asset Flows by AUM



Source: Hedge Fund Research, Inc.

### 5.5.15 U.S.-Listed ETP AUM and Count



Source: Morningstar, Inc.

### 5.5.6 Exchange-Traded Products

Exchange-traded products (ETPs) include ETFs, exchange-traded notes and other investment vehicles. Since their creation, ETPs have expanded from primarily offering exposure to equity market indices to also investing in commodities, currencies, and other non-securities instruments, such as loans and precious metals. ETPs are often used as a means to achieve exposure to a market sector or index in a manner that is potentially more efficient and cost-effective than a traditional mutual fund, investment product, or financial instrument. Intra-day pricing and secondary markets for ETPs can provide higher levels of liquidity than other fund vehicles that price daily, such as mutual funds.

U.S.-listed ETP assets grew by 26 percent to \$1.7 trillion in 2013 and the number of U.S.-listed ETPs grew to 1,536 (Chart 5.5.15). U.S. equity ETP aggregate net inflows were \$199 billion in 2013, up from \$124 billion in 2012. U.S. bond ETPs, however, experienced net inflows of only \$7.7 billion, down from a net inflow of over \$55 billion in 2012. In contrast to equity and bond ETPs, commodity ETPs experienced aggregate net outflows of \$30 billion in 2013.

ETFs referencing fixed income and EM assets underwent a period of increased volatility in the middle of 2013, reflecting in part changes in market participants' expectations for monetary policy. On June 20, 2013, amid elevated volatility in fixed income markets, some investors experienced temporary restrictions related to ETF redemptions. For example, one ETF sponsor opted to only allow standard, in-kind redemptions for certain ETFs—temporarily taking away an optional cash redemption—because the higher costs of liquidity would have been borne by ETF shareholders. Furthermore, rising interest rates in 2013 prompted fixed-income investors to reduce the duration of their investments. As a result, floating rate note ETFs experienced substantial inflows, and short-duration corporate credit ETFs saw robust inflows as well.

## 5.6 Derivatives Infrastructure

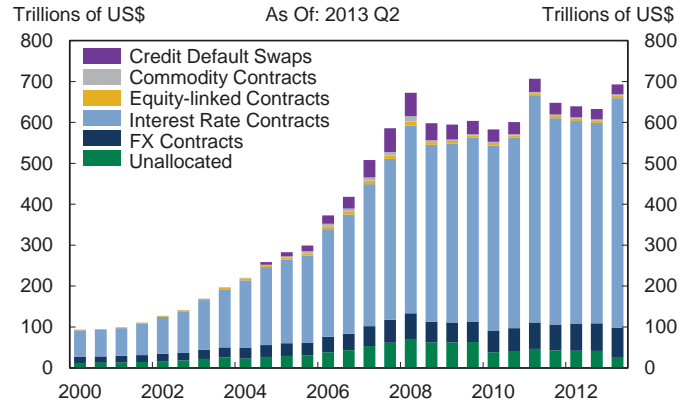
### Global Derivatives Volumes

Between December 2012 and June 2013, the size of the global over-the-counter (OTC) derivatives market increased by 9 percent from \$633 trillion to \$693 trillion gross notional outstanding, according to the most recent Bank for International Settlements survey of global market activity (**Chart 5.6.1**). The composition by asset classes remained similar to previous surveys.

Since November 2013, the CFTC has been publishing weekly Swaps Reports that provide aggregate data on OTC derivatives volumes and notional amounts. The Swaps Report represents all OTC derivatives transactions reported to the CFTC-registered SDRs (i.e., CME, Depository Trust and Clearing Corporation (DTCC), Intercontinental Exchange, and Bloomberg) by entities subject to the CFTC’s reporting rules, which are primarily U.S. market participants. As of January 31, 2014, the CFTC’s Swaps Report showed \$406 trillion in notional amount outstanding for OTC derivative transactions across all asset classes. Similar to the global market, U.S. interest rate derivatives accounted for around 85 percent of the activity at \$343 trillion, followed by FX and credit derivatives with \$31 trillion and \$8 trillion, respectively.

Data reported in the credit derivatives market over the past few years reflect a significant move by market participants from single name activity to more index-based trading. Some of this movement may result from the significant reduction of new structured credit and tranche product activity that necessitated the use of many different single name CDS contracts, including entities that had no debt outstanding. Volume in single name CDS dropped significantly after the financial crisis because of the reduced demand from monoline insurance companies and the overall decline of complex products. In contrast, volume in index CDS has increased significantly in the post-crisis years (**Chart 5.6.2**). Market participants cite better

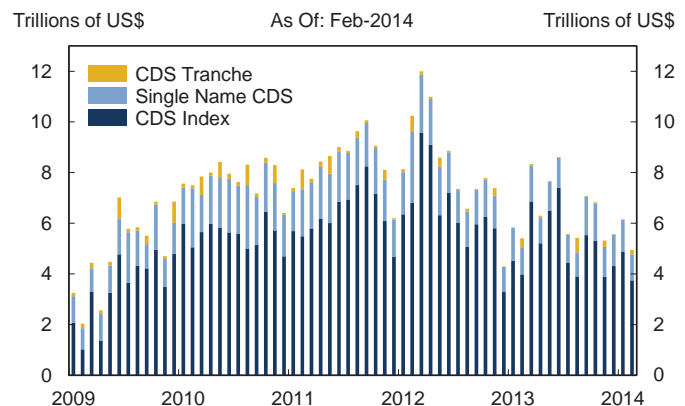
### 5.6.1 Global OTC Derivatives Market



Source: BIS, Haver Analytics

Note: Notional values.

### 5.6.2 Credit Derivatives Outstanding



Source: DTCC

Note: Gross notional includes the notional from the perspective of both swap counterparties.



execution and liquidity in indexes as compared to trading in individual single name CDS.

### Central Clearing

G-20 commitments and Dodd-Frank Act requirements to promote central clearing of certain OTC derivatives transactions have led to an increase in the number of transactions centrally cleared. A central counterparty (CCP) reduces risks to participants through multilateral netting of trades, imposing risk controls on clearing members, and maintaining financial resources commensurate with risks it carries. A CCP also has the benefit of establishing ex-ante procedures for managing a default and allocating losses that can provide the market with more certainty in the event of a clearing member default. Given the rise in activity of certain derivatives through CCPs, and their relevance to financial stability, it is important that they have robust capital and risk management standards in place.

In recognition of this shift to central clearing and the associated concentration of risks, the Dodd-Frank Act coupled the clearing mandate with a requirement for risk management standards, requiring the implementation of risk management standards for systemically important financial market utilities (FMUs), including CCPs that are designated systemically important by the Council, that take into consideration relevant international standards, such as those set forth in the Principles for Financial Market Infrastructures (PFMIs). Accordingly, U.S. regulators have prioritized implementation of revised regulations in line with these standards ([see Section 6.1.1](#)).

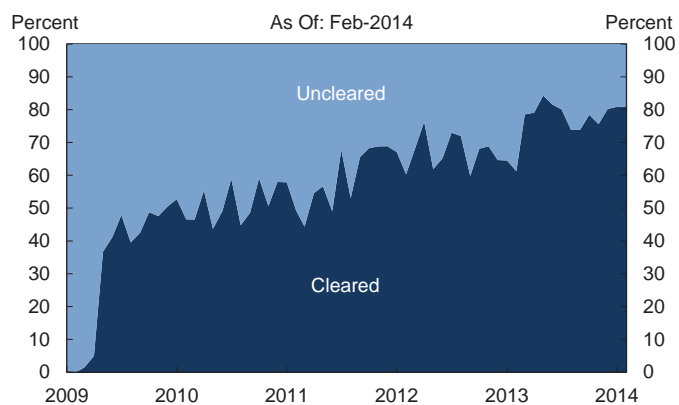
The Seventh Progress Report on Implementation of OTC Derivatives Market Reforms published by the Financial Stability Board (FSB) indicates that of 15 FSB member jurisdiction dealers' gross notional outstanding in OTC interest rate derivatives products, as of end-February 2014, 53 percent of those products offered for clearing by a CCP are estimated to have been centrally cleared. For credit derivatives this number stood at 40 percent.

In the United States, mandatory central clearing began in 2013 with certain standardized derivatives on a phased-in schedule pursuant to CFTC rules. U.S. central clearing of credit derivatives has grown from zero percent in the beginning of 2009 to 81 percent in February 2014 (**Chart 5.6.3**). Most market participants that are active in the swaps market, including dealers, were generally required to clear these products starting in March 2013, while other less active market participants were required to clear certain credit derivatives indices starting in June or September 2013. According to Depository Trust & Clearing Corporation data, centrally cleared credit derivatives remain heavily concentrated within the interdealer network with a few firms accounting for 49 percent of volumes over the period 2010 to present. While some dealer-to-dealer trades were being cleared on a voluntary basis before 2013, CFTC rules did result in a significant increase in clearing of client trades. The process of mandating additional products for central clearing is ongoing.

### Swap Execution Facilities

In the United States, there has been progress on the G-20 commitment for increased transparency in the OTC derivatives market through the introduction of swap execution facilities (SEFs) in 2013. A transition to organized platform trading increases pre-trade transparency and supports more efficient markets. The CFTC implemented its SEF rules in October 2013, and in February 2014 mandatory trading began for benchmark USD, euro, and sterling interest rate swap contracts as well as certain five-year CDS indices, with temporary relief granted for contracts involving contingent and simultaneous execution with another contract. The rules also require that SEFs report all transactions to SDRs and make market data publicly available through their website on a daily basis.

### 5.6.3 Growth of Credit Derivative Central Clearing



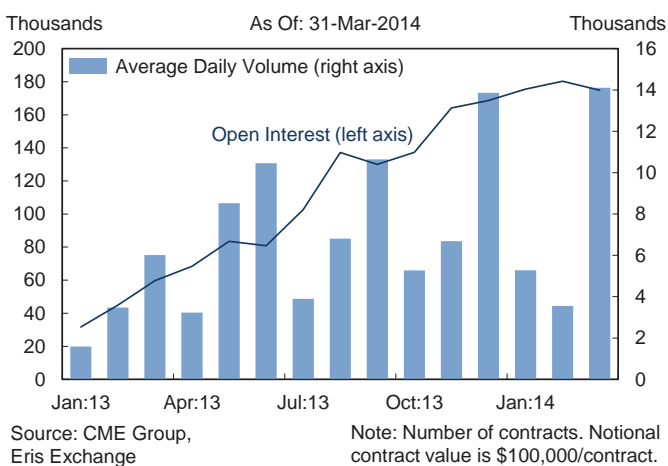
Source: DTCC

## Swap Futures Products

Partially in response to the new requirements and the added costs of trading OTC derivatives in late 2012, U.S. futures exchanges began offering dollar-denominated futures contracts with similar cash flows and exposure profiles as some interest rate and credit OTC derivative contracts in December 2012 and June 2013 respectively. Euro-denominated interest rate swap futures launched in April 2014. Interest rate swap futures have lower initial margin requirements compared to those on similar OTC swaps, which is a potential driver for their use.

Since the third phase of the CFTC clearing mandate came into effect in September 2013, the market for interest rate swap futures has grown 34 percent measured by notional outstanding. In January 2014, average daily trading volume for interest rate swap futures products was \$528 million and open interest at the end of the month was \$18 billion, both measured by notional amount (**Chart 5.6.4**). However, the trading volume and size of the USD interest rate swap futures market still remains small relative to those of the comparable USD interest rate swap market. The notional amount of open interest in USD interest rate swap futures is about 0.02 percent of the notional outstanding USD OTC interest rate swaps cleared by LCH SwapClear. The trading volume and open interest for CDS index futures have declined since they were introduced in June 2013.

### 5.6.4 Interest Rate Swap Futures: Volume and Open Interest



# 6

## Regulatory Developments; Council Activities

Since the Council's 2013 annual report, financial reform progress included further strengthening of capital, leverage, and liquidity standards for financial institutions and risk-management standards for FMUs; adoption of the Volcker Rule, which generally prohibits banking entities from engaging in proprietary trading and limits their investment in and sponsorship of private funds; refinements of periodic supervisory and company-run stress tests; further implementation of the OLA; regulation of the derivatives markets to reduce risk and increase transparency; new standards to protect mortgage borrowers and reduce risks in the mortgage market; and other measures to enhance consumer and investor protection.

In addition, the Council has continued to fulfill its mandate. In particular, the Council made determinations that three nonbank financial companies will be subject to Federal Reserve supervision and enhanced prudential standards, pursuant to Section 113 of the Dodd-Frank Act. The Council also continued to monitor potential risks to U.S. financial stability and served as a forum for discussion and coordination among the member agencies.

The following is a discussion of the significant financial regulatory reforms implemented by the Council and its member agencies since the Council's 2013 annual report. This section covers: (1) the safety and soundness of financial institutions; (2) financial infrastructure, markets, and oversight; (3) consumer and investor protection; (4) data standards; and (5) Council activities. A special topic in this section covers enhancements of the Council's governance and transparency.

### 6.1 Safety and Soundness

#### 6.1.1 Enhanced Capital and Prudential Standards and Supervision

##### Capital, Leverage, and Liquidity Standards

The banking agencies have made significant progress over the last year in implementing capital, leverage, and liquidity standards.

In July 2013, the Federal Reserve, FDIC, and OCC issued new rules implementing the Basel III regulatory capital standards by establishing heightened minimum risk-based and leverage capital requirements for banking organizations, creating a mechanism for counter-cyclical capital buffers for periods of high credit growth, limiting capital distributions, and certain discretionary bonus payments if banking organizations fail to maintain a capital conservation buffer, and removing references to and reliance on credit ratings in capital calculations. These rules apply to all insured depository institutions and to BHCs and savings and loan holding companies, with certain exceptions. These rules include a new minimum ratio of common equity tier 1 capital to RWAs of 4.5 percent and a common equity tier 1 capital conservation buffer of 2.5 percent of RWAs. The rules also raise the minimum ratio of tier 1 capital to RWAs from 4 percent to 6 percent. The rules maintain a total risk-based capital ratio of 8 percent and a minimum tier 1 ratio to total on-balance sheet assets leverage ratio of 4 percent. For large, internationally active banking organizations, the rules establish a minimum supplementary leverage ratio of 3 percent that is based on the international leverage ratio standard and takes into account off-balance sheet exposures.

In July 2013, the SEC adopted amendments to the broker-dealer financial responsibility rules that, among other things, clarify that a broker-dealer providing securities lending and borrowing services is acting in a principal capacity for purposes of the net capital rule, and thus subject to increased capital charges, unless the broker-dealer takes certain steps to disclaim principal liability. The SEC has also proposed to increase the minimum net capital requirement of certain large broker-dealers and subject these firms to a monthly liquidity stress test to ensure that large broker-dealers have sufficient liquidity to survive a potential loss of funding in a liquidity stress event.

In addition, in October 2013, the banking agencies released a proposed rule that would establish a standardized liquidity requirement through a LCR for large financial institutions. The requirement would apply to BHCs and savings and loan holding companies without significant insurance or commercial operations and that are internationally active—generally those with \$250 billion or more in total consolidated assets or \$10 billion or more in on-balance sheet foreign exposure. The rule would also apply to the consolidated insured depository institution subsidiaries of those companies with \$10 billion or more in total consolidated assets. The rule would additionally apply to nonbank financial companies designated by the Council that do not have substantial insurance operations. The proposal also would apply a less stringent, modified LCR to BHCs and savings and loan holding companies without significant insurance or commercial operations that are not internationally active, but have more than \$50 billion in total assets. The proposed requirement would be consistent with the international LCR standard. The proposed rule would require institutions to maintain highly liquid assets sufficient to withstand a severe short-term, standardized liquidity stress scenario, thereby promoting the resilience of their liquidity risk profile and improving the banking sector's ability to absorb shocks arising from financial and economic stress, as well as improvements in the measurement and management of liquidity risk.

In February 2014, the Federal Reserve issued a final rule implementing enhanced prudential standards for U.S. BHCs and FBOs with total consolidated assets of \$50 billion or more. For a BHC with total consolidated assets of \$50 billion or more, the rule incorporates previously issued capital planning and stress testing requirements and imposes enhanced liquidity requirements, enhanced risk-management requirements, and a debt-to-equity limit for companies that the Council determines pose a grave threat to U.S. financial stability. For a FBO with total consolidated assets of \$50 billion or more, the rule implements enhanced risk-based and leverage capital requirements, liquidity requirements, risk-management requirements, stress-testing requirements, and a debt-to-equity limit for companies that the Council determines pose a grave threat to U.S. financial stability. In addition, the rule requires FBOs with U.S. non-branch assets of \$50 billion or more to form a U.S. intermediate holding company and imposes capital, liquidity, and other requirements on that entity. The rule also implements stress-testing requirements for FBOs and foreign savings and loan holding companies with total consolidated assets of more than \$10 billion. In addition, the rule establishes a risk-committee requirement for certain banking organizations.

In April 2014, the Federal Reserve, FDIC, and OCC issued a final joint rule to strengthen the supplementary leverage ratio requirements for the largest, most interconnected U.S. BHCs, those with total consolidated assets greater than \$700 billion or assets under custody greater than \$10 trillion, and insured depository institution subsidiaries of those BHCs. Under the rule, subsidiary insured depository institutions of these companies will be required to satisfy a 6 percent supplementary leverage ratio requirement to be considered well capitalized under the agencies' prompt corrective action regulations. U.S. top-tier holding companies will be required to maintain a leverage buffer of at least 2 percent above the minimum supplementary leverage ratio requirement of 3 percent, for a total requirement of 5 percent. The rule is intended to constrain the buildup of financial leverage at the largest banking organizations and place additional private capital at risk before the Deposit Insurance Fund or government resolution mechanisms would need to be called upon.

## Foreign Bank Regulation

In February 2014, the Federal Reserve issued a final rule implementing enhanced prudential standards for FBOs to help increase the resiliency of their operations.

The Federal Reserve also issued an interim final rule clarifying how uninsured U.S. branches and agencies of foreign banks will be treated under Section 716 of the Dodd-Frank Act, also known as the “swaps push-out rule.” The interim final rule provides that for purposes of Section 716, the term “insured depository institution” includes any uninsured U.S. branch or agency of a foreign bank. Following the Federal Reserve’s interim final rule, the OCC notified uninsured branches and agencies of foreign banks that they may request a transition period under Section 716 from the OCC. The Federal Reserve finalized this rule in December 2013.

The FDIC issued a final rule regarding the treatment of deposits in foreign branches of U.S. banks. Currently, under the Federal Deposit Insurance Act, funds deposited in foreign branches of U.S. banks are not considered deposits unless the funds are payable both in the foreign branch and in the United States. A recent consultation paper issued by the U.K. Prudential Regulation Authority could result in some large U.S. banks changing their deposit agreements to make U.K. branch deposits payable in both the United Kingdom and United States. In response, the FDIC in September 2013 issued a rule that clarifies that deposits in foreign branches of U.S. banks are not eligible for FDIC deposit insurance, although they may qualify as deposits for the purpose of the national depositor preference statute enacted in 1993.

## Emergency Lending Authority

In December 2013, the Federal Reserve issued proposed amendments to Regulation A implementing the Dodd-Frank Act’s amendments to Section 13(3) of the Federal Reserve Act. The amendments are designed to ensure that any emergency extension of credit or emergency lending program or facility established by the Federal Reserve is solely for the purpose of providing liquidity to the financial system, and not to assist failing financial institutions.

## Risk-Management Standards for Designated FMUs

As discussed in **Section 5.6**, the Dodd-Frank Act required the implementation of enhanced risk-management standards for designated FMUs, which take into consideration the relevant international standards. These international standards, the PFMI, were issued in April 2012 by the Committee on Payment and Settlement Systems and IOSCO. The PFMI harmonized, strengthened, and created new international risk management standards for systemically important payment systems, central securities depositories, securities settlement systems, CCPs, and trade repositories. The PFMI include standards for governance, credit risk management, margin and collateral, liquidity risk management, settlement, clearing member default management, and business and operational risk, among others.

The Council has designated eight FMUs as systemically important, subjecting them to the enhanced regulatory and supervisory regime provided by Title VIII of the Dodd-Frank Act. The supervisory agencies for the currently designated FMUs (the Federal Reserve, CFTC, and SEC) are in various stages of rulemaking to implement enhanced risk-management standards for designated FMUs. The CFTC issued a final rule in November 2013 establishing enhanced risk management standards for derivatives clearing organizations designated as systemically important FMUs by the Council. The SEC’s operational and risk-management standards for clearing agencies, including clearing agencies that clear security-based swaps, came into effect in January 2013. In March 2014, the SEC proposed additional standards that would be consistent with the PFMI for clearing agencies designated as systemically important FMUs by the Council. The Federal Reserve proposed revisions to its risk-management standards for designated FMUs other than those for which the



SEC or the CFTC is the supervisory agency in January 2014. Each of the supervisory agencies' rules or rule proposals are, while not identical, based on and generally consistent with the PFMI.

### **6.1.2 Volcker Rule**

In December 2013, the Federal Reserve, OCC, FDIC, SEC, and CFTC issued final rules to implement section 619 of the Dodd-Frank Act, commonly referred to as the Volcker Rule. The rulemaking was coordinated by Treasury. The final rules, which include a single, common regulatory text, generally prohibit banking entities from: (1) engaging in short-term proprietary trading in securities, derivatives, commodity futures, and options on these instruments for their own account, and (2) owning, sponsoring, or having certain relationships with hedge funds, private equity funds, and other covered funds. As required by section 619 of the Dodd-Frank Act, the final rules provide exemptions for certain activities, including market making-related activities, underwriting, risk-mitigating hedging, and trading in certain U.S. and foreign government obligations, among others. In accordance with the Dodd-Frank Act, the final rules prohibit any activity, even if it would otherwise be permitted, if it would involve a material conflict of interest, a material exposure to high-risk assets or trading strategies, or a threat to the safety and soundness of the banking entity or to U.S. financial stability.

### **6.1.3 Dodd-Frank Stress Tests and Comprehensive Capital Analysis and Review**

Section 165(i) of the Dodd-Frank Act requires two types of stress tests. First, the Federal Reserve must conduct annual supervisory stress tests of BHCs with \$50 billion or more in total consolidated assets and nonbank financial companies designated by the Council. Second, financial companies with more than \$10 billion in total consolidated assets must conduct annual stress tests, and BHCs with \$50 billion or more in total consolidated assets and nonbank financial companies designated by the Council must also conduct semi-annual company-run stress tests. In addition, the Federal Reserve conducts an annual CCAR.

The results of company-run, mid-year stress tests were released by certain banking organizations in September 2013. Also in September 2013, the Federal Reserve issued a rule providing a one-year transition period during which banking organizations with between \$10 and \$50 billion in total assets would not be required to reflect the Basel III capital rule in their stress tests.

In November 2013, the Federal Reserve, FDIC, and OCC issued the economic and financial market scenarios used in the 2013 to 2014 stress tests and capital planning program. A total of 30 BHCs and other financial institutions regulated by the Federal Reserve with consolidated assets of at least \$50 billion participated in the 2013 to 2014 exercise, and the results of these stress tests were released in March 2014. The Federal Reserve approved the plans of 25 financial institutions in the CCAR, and objected to the plans of five firms—four based on qualitative concerns, and one due to its inability to meet a minimum post-stress capital requirement. Following the initial CCAR results, the Federal Reserve required Bank of America Corporation to resubmit its capital plan, as described in [Section 5.3.1](#). All but two of the 30 CCAR participants are expected to build capital from the second quarter of 2014 through the first quarter of 2015. In the aggregate, the firms are expected to distribute 40 percent less than their projected net income during the same period.

Institutions with \$50 billion or more that are subject to the Federal Reserve, FDIC, and OCC company-run stress test rules began their second stress test cycle in 2013. Institutions with \$10 to \$50 billion in assets began their first stress test cycle in 2013. These midsize institutions are not required to publicly disclose their 2013 to 2014 stress test results; public disclosures will begin in June 2015 with the results of the 2014 to 2015 stress tests.

In March 2014, the Federal Reserve published a final rule providing that no banking organization would be required to calculate its regulatory capital ratios using the Basel III advanced approaches until the 2015

to 2016 stress testing cycle. Also in March 2014, the Federal Reserve, FDIC, and OCC issued stress testing guidance for institutions with \$10 to \$50 billion in assets.

## 6.1.4 Resolution Plans and Orderly Liquidation Authority

### Resolution Plans

Under the framework of the Dodd-Frank Act, bankruptcy is the preferred option in the event of the failure of a financial company. Section 165(d) of the Dodd-Frank Act requires nonbank financial companies designated by the Council for supervision by the Federal Reserve and BHCs (including FBOs that are, or are treated as, BHCs) with total consolidated assets of \$50 billion or more to report periodically to the Federal Reserve, the FDIC, and the Council with plans—also referred to as living wills—for their rapid and orderly resolution under the U.S. Bankruptcy Code in the event of material financial distress or failure. The Federal Reserve and the FDIC must review each plan and may jointly determine that the plan is not credible or would not facilitate an orderly resolution of the company under the U.S. Bankruptcy Code. If the Federal Reserve and the FDIC make such a joint determination, then the company must resubmit its plan with revisions demonstrating that the plan is credible and would result in an orderly resolution under the Bankruptcy Code, including any proposed changes in business operations and corporate structure to facilitate implementation of the plan. In November 2011, the Federal Reserve and the FDIC published a joint final rule implementing the resolution plan requirement.

Eleven of the largest, most complex institutions submitted initial plans in 2012 and revised plans in 2013. During 2013, an additional 120 institutions subject to the rule at that time submitted initial plans. The public portions of each resolution plan were published on the Federal Reserve's and the FDIC's websites. In 2013, the Council designated three nonbank financial companies for Federal Reserve supervision, and these firms will submit initial resolution plans in 2014.

Following the review of the 11 plans submitted in 2012, the Federal Reserve and the FDIC issued guidance for those firms concerning information that should be included in their 2013 resolution plan submissions. The guidance identified significant obstacles to rapid and orderly resolution for the firms to consider and address, including delineating the actions or steps the company has taken or proposes to take to remediate or to otherwise mitigate each obstacle, and providing a timeline for proposed actions, as necessary.

The significant obstacles identified in the guidance were:

- Multiple competing insolvencies: The risk of discontinuity of critical operations, arising from operations in multiple jurisdictions.
- Global cooperation: The risk that lack of cooperation could lead to ring fencing of assets.
- Operations and interconnectedness: The risk that critical services provided by an affiliate or third party might be interrupted.
- Counterparty actions: The risk that derivative and other counterparty actions may lead to systemic market disruption.
- Funding and liquidity: The risk of having insufficient liquidity to maintain critical operations.

### Orderly Liquidation Authority

In cases where resolution of a financial company under the Bankruptcy Code may result in serious adverse effects on financial stability in the United States, the OLA set out in Title II of the Dodd-Frank Act serves as the last resort alternative. Under the Dodd-Frank Act, the Federal Reserve, and another financial regulatory agency specified by the Dodd-Frank Act (either the FDIC, the SEC, or FIO) must make written recommendations to the Secretary of the Treasury, who must then make certain determinations in order to

invoke the OLA. These include determining that the company is in default or danger of default; that failure of the company and its resolution under other law, including bankruptcy, would have serious adverse effects on U.S. financial stability; and that no private sector alternative is available to prevent the default of the company.

The FDIC is developing a strategic approach, the SPOE, to carry out the OLA when resolving a financial company. Under SPOE, the FDIC would be appointed receiver only of the top-tier parent holding company of a financial group upon the completion of the recommendation, determination, and expedited judicial review process set forth in Title II. The FDIC would organize a temporary bridge financial company and transfer to it assets from the receivership estate—including the failed holding company’s investments in and loans to subsidiaries. The FDIC would oversee operations of the bridge financial company and retain control over high-level key matters of its governance, impose losses on shareholders and unsecured creditors, and replace culpable senior management.

The FDIC would appoint a board of directors and nominate a new chief executive officer and other key managers to operate the bridge financial company under the FDIC’s oversight. The company may be restructured by shrinking businesses, breaking the company into smaller entities, liquidating assets, or closing operations to ensure that the resulting entities could be resolved in bankruptcy.

During the operation of the bridge financial company, the healthy subsidiaries of the company would remain open, protecting against contagion in the financial system by maintaining continuity of services. At the same time, SPOE would protect against moral hazard by holding the failed company’s shareholders, management, and creditors, accountable for its failure. In December 2013, the FDIC approved a Federal Register Notice for public comment that provides greater detail on SPOE.

#### International Coordination on Resolution under the OLA

Advance planning and cross-border coordination for resolution of G-SIFIs are essential to minimize disruptions to global financial markets. The FDIC and the BoE, in conjunction with prudential regulators in their respective jurisdictions, are developing contingency plans for the failure of a G-SIFI with operations in the United States and the United Kingdom. In December 2013, building on their joint policy paper on resolution strategies released in 2012, the FDIC and the BoE, in conjunction with the Prudential Regulation Authority, the Federal Reserve, and the FRBNY, held a tabletop exercise exploring cross-border issues and mitigating actions that regulators could take in case of a resolution.

The FDIC and the European Commission have established a joint working group to focus on resolution and deposit insurance issues. In 2013, the working group convened twice, and staff collaboration has been ongoing.

In 2013, the FDIC also collaborated with regulators in Switzerland, Germany, and Japan to discuss cross-border issues and impediments affecting the resolution of G-SIFIs. They will continue this work in 2014, with tabletop exercises.

In a demonstration of cross-border cooperation, the FDIC, the BoE, the Swiss Financial Market Supervisory Authority, and the German Federal Financial Supervisory Authority signed a November 2013 joint letter to the International Swaps and Derivatives Association (ISDA). This letter encouraged ISDA to revise derivatives contracts to authorize the short-term suspension of early termination rights and other remedies in the event of a G-SIFI resolution. Such changes are intended to permit the exercise of all applicable types of resolution powers without resulting in a disorderly termination of derivatives contracts.

### 6.1.5 Insurance

FIO, state regulators and, as of October 2013, the Federal Reserve, are members of the International Association of Insurance Supervisors (IAIS). FIO's director and two state regulators serve on the IAIS's Executive Committee.

Through service on the IAIS's Financial Stability Committee, FIO, the NAIC, and state regulators have participated extensively in the process of identifying global systemically important insurers (G-SIIs) and the policy measures to be applied to any such designated insurer. The FSB, which was tasked by the G-20 to identify G-SIIs, delegated the development of a methodology and policy measures for G-SIIs to the IAIS. On July 18, 2013, the FSB, in consultation with the IAIS, identified an initial list of nine G-SIIs that included three U.S.-based insurers; however, a decision on the G-SII status of major reinsurers was deferred until November 2014. In July 2013, the IAIS also published, and the FSB endorsed, a set of policy measures that will apply to G-SIIs, including enhanced group-wide supervision, recovery and resolution planning, and higher loss absorbency (HLA) requirements.

In the absence of an international capital standard for insurance companies, the FSB also called upon the IAIS to develop two separate capital measures. The first, straightforward backstop capital requirements (BCR), will serve as a foundation for HLA requirements for G-SIIs. The second is a quantitative insurance capital standard (ICS) that will be part of the IAIS's Common Framework for the Supervision of Internationally Active Insurance Groups. The IAIS's Technical Committee directs the development of this integrated, multilateral, and multidisciplinary framework for the group-wide supervision of internationally active insurance groups. FIO, state regulators (through the NAIC), and the Federal Reserve have been participating actively in the IAIS task force charged with developing and testing the BCR and ICS. The IAIS will develop and propose a BCR to the FSB by late 2014 and will propose HLA by the end of 2015, with implementation of both to begin January 2019. The ICS will be developed by the end of 2016, and will be field tested through 2018 in advance of implementation in 2019.

Title V of the Dodd-Frank Act established FIO and directed it to study and report on how to modernize and improve the system of insurance regulation in the United States. After extensive study and consultation, the report was released in December 2013 and concluded that the United States should build on the existing hybrid model of insurance regulation, incorporating state regulation with a federal role, where necessary. Accordingly, the report recommends how the U.S. system of insurance regulation can be modernized and improved by a combination of steps by the states and certain actions by the federal government. Specifically, the report highlights three areas of note where FIO concluded that federal involvement is warranted: development of international insurance regulatory standards; topics for which national uniformity is an appropriate standard and topics of national interest for which federal involvement is necessary; and oversight of mortgage insurance.

Since early 2012, FIO, state regulators (through the NAIC), the European Commission, and the European Insurance, and Occupational Pensions Authority have participated in a project to increase mutual understanding and enhance cooperation between the EU and the United States in order to promote business opportunity, consumer protection, and effective supervision. After focusing on gap analysis through 2012, the focus of the project shifted in 2013 to professional secrecy and confidentiality, solvency and capital requirements, and reinsurance and collateral requirements. With the IAIS developments and the finalization of the EU's oversight regime (Solvency II), new areas will be focused on in 2014.

State insurance regulators, through the NAIC, continue work on updating the insurance financial solvency framework and to refine existing accounting, reporting, valuation, and risk-based capital requirements. States continue to adopt various NAIC models or updated models related to the Solvency Modernization Initiative, including the revised Credit for Reinsurance Model Law and Regulation, the revised Model Insurance Holding Company System Regulatory Act (including the enterprise risk report), the Standard Valuation Law to implement principles-based reserving, and the Risk Management and Own Risk and Solvency Assessment Model Law, which was adopted by the NAIC in 2012 to establish the Own Risk and Solvency Assessment filing requirement. In addition, state insurance regulators continue to build on various aspects of these projects through implementation efforts at the NAIC. This includes the NAIC's approval of four international supervisory authorities as conditional qualified jurisdictions under the Process for Developing and Maintaining the NAIC List of Qualified Jurisdictions, and the rollout of the NAIC's Reinsurance Financial Analysis (E) Working Group, which among other things coordinates multi-state efforts in reviewing and addressing issues related to certified reinsurers.

The Council also will continue to monitor relevant domestic and international financial regulatory proposals and developments involving insurance.

### **6.1.6 Mortgage-related Litigation and Settlements**

Federal and state agencies reached several significant settlements in 2013 with financial institutions, including some relating to the sale of mortgage securities.

Beginning in January 2013, 15 mortgage servicing companies subject to enforcement actions for deficient practices in mortgage loan servicing and foreclosure processing reached settlements with the OCC and the Federal Reserve to provide approximately \$3.9 billion in direct cash payments to borrowers and approximately \$6.1 billion in other foreclosure prevention assistance, such as loan modifications and the forgiveness of deficiency judgments. For participating servicers, fulfillment of these agreements satisfies the foreclosure file review requirements of enforcement actions issued by the OCC, Federal Reserve, and Office of Thrift Supervision in 2011 and 2012. In addition, in December 2013, the CFPB, together with authorities in 49 states and the District of Columbia, entered into a settlement with the country's largest nonbank mortgage loan servicer, requiring it to provide consumer refunds and \$2 billion in loan modification relief.

Since January 2013, there have been settlements totaling more than \$17 billion in eight lawsuits filed by FHFA relating to financial institutions' sales of mortgage securities to Fannie Mae and Freddie Mac. The largest of these settlements were \$9.3 billion by Bank of America, \$4.0 billion by JPMorgan, \$1.9 billion by Deutsche Bank, and \$1.3 billion by Morgan Stanley.

Also, in October 2013, the Justice Department announced a \$13 billion settlement with JPMorgan to resolve federal and state civil claims arising out of the packaging, marketing, sale, and issuance of residential mortgage-backed securities (RMBS) by JPMorgan, Bear Stearns, and Washington Mutual prior to January 1, 2009. Of the \$13 billion, \$9 billion will be paid to settle federal and state civil claims by federal agencies and several states related to RMBS. This \$13 billion settlement also includes JPMorgan's settlement with the FHFA that requires it to pay out \$4 billion in the form of relief to aid consumers harmed by the conduct of JPMorgan, Bear Stearns, and Washington Mutual.

In 2013, the SEC continued its pursuit of financial institutions that misled investors in connection with the sale of MBS. The SEC brought actions against large financial institutions such as Bank of America and the Royal Bank of Scotland for their roles in the issuance of RMBS. The SEC also filed charges against broker-dealers, collateral managers, and their principals for fraud in connection with the structuring and sale of billions of dollars of collateralized debt obligations.



## 6.2 Financial Infrastructure, Markets, and Oversight

### 6.2.1 Over-the-Counter Derivatives Reform

Title VII of the Dodd-Frank Act establishes a comprehensive new regulatory framework for swaps and security-based swaps. Among other things, the legislation: (1) provides for the registration and comprehensive regulation of swap dealers, security-based swap dealers, major swap participants (MSPs), and major security-based swap participants; (2) imposes clearing and trade execution requirements on standardized derivatives products; and (3) creates robust recordkeeping and real-time reporting requirements with respect to swaps and security-based swaps. Title VII also provides for greater pre-trade and post-trade transparency in the swaps and security-based swaps markets. Under Title VII, the CFTC regulates “swaps,” the SEC regulates “security-based swaps,” and the CFTC and SEC jointly regulate “mixed swaps.”

A number of elements of the CFTC’s swaps regulatory regime became effective over the past year. The CFTC continued to phase in its implementation of the clearing mandate for certain standardized index CDS and interest rate swaps. The clearing requirement was implemented in March 2013 for swap dealers, MSPs, and private funds active in the swaps market; in June 2013 for entities including commodity pools and private funds other than active funds; and in September 2013 for all other entities. The CFTC also adopted a final rule in April 2013 exempting swaps between certain affiliated entities within a corporate group from the mandatory clearing requirement.

An important milestone for increased transparency in the swaps market was achieved in May 2013 when the CFTC adopted final rules implementing the core principles and other requirements for SEFs, where swap contracts may be listed for trading. At the same time, the CFTC also issued rules establishing the process by which a designated contract market or a SEF can submit a determination that a swap has been made available for trading for purposes of the trade execution mandate.

Over the past year, the CFTC also took significant actions to begin implementing the international regulatory framework for swaps. In July 2013, the CFTC and the European Commission announced a “Path Forward” regarding their joint understandings on a package of measures for how to approach cross-border derivatives. In the same month, the CFTC issued a final interpretive guidance and policy statement regarding the application of the CFTC’s swap regulatory regime to cross-border activities. In December 2013, the CFTC issued broad comparability determinations, covering a range of Dodd-Frank Act requirements, for a number of foreign jurisdictions. These comparability determinations would permit eligible swap counterparties to comply with local requirements rather than the corresponding Dodd-Frank Act requirements in cases where substituted compliance is available.

Other significant CFTC actions include a final interpretive statement issued in May 2013 providing guidance on statutory provisions prohibiting certain disruptive trading, practices, or conduct. In November 2013, the CFTC issued final rules imposing requirements on swap dealers and MSPs with respect to the treatment of collateral posted by their counterparties to margin, guarantee, or secure uncleared swaps. Finally, in December 2013, the CFTC issued proposed rules to establish speculative position limits for 28 exempt and agricultural commodity futures and option contracts, and physical commodity swaps that are “economically equivalent” to such contracts.

The SEC also has begun the first major phase of security-based swap regulation. In May 2013, the SEC issued comprehensive proposed rules and proposed interpretations on cross-border security-based swap activities. This proposal covers registration requirements for security-based swap dealers and major security-based swap participants; transaction-related requirements such as the reporting, dissemination, clearing, and trade execution of security-based swaps; exceptions to registration requirements; and the re-proposal of Regulation



SBSR (for security-based swap reporting), which provides for the reporting and dissemination of security-based swap information. In addition, in April 2014, the SEC proposed rules for security-based swap dealers and major security-based swap market participants, as required by the Dodd-Frank Act. The proposed rules cover recordkeeping, reporting, and notification requirements for security-based swap dealers and major security-based swap participants and would establish additional recordkeeping requirements for broker-dealers to account for their security-based swap activities.

Finally, in September of 2013, the Basel Committee on Banking Supervision and IOSCO's working group on margin requirements released the final policy framework on minimum standards for margin requirements for non-centrally cleared derivatives. The framework is designed to reduce risks related to OTC derivatives markets and provide firms with appropriate incentives for central clearing while managing the liquidity impact of the requirements. The CFTC, SEC, Federal Reserve, FDIC, OCC, FHFA, and Farm Credit Administration are working to implement rules that are generally consistent with this policy framework and the Dodd-Frank Act.

### **6.2.2 Securitization Reform**

In August 2013, the Federal Reserve, OCC, FDIC, FHFA, SEC, and HUD re-proposed a rule from 2011 to implement the requirement under the Dodd-Frank Act for securitizers to retain risk in the assets they securitize. The rulemaking is coordinated by Treasury. The risk-retention requirement is intended better to align the interests of securitizers and investors, and provide a strong incentive for securitizers to monitor the credit quality and underwriting of assets they securitize.

Under the Dodd-Frank Act, the rule must generally provide that securitizers must retain at least 5 percent of the credit risk for the assets collateralizing any ABS that they issue, unless the securitized assets or the transaction qualify for an exemption. Consistent with the statute, the reproposal would establish underwriting standards for QRMs, which would be exempt from the risk-retention requirements. The reproposal would provide sponsors of ABS with various options for meeting the risk retention requirements. The new proposal would provide for the QRM definition to equal the definition of "qualified mortgage" (QM) established by the CFPB in 2013. The reproposal also requested comment on an alternative definition of QRM that would include certain underwriting standards in addition to the QM criteria.

### **6.2.3 Money Market Mutual Fund Reform**

In June 2013, the SEC proposed further reforms for the regulation of MMFs. The reforms were intended to make MMFs less susceptible to runs that could threaten financial stability and harm investors. The SEC's proposal includes two principal reforms that could be adopted alone or in combination. One alternative would require a floating NAV for prime institutional MMFs. The other alternative would allow the use of liquidity fees and redemption gates in times of stress. The proposal also includes additional diversification, disclosure, and stress testing measures that would apply under either alternative. The public comment period has closed, and the SEC is currently reviewing the comments and working to develop a final rule.

The SEC began evaluating the need for MMF reform after the Reserve Primary Fund "broke the buck" at the height of the financial crisis in September 2008. In 2010, the SEC adopted reforms enhancing the risk-limiting conditions on MMFs by reducing maturities, improving credit quality and imposing new liquidity requirements. The SEC's proposed rules would supplement the 2010 reforms. In November 2012, the Council issued for public comment a proposed recommendation that the SEC implement structural reforms to mitigate the vulnerability of MMFs to runs. The Council's proposed recommendation was issued under Section 120 of the Dodd-Frank Act. Under Section 120, if the Council determines that a financial activity or practice conducted by BHCs or nonbank financial companies could create or increase the risk of certain

problems spreading among financial companies or markets, the Council may, after seeking public comment, issue recommendations to the relevant regulator to apply new or heightened standards or safeguards.

#### **6.2.4 Credit Rating Reforms**

Section 939A of the Dodd-Frank Act requires each federal agency to modify its regulations to remove any reference to, or requirement of reliance on, credit ratings and to substitute in its regulations a standard of credit-worthiness that the agency determines is appropriate. In 2013, agencies including the FDIC, Federal Reserve, NCUA, OCC, SEC, and the Internal Revenue Service continued to implement this requirement by amending their rules. Previously, other agencies including the CFTC and FHFA had adopted rules implementing Section 939A.

#### **6.2.5 Accounting Standards**

In December 2012, the Financial Accounting Standards Board (FASB) issued for public comment a proposal to improve financial reporting by moving to an expected credit loss model for loans and other financial assets. The proposal, Financial Instruments—Credit Losses (Subtopic 825-15), is intended to require more timely recognition of credit losses, while also providing additional transparency about credit risk. Currently, under U.S. GAAP, credit losses are generally not reflected in financial statements until it is probable that the losses have been incurred. Under the proposal, a firm's balance sheet would reflect management's current estimate of expected credit losses at the reporting date (as an allowance for credit losses), and the income statement would reflect all changes in expected credit losses (as a provision for credit losses). The FASB's final standard is expected to be issued by the end of 2014. While the FASB's and the International Accounting Standards Board's (IASB) approaches on expected credit losses will not be converged, the final standards will represent a significant change from the current incurred loss credit impairment model.

In February 2013, the FASB issued for public comment a proposal to improve financial reporting by providing a comprehensive framework for classifying and measuring financial instruments. Under the proposal, the classification and measurement of a financial asset would be based on the asset's cash flow characteristics and the entity's business model for managing the asset. In November 2012, the IASB had proposed amendments to its financial instruments accounting standards that would also classify and measure financial assets based on cash flow characteristics and business model assessments, although some parts of the two boards' proposals differed. However, in December 2013 and January 2014, the FASB decided that it would not continue to pursue the proposed contractual cash flow characteristics and business model assessments. In March 2014, the FASB decided to retain the separate models in existing U.S. GAAP for determining the classification of loans and securities, but directed staff to analyze whether changes are needed to the current definition of a security. The FASB's final standard is expected to be issued by the end of 2014.

In May 2013, the FASB, jointly with the IASB, issued a revised proposal for public comment to increase transparency and comparability among organizations that lease assets (as lessor or lessee), updating a joint proposal from August 2010. The revised proposal would create a new approach to lease accounting, the core principle of which would be that both a lessee and a lessor organization should recognize assets and liabilities arising from a lease on the balance sheet. Existing lease accounting standards have been criticized for failing to meet the needs of financial statements users. In March 2014, the FASB and IASB began redeliberations on the revised proposal and reaffirmed that all leases would be recognized on the balance sheet by lessees, while current lessor accounting would remain substantially unchanged. However, based on the FASB's decisions, most existing operating leases would continue to have straight-line expense and most existing capital leases would continue to have accelerated lease expense. The boards will continue redeliberations during 2014 to try and reach a converged solution.

The FASB and the IASB also are in the process of finalizing standards on revenue recognition. U.S. GAAP comprises broad revenue recognition concepts and numerous requirements for particular industries or transactions that can result in different accounting for economically similar transactions. International Financial Reporting Standards have fewer requirements on revenue recognition. To resolve these inconsistencies, the FASB and the IASB initiated a joint project to develop a common revenue standard for U.S. GAAP and International Financial Reporting Standards. The initial proposal to amend revenue recognition rules was issued in June 2010. After receiving comments, an amended exposure draft was issued in November 2011, and proposed amendments to U.S. GAAP were released in January 2012. In November 2013, the FASB completed its discussions on revenue recognition, and a final standard is expected to be issued in the first half of 2014.

In June 2013, the FASB issued for public comment a proposal to improve the financial reporting of insurance contracts. The proposal would have required contracts that transfer significant insurance risk to be accounted for in a similar manner, regardless of the type of institution issuing the contract. In contrast, existing U.S. GAAP for insurance contracts only applies if the entity providing insurance is an insurance company. The IASB also issued an insurance proposal in June 2013 that is similar in some respects to the FASB proposal. The FASB began redeliberations on its proposal in February 2014 and, in light of feedback, decided to limit the scope of the project to insurance entities as described in existing U.S. GAAP and to focus on making targeted improvements to existing U.S. GAAP. A completion date for the project has not been established.

## **6.3 Consumer and Investor Protection**

### **6.3.1 Mortgage Transactions and Housing**

In December 2013, the CFPB published a final rule and forms that combine several federal disclosures that a consumer receives in connection with applying for and closing on a mortgage loan under Regulation Z (which implements the Truth in Lending Act (TILA)) and Regulation X (which implements the Real Estate Settlement Procedures Act (RESPA)).

For more than 30 years, federal law has required a lender to provide different sets of disclosures to a consumer who applies for and closes on a mortgage loan: one under TILA and the other under RESPA. Two different federal agencies separately had developed the required disclosures. The information on the TILA and RESPA disclosure forms is overlapping and the language is inconsistent. Pursuant to a mandate in the Dodd-Frank Act, the CFPB integrated the mortgage loan disclosures required under TILA and RESPA. After engaging in extensive consumer and industry outreach and testing and considering the comments on the proposed rule, the CFPB issued the integrated disclosures in a final rule.

The final rule also provides a detailed explanation of how the forms should be filled out and used. The first new form, called the Loan Estimate, is designed to provide information to a consumer when the consumer applies for a mortgage loan so that the consumer can understand the key features, costs, and risks of the loan. The Loan Estimate form must be sent to the consumer no later than three business days after the creditor receives the consumer's application. The second new form, called the Closing Disclosure, is designed to provide information to a consumer to understand all of the costs of the mortgage loan transaction, and must be provided to the consumer no later than three business days prior to closing on the loan.

In developing the Loan Estimate and Closing Disclosure forms, the CFPB reconciled the differences between the existing TILA and RESPA disclosures, and combined several other mandated disclosures, including an appraisal notice under the Equal Credit Opportunity Act and a servicing application disclosure under RESPA. The rule also makes certain changes to reduce the risk that consumers will be surprised at the

closing table. These changes include requiring that closing information be provided three days in advance and placing certain further restrictions on increases in charges disclosed on the Loan Estimate. The final rule is effective on August 1, 2015, and applies to transactions for which the creditor or mortgage broker receives an application on or after that date, subject to certain exceptions.

In January 2013, the CFPB issued several rules implementing new consumer protections for the mortgage market as mandated in the Dodd-Frank Act. First, the CFPB issued a final rule, known as the ability-to-repay/QM rule, implementing a requirement of the Dodd-Frank Act that creditors make a reasonable, good-faith determination at the time of consummation that a consumer has a reasonable ability to repay a mortgage. The ability-to-repay/QM rule is designed, in part, to promote the stability of the financial system by aligning the consumer's interest in obtaining a loan that he or she can afford with the lender's interest in originating a loan that is a viable asset. The ability-to-repay requirements contained in the CFPB's Regulation Z generally prohibit a creditor from using unverified information about a consumer's income and debt and from underwriting a loan based only on low "teaser" rates. Certain mortgages, called QMs, that meet specific criteria set forth in the rule are entitled to a presumption of compliance with the ability-to-repay requirements. A QM that is a higher-priced mortgage loan is subject to a rebuttable presumption of compliance, while a QM that is not higher priced receives a safe harbor from a claim alleging a violation of the ability-to-repay requirements.

The CFPB rules generally require that a consumer's backend debt-to-income (DTI) ratio may not exceed 43 percent for a QM, with some exceptions. In particular, to help ensure access to credit while the market adjusts to the new regulations, the CFPB rules provide that for the next several years, certain loans that are eligible for purchase, guarantee, or insurance by the government sponsored entities and certain federal agencies shall be deemed QMs even if the DTI ratio exceeds 43 percent.

The CFPB subsequently amended the ability-to-repay rule in 2013, so as to exempt certain creditors and lending programs from the ability-to-repay requirements, facilitate compliance by and to preserve access to credit from small creditors, and modify the requirements regarding the inclusion of loan originator compensation in the QM 3 percent points and fees cap. In particular, the CFPB adopted exemptions from the ability-to-repay requirements for creditors designated by certain federal government agencies under specified community development lending programs, as well as for creditors designated as nonprofit organizations that extend credit secured by a dwelling no more than 200 times annually, provide credit only to low-to-moderate income consumers, and follow their own written procedures to determine that consumers have a reasonable ability to repay their loans.

Among other amendments designed to preserve access to credit for customers of small creditors, the CFPB raised the threshold for determining when a QM is deemed to be a higher-priced mortgage. This amendment expands the ability of small creditors to receive the safe harbor under the ability-to-repay requirements. The amendments also exempt a small creditor from the 43 percent DTI requirement for QMs the creditor holds in its portfolio, so long as the creditor considers DTI ratios or residual income according to its own internal criteria. Finally, in October 2013 the CFPB, Federal Reserve, FDIC, NCUA, and OCC issued interagency guidance to address issues regarding fair lending risks associated with offering only QMs.

Under the new rules, certain loans eligible for purchase by Fannie Mae and Freddie Mac will be deemed QMs under the temporary QM category described above. These loans need not meet the 43 percent DTI ratio cap. However, a jumbo loan generally may receive QM status only if that loan meets the 43 percent DTI requirement, and a loan with certain product features or with points and fees in excess of the general

3 percent cap is not eligible for QM status. In response to the CFPB's rules, FHFA directed Fannie Mae and Freddie Mac to refrain from purchasing a loan that is subject to the "ability to repay" rule if the loan is not fully amortizing, has a term of longer than 30 years, or includes points and fees in excess of 3 percent of the total loan amount generally. Effectively, this means that Fannie Mae and Freddie Mac may not purchase interest-only loans, loans with 40-year terms, or those with points and fees exceeding the thresholds established by the rule.

The CFPB's rules also address concerns with regard to servicers' policies and procedures regarding recordkeeping, servicing transfers, loss mitigation, and other topics. The new rules generally require that servicers provide consistent monthly statements, expand and improve their information request and error resolution procedures, and provide certain disclosures to consumers before imposing force-placed insurance. The new rules also direct servicers to improve communications with borrowers who are having difficulty repaying their loans. Servicers must reach out to troubled borrowers within 36 days of delinquency, provide continuity of contact with trained personnel, and process applications for loan modifications and other foreclosure relief consistent with specified timelines and procedures.

In January 2013, the CFPB also issued mortgage servicing rules to implement several protections mandated by the Dodd-Frank Act. Over the course of 2013, the CFPB amended certain provisions of the mortgage servicing rules to clarify the scope and application of the rules. Small servicers are exempt from several of the provisions. In January 2013, the CFPB also issued rules to implement requirements under the Dodd-Frank Act concerning mortgage loan appraisals, loan originator compensation and training, high-cost mortgage loans, the use of agreements requiring arbitration of disputes concerning mortgage loans, mandatory escrow accounts for certain higher priced mortgage loans, and various other topics. The CFPB made some minor clarifications and adjustments to these rules over the course of 2013.

In January 2013, the Federal Reserve, FDIC, OCC, FHFA, CFPB, and NCUA jointly issued a final rule that established new appraisal requirements for higher-priced mortgage loans. Under the Dodd-Frank Act, mortgage loans are higher-priced if they are secured by a consumer's home and have annual percentage rates above certain thresholds. In December 2013, the agencies approved a supplemental rule that exempts a subset of higher-priced mortgage loans from certain appraisal requirements. As mandated by the Dodd-Frank Act, in March 2014 these agencies issued a proposed rule that would implement minimum requirements for state registration and supervision of appraisal management companies.

The FHFA and CFPB also have continued their work on the construction of a National Mortgage Database, the core of which consists of a nationally representative rolling 5 percent sample of originated mortgages, matched with credit bureau data and supplemented by survey data. This database is intended to provide regulators with an unprecedented understanding of mortgage market dynamics.

### **6.3.2 Consumer Protection**

Among its authorities, the CFPB may supervise certain nonbank entities, including mortgage companies, private education lenders, payday lenders, "larger participants" of a market for other consumer financial products and services, and any nonbank covered person that the CFPB has reasonable cause to determine is engaging or has engaged in conduct that poses risks to consumers with regard to the offering or provision of consumer financial products or services. In July 2013, the CFPB issued a rule to establish procedures by which the CFPB would bring a nonbank covered person under the CFPB's supervisory authority because the person's conduct poses risks to consumers. The CFPB's procedural rule is designed to establish a consistent framework applicable to all affected entities, and thereby provide transparency regarding the procedures the CFPB would use prior to commencement of a proceeding to notify and give an affected entity an opportunity to respond to the CFPB's proposed order to supervise the entity.



In December 2013, the CFPB issued another in its series of rules to define “larger participants” of specific markets for purposes of establishing, in part, the scope of the CFPB’s nonbank supervision program. The CFPB’s larger-participant rule defines a market for “student loan servicing” activities, which covers the servicing of both federal and private student loans. The rule provides that a person who engages in student loan servicing would be a larger participant, and thus subject to the CFPB’s supervisory authority, if the account volume of the person and its affiliates exceeds one million.

### **6.3.3 Investor Protection**

The SEC issued a final rule in July 2013 implementing Section 926 of the Dodd-Frank Act, prohibiting directors, officers, and other covered persons from relying on the exemption under Rule 506 under the Securities Act of 1933 for a securities offering if any of these individuals are subject to criminal convictions, disciplinary orders, or other administrative proceedings for wrongful acts, false representations, or other disqualifying events.

In addition, in July 2013, the SEC adopted rule amendments to strengthen the audit requirements for broker-dealers and enhance oversight of the way broker-dealers maintain custody of their customers’ assets. Among other things, the amendments require that broker-dealer audits be conducted in accordance with standards of the Public Company Accounting Oversight Board as provided by the Dodd-Frank Act. In addition, broker-dealers are required to file a new form that elicits information about the broker-dealer’s practices with respect to the custody of securities and funds of customers and non-customers so that regulators can better monitor custody practices and oversee security of customer assets.

In September 2013, the SEC adopted rules establishing a permanent registration regime for municipal advisors, as required by the Dodd-Frank Act. The new rules require a municipal advisor to permanently register with the SEC if it provides advice on the issuance of municipal securities or about certain investment strategies or municipal derivatives. As a result of these rules, municipal advisors will be subject to a comprehensive regulatory regime when they provide advice to municipalities.

## **6.4 Data Standards**

Data standards improve the clarity and quality of data by providing an unambiguous and universally accepted meaning, thus increasing confidence in the data, and enabling comparison, aggregation, sharing, and exchange. Adoption of data standards also reduces the need for costly conversion when exchanging data. Building, adopting, and using standards for financial data will promote financial stability monitoring and both better risk management and lower-cost regulatory reporting by firms.

The financial industry, the Council, and the Council’s members are increasingly focused on the need for data standardization. Many industries have found that sector-wide standardization can reduce costs and improve efficiency. The OFR works on behalf of the Council to participate as appropriate in industry standards-making bodies, such as the Mortgage Industry Standards Maintenance Organization, to ensure that regulatory needs are satisfied in data standard design. The SEC’s new Market Information Data Analytics System (MIDAS), introduced in 2013, is an example of regulators’ response to increasing amounts of data generated by financial markets. On a typical trading day, MIDAS collects roughly a billion price quotes and trades from 13 U.S. stock exchanges. Tools like MIDAS require significant data standardization.

### **6.4.1 Legal Entity Identifier**

The progress of the global LEI is evidence of the Council and the international community recognizing the need for data standards. The LEI is a code that uniquely identifies parties to financial transactions instantly and precisely. It is the first non-proprietary global unique entity identifier. The LEI is expected to reduce



regulatory reporting burden and generate considerable cost savings for the financial industry in collecting, cleaning, and aggregating data. The LEI is a key identifier for enabling better monitoring of risks in the financial system.

To date, 13 organizations have issued more than 250,000 codes in 178 countries. Council member agencies have played a key role throughout the LEI development process, leading work streams, and working with other regulators and industry to provide recommendations to the G-20 to guide the governance, development, and implementation of the global LEI system. The OFR's Chief Counsel currently serves as the Chair of the LEI's Regulatory Oversight Committee, and representatives of the Federal Reserve, SEC, CFTC, OCC, and FDIC sit on this committee. The Global LEI Foundation is being established in Switzerland to oversee the system. The foundation's board of directors was nominated in December 2013 and was endorsed by the FSB in January 2014. It will have authority over a global federation of local operating units to ensure adherence with LEI governing principles.

Mandatory reporting uses of the LEI will facilitate the rapid deployment of the LEI. LEIs are already required for counterparty identification in the CFTC's and the European Securities and Markets Authority's swap data reporting requirements and are optional for reporting by private fund investment advisers on the SEC's Form PF. The European Banking Authority has decided to recommend the use of LEIs as unique identification codes for supervisory purposes for every credit and financial institution in the EU. The Council's Data Committee is evaluating how to expand the use of the LEI in U.S. regulatory and reporting requirements.

#### **6.4.2 Mortgage Industry**

Regulators are working to adopt data standards in the mortgage industry. As with LEIs, adoption of such standards offers the benefits of improved data quality, increased efficiency and effectiveness of data sharing among regulators, and decreased costs for regulatory reporting by the industry. The Dodd-Frank Act amended the Home Mortgage Disclosure Act to allow the CFPB to require a UMI, if deemed appropriate. The CFPB convened a Small Business Review panel in March 2014 to consider a number of issues in Home Mortgage Disclosure Act reporting, including the use of both the LEI and a UMI.

Given the size, complexity, and fragmented nature of the mortgage system, regulators need a clear and consistent identifier of each mortgage. The Mortgage Industry Standards Maintenance Organization created placeholders in its standards for the LEIs of financial institutions involved in each loan, from origination through servicing and securitization of mortgages. A recent OFR working paper described how a universal mortgage identifier could improve aggregation, comparability, and analysis in the U.S. mortgage industry. During the financial crisis, the lack of a mortgage identifier made it difficult for lenders and regulators to have a consistent understanding of trends in originations, underwriting standards, performance, and loan modifications. A unique mortgage identifier designed to protect individual privacy has the potential to be beneficial in this regard.

The Uniform Mortgage Data Program is an ongoing initiative implemented by the FHFA and the GSEs to improve the consistency, quality, and uniformity of data collected at the beginning of the lending process, as well as for servicing data. Developing standard terms, definitions, and industry standard data-reporting protocols will decrease costs for originators and appraisers, reduce repurchase risk, and also allow new entrants to use industry standards rather than having to develop their own proprietary data systems.

#### **6.4.3 Swap Data Repositories**

Promoting standardization and transparency in the OTC derivatives or swaps market is a priority for the Council and the international regulatory community. At the 2009 Pittsburgh summit, G-20 leaders

committed to several reforms to strengthen the OTC derivatives markets and improve transparency and regulatory oversight. One of the main elements of these reforms was the mandated reporting of OTC derivative transactions. OTC derivatives products have historically been among the least-standardized financial instruments. The Dodd-Frank Act established a new regulatory framework for OTC derivatives, under which all swap transactions must be reported to new entities known as SDRs or SBSDRs.

The CFTC has issued rules identifying specific fields that must be reported for every swap and for classes of swaps. Those rules require the use of the LEI as well as the Unique Product Identifier, which categorizes swaps according to certain underlying information, and the Unique Swap Identifier, which identifies individual swaps, where available.

SDRs for interest rate, credit, equity, FX, and other commodity asset classes under the CFTC's jurisdiction are required to publicly disseminate real-time swap transaction data for these swap transactions, such as transaction prices and sizes, "as soon as technologically practicable" after the SDR receives such data, unless the transaction is subject to a time delay. Additionally, all trades are subject to delays during the phase-in of the CFTC reporting rules. The CFTC has begun reporting aggregated swap data (such as aggregate numbers of trades and aggregate gross notional amounts) in weekly reports that combine data from the SDRs. These reports have recently estimated gross notional amounts reported at over \$390 trillion.

There are four SDRs in the United States. In an effort to reduce burden, the CFTC required the SDRs to report transactions, but did not specify reporting standards regarding data definitions or formats. However, data standards are essential to enable data aggregation across SDRs and across asset classes. The CFTC, with support from other Council member agencies, is working to improve and harmonize data reporting by SDRs.

Legislation in several key jurisdictions has led to a proliferation of trade repositories (internationally, SDRs are referred to as trade repositories). However, in many jurisdictions, the legal framework for reporting derivatives transactions limits authorities' ability to obtain access to the information. In the United States, authorities (other than the CFTC or SEC, as applicable) face obstacles obtaining access to data reported to and maintained in registered SDRs without agreeing to confidentiality requirements and to indemnify the SDR and the CFTC or SEC for litigation expenses relating to the information provided. This and other obstacles restricting authorities' access to trade repository data run counter to the G-20's goals of practical and effective access for authorities and enhanced market transparency. With limited access to data, authorities, including certain Council members and member agencies, are unable to carry out fully their mandates to monitor systemic risk and identify potential emerging threats.

The FSB, Committee on Payment and Settlement Systems, and IOSCO have recognized the importance of standards in derivatives data reporting and the challenges posed by the fragmentation of derivatives data across global trade repositories. Disparate reporting rules, a lack of uniform data standards, and varying rules for authorities' access to data across jurisdictions makes analysis of the global derivatives market difficult. To fulfill their mandates, authorities may need to combine data from trade repositories within and across jurisdictions. In 2013, the FSB called for the creation of the Aggregation Feasibility Study Group to study how to ensure that data reported to trade repositories can be effectively used by authorities and options for producing and sharing global aggregated trade repository data. The Aggregation Feasibility Study Group includes representatives of the CFTC, Federal Reserve, FRBNY, and Treasury. The FSB published a consultative report in February 2014, and a final report is expected to be published in mid-2014.

## 6.4.4 Other Interagency Data Initiatives

### Interagency Data Inventory

In January 2014, the OFR published an excerpt of its interagency data inventory for describing data that the Council member agencies collect from financial institutions. The inventory described almost 500 separate forms currently used in regulatory oversight by Council member agencies. The inventory is intended to help the OFR and member agencies identify potential gaps in data collection, with the goal of enabling an evaluation of what, how, and by whom data is being reported. The inventory may also facilitate identification of any overlaps in collections.

### Private Fund Data

In July 2013, the SEC released a report on the use of data and records on private investment funds derived from the new Form PF. The SEC has received a complete set of initial filings from registered investment advisers on the form. As of mid-2013, private funds were reporting on more than \$7 trillion in regulatory AUM with Form PF. The Council and OFR are using certain Form PF data to evaluate potential risks to financial stability. The OFR published preliminary results from analysis of Form PF data in its 2013 annual report, including analysis of leverage and VaR. SEC staff has begun to assess the quality of the data collected—including evaluating the consistency of filer responses and differences in approaches or assumptions made by filers—and has used the data to obtain information regarding certain private funds. The SEC also has identified a number of uses of the information, including incorporating Form PF data into SEC analytical tools, using Form PF information to monitor the risk-taking activities of investment advisers to private funds, conducting pre-examination due diligence and in risk identification, and providing certain aggregated Form PF data to IOSCO regarding large hedge funds to offer a more complete overview of the global hedge fund market.

## 6.5 Council Activities

### 6.5.1 Determination of Nonbank Financial Companies to be Supervised by the Federal Reserve

One of the Council's statutory authorities is to determine that a nonbank financial company will be subject to supervision by the Federal Reserve and enhanced prudential standards if the company's material financial distress—or the nature, scope, size, scale, concentration, interconnectedness, or mix of its activities—could pose a threat to U.S. financial stability. The Council's authority to make these determinations is an important tool to help mitigate potential threats posed by these companies to U.S. financial stability. The Dodd-Frank Act sets forth the standard for the Council's determinations regarding nonbank financial companies and requires the Council to take into account 10 specific considerations when evaluating those companies. To further inform the public of the Council's framework and processes for assessing nonbank financial companies, the Council issued a rule and interpretive guidance, beginning with the release of an advance notice of proposed rulemaking at its first meeting in October 2010.

The Federal Reserve issued a final rule in April 2013 establishing the requirements for determining if a company is “predominantly engaged in financial activities.” A company that falls within this definition is eligible for a determination by the Council that the company could pose a threat to U.S. financial stability and will be supervised by the Federal Reserve and subject to enhanced prudential standards. For the purposes of Title I of the Dodd-Frank Act, a company is predominantly engaged in financial activities if 85 percent or more of its revenues or assets are derived from or related to activities that are “financial in nature” under the Bank Holding Company Act.

In 2013, the Council made its first determinations regarding nonbank financial companies. The Council voted in July to make final determinations regarding American International Group (AIG) and General

Electric Capital Corporation. In September, the Council voted to make a final determination regarding Prudential Financial. The basis for each final determination is available on the Council's website.

The Council's three determinations in 2013 followed the process laid out in the Council's rule and guidance. Each of the nonbank financial companies subject to a Council determination received a letter in June 2013 informing it that the Council had made a proposed determination and providing it with an explanation of the basis of the Council's proposed determination. Each company then had 30 days to request a hearing to contest the Council's proposed determination. Neither AIG nor General Electric Capital Corporation requested a hearing. The Council conducted a hearing for Prudential Financial in July 2013.

### **6.5.2 Risk Monitoring and Regulatory Coordination**

The Dodd-Frank Act charges the Council with responsibility to identify risks to U.S. financial stability, promote market discipline, and respond to emerging threats to the stability of the U.S. financial system. The Council also has a duty to facilitate coordination among member agencies and other federal and state agencies regarding financial services policy and other developments. The Council regularly examines significant market developments and structural issues within the financial system. For example, over the past year, the Council has considered issues such as market volatility, the government shutdown and debt ceiling impasse, interest rate risk, economic developments in Europe and emerging economies, housing finance reform, the NASDAQ trading halt in August 2013, and risks to financial stability arising from cybersecurity vulnerabilities. The Council will continue to monitor potential threats to financial stability, whether from external shocks or structural weaknesses, and to facilitate coordination among federal and state agencies.

To facilitate this risk monitoring process, the Council established the Systemic Risk Committee (SRC), composed primarily of member agency staff in supervisory, monitoring, examination, and policy roles. The SRC serves as a forum for member agency staff to identify and analyze potential risks that may extend beyond the jurisdiction of any one agency.

The OFR plays an important role in the activities of the Council. In 2013, the OFR reported regularly to the SRC on developments in financial markets. In its 2013 annual report, the OFR issued a prototype Financial Stability Monitor that assesses risks to the financial system based on five areas of risk: macroeconomic, market, credit, funding and liquidity, and contagion.

### **6.5.3 Study on Asset Management and Financial Stability**

In September 2013, the OFR released a report requested by the Council that provided an overview of the asset management industry and an analysis of how asset management firms and their activities could introduce vulnerabilities into the financial system. The Council had requested the report to inform its analysis of potential threats asset management activities or firms might pose to financial stability.

The OFR's report noted that asset management activities and firms differ from commercial banking and insurance activities in that asset managers act primarily as agents, managing assets on behalf of clients as opposed to investing on the managers' behalf. Nonetheless, the report stated that some asset management activities could give rise to threats to financial stability if improperly managed or accompanied by the use of leverage, liquidity transformation, or funding mismatches. For example, the report discussed risk-taking in separately managed accounts and the reinvestment of cash collateral in securities lending transactions. The report also noted that significant data gaps hamper analysis of the industry. The Council is considering potential next steps with regard to asset management.

#### **6.5.4 Operations of the Council**

The Dodd-Frank Act requires the Council to convene no less than quarterly. In 2013, the Council met 10 times. The meetings bring Council members together to discuss and analyze market developments, threats to financial stability, and financial regulatory issues. While the Council's work frequently involves confidential supervisory and sensitive information, the Council is committed to conducting its business as openly and transparently as practicable. Consistent with the Council's transparency policy, the Council opens its meetings to the public whenever possible. The Council held a public session at two of its meetings in 2013.

Approximately every two weeks, the Council's Deputies Committee, which is composed of senior representatives of Council members, convenes to discuss the Council's agenda and to coordinate and oversee the work of the SRC and the five other functional committees. The other functional committees are organized around the Council's ongoing statutory responsibilities: (1) identification and consideration of nonbank financial companies for designation; (2) identification and consideration of FMUs and payment, clearing, and settlement activities for designation; (3) making recommendations to primary financial regulatory agencies regarding heightened prudential standards for financial firms; (4) consultation with the FDIC on OLA and review of the resolution plan requirements for designated nonbank financial firms and the largest BHCs; and (5) the collection of data and improvement of data-reporting standards.

The ability to share data among Council members with confidence that the data will be maintained securely is important to the Council. To help accomplish this objective, the Council's Data Committee developed a framework that builds on existing standards and agreements to enable the secure sharing of data among Council member agencies. Each agency retains the discretion to determine how to apply the framework internally, based on the unique nature of that agency's organization or mission.

In 2013, the Council adopted its fourth budget. In addition, the Council fulfilled its obligations under the Freedom of Information Act (FOIA) by responding to FOIA requests in accordance with the Council's FOIA regulation, and complied with the Council's transparency policy by conducting its business in an open and transparent manner whenever possible.

#### **6.5.5 Section 119 of the Dodd-Frank Act**

Section 119 of the Dodd-Frank Act provides that the Council may issue non-binding recommendations to member agencies on disputes about the agencies' respective jurisdiction over a particular BHC, nonbank financial company, or financial activity or product. (Certain consumer protection matters, for which another dispute mechanism is provided under Title X of the Act, are excluded.) To date, no member agency has approached the Council to resolve a dispute under Section 119.

## BOX G: Governance and Transparency

The Council seeks to maximize transparency and accountability while also protecting the market-sensitive and confidential information that it regularly considers. Achieving this balance has been a priority for the Council since its first meeting in October 2010, when it adopted its publicly available bylaws and transparency policy. The Council opens its meetings to the public whenever possible and will continue to seek opportunities for public engagement. For example, in December 2013, for the first time, a representative from the private sector presented at a public meeting of the Council.

The Council undertook a review of its governance and transparency policies in 2013 and early 2014 to help ensure that these policies remain appropriate. The review included consideration of the practices of other organizations with similar structures, memberships, or responsibilities as the Council. As a result of this work, the Council is considering several enhancements to its transparency policy and the adoption of bylaws for its Deputies Committee. These efforts are intended to help the Council achieve its goal of maximizing transparency and accountability, while continuing to protect the confidentiality of sensitive information. Some of the changes would formalize or expand on existing practices of the Council, such as providing public notice at least seven days before all regularly scheduled Council meetings and releasing a brief summary of the topics discussed immediately after each meeting, in order to provide the public with information about Council proceedings well in advance of the release of the official minutes for each meeting.

The Deputies Committee bylaws would further clarify the purpose, duties, and composition of the committee.

Information about the Council's governance is available at [www.fsoc.gov](http://www.fsoc.gov).



### 7.1 Risk of Reliance Upon Short-Term Wholesale Funding

The risk of fire sales continues to be a major source of financial instability in the tri-party repo market. This instability is particularly acute because of the large size of the tri-party repo market and the potential vulnerability emanating from liquidity pressures that could force many investors to sell assets simultaneously.

Repos and securities borrowing transactions provide a means for participants to enter into short sales and broker-dealers to meet their settlement obligations. The tri-party repo market is used by broker-dealers to finance their securities inventories and client securities. Funding in this market is primarily provided by MMFs, securities lenders, and other institutional cash investors such as mutual funds, insurance companies, corporate treasurers, and state and local government treasurers.

There are two types of fire-sale risk: Pre-default fire sales occur when a dealer begins to lose access to market sources of funding and must sell its securities quickly. Post-default fire-sales occur when a dealer defaults and its investors receive its repo collateral in lieu of cash repayment, and sell that collateral in an uncoordinated and rapid manner.

Large broker-dealers' tri-party repo books range between \$100 and \$150 billion. The collateral is mainly government securities, but the size of these positions can dwarf the amount a single investor could expect to sell without pushing prices lower on a given day. The liquidation risk is even greater for less-liquid, lower quality collateral.

MMFs and securities lenders constitute more than half of the investor base in tri-party repo. These firms are vulnerable to same-day calls for liquidity, creating strong pressure to sell assets quickly if needed to generate that liquidity. MMFs can experience runs when perceived by shareholders to have worrisome risk exposures. This vulnerability was evident following the bankruptcy of Lehman Brothers, when investors withdrew approximately \$300 billion (10 percent of assets) from prime MMFs in a couple of days. Lenders of securities typically include mutual funds, pensions, insurers, and other asset managers that own securities and can enhance returns by lending securities. Because most securities lending is done against cash collateral, securities lenders, or their agent often hold large pools of cash collateral, which they reinvest to enhance their return. Most securities lending is done on an open maturity basis, which means that the lender of a security has to return the cash collateral as soon as the borrower returns the security, and can face the need to generate liquidity quickly to make that return.

Pre- and post-default fire sales require different risk mitigants. Regulators of broker-dealers can examine firms to assess their management of rollover risk, the maturity of their repo books, their single-day concentrations, and their capital and liquidity resources. But no single regulator has an ability to impose a coordination mechanism to support orderly liquidations across all investors in the market. Market participants will be critically important in defining a solution to this collective action problem.

### 7.2 Developments in Financial Products, Services, and Business Practices

The financial system is constantly evolving. New products, services, and business practices are being developed, and existing products are undergoing changes or being used in new ways or with greater frequency. These changes can occur for a variety

of reasons, including improvements in technology that make new practices possible, new or changing regulations, and competition between financial institutions for customers.

Financial evolution provides a number of benefits to the financial system. Investors and consumers gain access to new products. New products and services also may serve the needs of financial institutions. Along with these benefits come new challenges to supervisors and regulators. For example, as regulators institute new regulations, products or services are often developed that attempt to weaken the effectiveness of these regulations. In other cases, activities may move outside of the regulatory perimeter or move from a heavily regulated entity to an entity that is less regulated. Still, other innovations may result in products or services where the interests of the provider are not aligned with the interests of the consumer.

While at times it is possible to evaluate the benefits of an innovation early on, more often than not it is difficult to determine whether an innovation will be beneficial to the financial system. As a result, authorities are confronted with the need to make a judgment about the potential net benefits of a new practice. Because it is impossible to foresee how even seemingly beneficial innovations will ultimately be utilized, that judgment can be very difficult.

An example may shed some light on this difficult determination. CDS were introduced in the early 1990s. CDS allow the buyers of the contracts to transfer the credit risk associated with fixed income products to the sellers of the contracts. The ability to set a market price for the credit risk of a fixed income product was an important, positive change for financial markets, and when the market was relatively small, few questioned the product. The market grew and evolved until the notional value of CDS contracts outstanding was over \$60 trillion in 2007, and CDS were being written on increasingly complex structured products. Concerns arose about lack of transparency, flaws in record keeping, and the misjudgment of risk that some market participants appeared to have with respect to their CDS positions. Ultimately, some of these issues

contributed to the problems that led to the federal bailout of AIG during the financial crisis.

The changing landscape of the post-financial crisis world has fostered many innovations. What follows are examples of developments in products, services, and business practices that Council member agencies are currently aware of and are monitoring so as to understand the potential benefits and risks. We list these in order to illustrate the many ways in which innovation is manifested in the current financial landscape and the need for Council member agencies to remain vigilant.

- MSR are increasingly being transferred to nonbank mortgage servicing companies. While the CFPB and state regulators have some authority over these companies, many of them are not currently subject to prudential standards such as capital, liquidity, or risk management oversight. Further, in many cases, mortgage investors' ability to collect on mortgages is dependent on a single mortgage servicing company, where failure could have significant negative consequences for market participants.
- Banks are building in optionality to the money market instruments they issue to raise funding. Some instruments give investors the option to put paper back to the bank ahead of the maturity date. Others allow the bank to call the paper prior to its scheduled maturity. These options satisfy investors' needs for liquidity, but they serve other purposes as well. For example, some institutions have been issuing debt with an embedded call option, despite the additional cost. The willingness to bear this cost appears to be driven by these institutions' belief that they do not need to hold liquid assets against these liabilities provided they call them 30 or more days prior to maturity. However, to the extent that this practice creates expectations of future callbacks, a deviation from this practice can be interpreted as a negative signal by market participants.
- High demand for single-family rental properties and low price-to-rent ratios appear to have

attracted new investors to the single-family rental property market. Late last year, the first securitization of income from single-family rental properties was issued. However, since developments in this area are new, there is uncertainty about how they will impact the housing finance market, renters, and investors.

- In the insurance industry, life insurance companies have increasingly used affiliated captive reinsurers to address perceived redundancies in statutory reserves, and for other reasons. However, some state insurance regulators have expressed concern about this practice and how it affects the overall reserve and capital levels of the company.
- Pension plans are transferring their exposure to longevity risk to the insurance industry. In some instances, both the asset risk and the longevity risk are transferred to an insurance company. In other instances, pension plans are keeping the asset risk but transferring the longevity risk outright to the insurance industry. This business migration moves risk between spaces with different regulations. While this migration has the potential to provide significant benefits to pension plan participants as well as the insurance industry, it also has the potential of transferring significant amounts of risk to the insurance industry.
- Some asset managers are now providing indemnification to securities lenders as part of their securities lending business. There are likely benefits for asset managers from combining indemnification provision with securities lending, but there also is the potential for enhanced risks. Unlike banks, asset managers are not required to set aside capital when they provide indemnification. Also, although asset managers have access to management fees, they do not have access to banks' stable deposit funding base. Consequently, the indemnification that asset managers provide may be a source of stress on their own balance sheets, while at the same time resulting in lower protection for the lenders relative to indemnities provided by banks.

### 7.3 Risk-Taking Incentives of Large, Complex, Interconnected Financial Institutions

Historically, when large, complex, interconnected financial institutions became distressed, the official sector often intervened to maintain financial stability. In the financial crisis of 2008, the official sector, including the Federal Reserve, Treasury, and FDIC, provided liquidity and solvency support to some of the largest U.S. financial institutions. Past support can engender expectations of future support, and such expectations provide incentives for further increases in size, interconnectedness, and complexity. When market participants, including bond investors, uninsured depositors, and other counterparties, expect institutions to receive support, they will not correctly price risk when lending to and transacting with these institutions. This will incentivize large institutions to take on excessive risk, and put pressure on competing firms to do likewise.

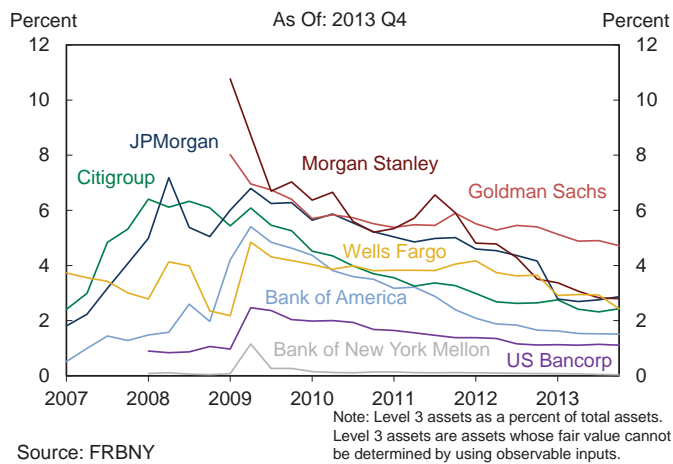
The Dodd-Frank Act explicitly addresses and attempts to mitigate the incentives and abilities of large, complex, interconnected financial institutions to engage in excessive risk-taking through a combination of policies.

1. The Act limits the ability of the Federal Reserve to provide extraordinary support to individual institutions.
2. The Act requires the Federal Reserve to adopt enhanced prudential standards for the largest BHCs and designated nonbank financial companies ([see Section 6.1.1](#)). The stringency of these requirements must increase with the size and complexity of the firm. In addition, the Dodd-Frank Act requires the Federal Reserve to impose a debt-to-equity limit on companies the Council has determined pose a grave threat to financial stability. On February 18, 2014, the Federal Reserve adopted final rules establishing enhanced prudential standards for large BHCs and FBOs. The final rule also requires a FBO with a significant U.S. presence to establish an intermediate holding company over its U.S. subsidiaries. The Federal Reserve is continuing

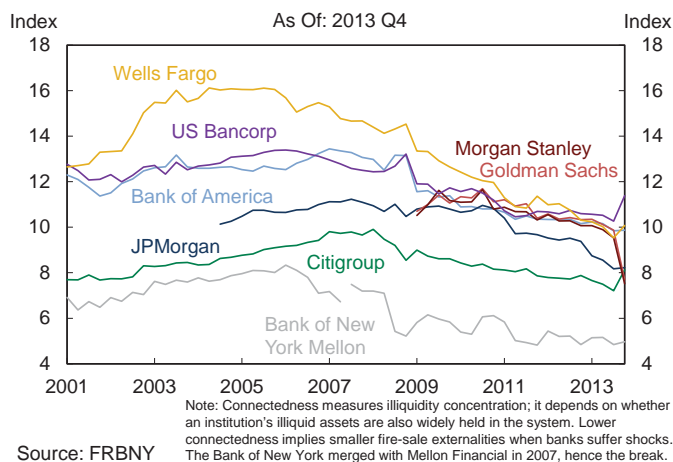
to develop single counterparty credit limits and early remediation requirements for both large BHCs and FBOs.

3. Title I of the Act requires certain companies to develop and submit to the Federal Reserve and the FDIC their own plan for rapid and orderly resolution under the Bankruptcy Code in the event they experience material financial distress or failure. Title II of the Act authorizes the FDIC to resolve financial companies whose failure and resolution under otherwise applicable law would have serious adverse effects on U.S. financial stability. The FDIC is developing a strategic approach, referred to as SPOE, to carry out its OLA for resolving a financial company. On December 10, 2013, the FDIC Board approved a Federal Register notice for public comment that provides greater detail on the SPOE strategy and discusses key issues that will be faced in a financial company's resolution (see Section 6.1.4). Additionally, the Federal Reserve is considering adopting a proposal that would require the largest, most complex U.S. banking firms to maintain a minimum amount of long-term unsecured debt outstanding at the holding company level.

### 7.3.1 Level 3 Assets



### 7.3.2 Connectedness



During 2013, the largest U.S. financial institutions continued to reduce their complexity. For example, they now hold fewer assets where fair value measurement is based on unobservable inputs (level 3 assets), one of the measures used to identify global systemically important banks (Chart 7.3.1). Similarly, they continued to reduce their interconnectedness, as measured by the estimated size of the fire-sale externalities they would impose on the rest of the system if they were subject to an adverse shock to their assets or equity capital (Chart 7.3.2). Some of them increased their size further, but at a slower pace than during the pre-crisis period. Additionally, since the passage of the Dodd-Frank Act, certain rating agencies have lowered their assessments of the likelihood of government support. Moody's assessment of the probability that a bank will

receive support from the official sector or the parent corporation in times of stress has declined for most of the largest banks after the passage of Dodd-Frank Act (Chart 7.3.3). Fitch's assessment of the likelihood that a bank will receive support from the official sector in times of stress depicts a similar picture (Chart 7.3.4).

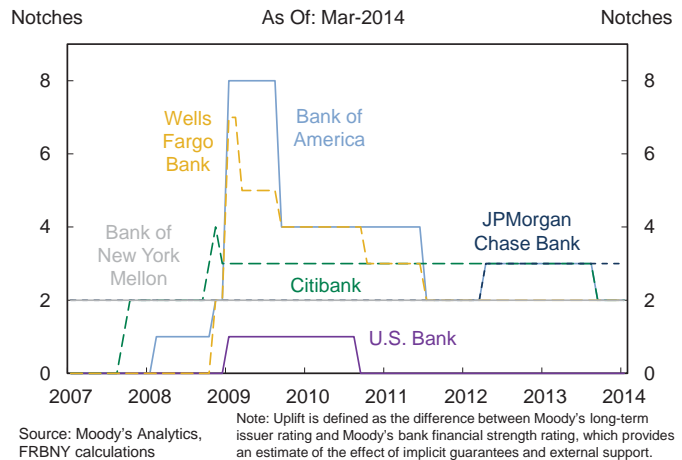
However, both rating agencies are still of the opinion that there is some chance that the official sector will provide support to the largest banks if they become financially distressed (Charts 7.3.3, 7.3.4).

It is possible that these remaining expectations of official sector support reflect the incomplete state of Dodd-Frank Act implementation. To the extent that this is the case, the full implementation of the orderly resolution facility and the phasing in of enhanced prudential standards in coming years should help reduce remaining perceptions of government support to large, complex, interconnected financial institutions.

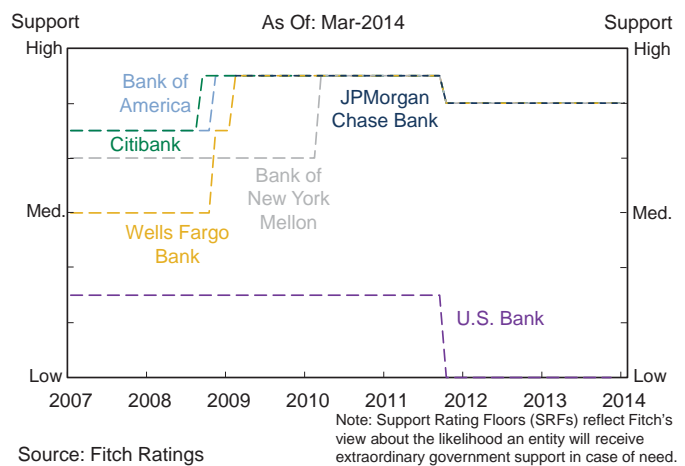
### 7.4 Reliance upon Reference Rates as a Vulnerability

As discussed in the Council's 2013 annual report, the problems with USD LIBOR reflect several interrelated structural factors including the decline in unsecured interbank markets, the incentives to manipulate rates submitted to reference rate panels owing to the vast scale of derivatives tied to the reference rate, and the dominance of instruments tied to LIBOR in terms of market liquidity. Reliance on USD LIBOR creates vulnerabilities that could pose a threat to market integrity, the safety and soundness of individual financial institutions, and to U.S. financial stability. First, a reference rate that is not anchored in observable transactions or that relies overly on transactions in a relatively low-volume market increases the incentives and potential for manipulative activity. Second, the current and prospective levels of activity in unsecured interbank markets raise the risk that continued production of LIBOR might not be sustainable. The cessation

### 7.3.3 Moody's Systemic Support Uplift



### 7.3.4 Fitch Support Rating Floors



of such a heavily used-reference rate would pose substantial legal risks and could cause substantial disruptions to and uncertainties around the large gross flows of LIBOR-related payments and receipts between financial institutions.

### Manipulative Activity in Interest Rate Benchmarks

Since the Council's 2013 annual report, the CFTC issued orders bringing and settling charges of manipulation, attempted manipulation, and false reporting against Rabobank and ICAP, an interdealer broker. In total, five financial institutions have now settled with the CFTC over charges of benchmark interest rate manipulation, paying fines and penalties of nearly \$3 billion. Globally, penalties paid related to benchmark interest rate manipulation exceed \$6 billion.

### Reform Efforts in Interest Rate Benchmarks

Since the Council's 2013 annual report, official sector efforts to strengthen financial market benchmarks have made substantial progress.

The IOSCO Task Force on financial market benchmarks published its final report in July 2013 establishing principles of governance, quality, and accountability for all financial benchmarks. IOSCO intends to review the extent to which benchmark administrators, within an 18-month timeframe, have implemented the principles.

In June 2013, the FSB established an Official Sector Steering Group (OSSG) comprised of relevant central banks and regulatory agencies including the Federal Reserve and CFTC. The OSSG was tasked with coordinating reviews of existing interest rate benchmarks, encouraging the identification of robust alternative benchmarks by the private sector, and proposing strategies for transitioning to a new benchmark. The OSSG is scheduled to provide its analysis and recommendations to the FSB in June 2014.

The OSSG's work has focused on LIBOR, the EURIBOR and the Tokyo Interbank Offered Rate (TIBOR). While some alternative to these rates could include bank credit risk, other alternative rates would be largely risk-free and potentially more appropriate for use in derivatives transactions or

other products where credit risk plays a smaller role. Using largely risk-free rates for these transactions would lower the risks to financial institutions and to financial stability from a further decline in the unsecured interbank market, consistent with the Council's recommendations. Separating the reference rate used for most derivatives from the interbank market would also remove one of the significant incentives to manipulate LIBOR and would allow some users to select a reference rate that is more appropriate for their purpose than the current system in which the vast majority of contracts reference LIBOR.

### Concerns about Other Reference Rates

Since the Council's 2013 annual report, concerns about other financial benchmarks, including swap rates and FX rates, have increased. These benchmarks are used for valuing numerous contracts and portfolios of assets. In various countries, agencies, including the Department of Justice in cooperation with U.S. financial regulators, have begun to investigate charges of manipulation of exchange rate benchmarks. Authorities are also investigating charges of manipulation of ISDAfix, a leading set of benchmarks for interest-rate-swap rates produced by the ISDA.

These investigations serve as a reminder of the prevalence of benchmark rates across financial markets and of their integral importance to the financial system. IOSCO intends to review the extent to which its principles have been implemented across a wide set of financial markets. In addition, the FSB created a subgroup to undertake a review of exchange rate benchmarks and market practices in relation to their use. Conclusions and recommendations from this review will be transmitted by the FSB to the G-20 in November 2014.

## 7.5 Financial System Vulnerability to Interest Rate Volatility

The prolonged period of low interest rates and low volatility has led financial institutions and investors to search for yield. Low interest rates weigh on earnings of banks, credit unions, broker-dealers and insurance companies, thereby incenting companies



to seek higher-yielding investments. The ability of pension and retirement funds to meet their long-term liabilities is also under pressure, inciting them to seek more yield.

Investors have responded to the low interest rate environment in different ways. Some have extended maturities or invested in lower-quality credit, or sought ways to further enhance returns with leverage. While some leveraged strategies and investment vehicles have nearly disappeared since the end of the financial crisis, others have witnessed a large growth or resurgence. Among fixed income mutual funds, high yield and leveraged loan funds have experienced record inflows. In equity markets, agency mortgage REITs experienced substantial inflows of funds in the years after the crisis. Furthermore, hedge fund products such as risk parity funds—which hold a leveraged position in fixed income and an unlevered position in equities so as to achieve the same total volatility in each of those two asset classes—have continued to be popular. Issuance of CLOs is at record highs. Additionally, higher yields and stronger economic growth have fueled investments in EM bonds, pushing flows between 2009 and early 2013 to record high levels. While each of these developments is likely due to a range of factors, including the economic recovery and an increase in risk appetite, low interest rates have probably played a role.

Financial institutions also have responded to the low interest rate environment. Some banks have extended their portfolios' durations, and eased their loan underwriting standards, discounting risk when setting interest rates, and reducing the incidence of covenants. Banks also have increased the volume of leveraged loans (see Section 5.1.1). Insurance companies have adjusted their investment portfolios by moderately increasing the duration of their portfolio and investing in lower quality credit. MMFs also have modestly increased the duration of their fund portfolios (see Section 5.5.1) in order to obtain higher yields.

Since the 2013 annual report, yields in fixed-income markets increased significantly and volatility surged during the summer (see Box C). During the May

to September 2013 period, there was a significant repricing of long-duration fixed-income assets. The sharp rise in rates and volatility triggered losses across fixed income investment strategies and vehicles. Bond mutual funds experienced large outflows; the agency mortgage REIT share price index lost 25 percent; risk parity funds posted record losses; and EMs' financial assets sold off broadly. While the rise in rates last year was large by historical standards, it did not create any disruptions to the intermediation function of the financial system, or more broadly to the banking and insurance sectors. However, investors did suffer sizeable losses. In addition, as explained in section 5.1.4, the weakening in housing starts in the latter part of 2013 has largely been attributed to the rise in mortgage rates last year.

Despite the relatively benign impact on financial stability of last year's increase in long-term interest rates, a sharp increase in interest rate volatility still poses some potentially important threats to financial stability. The first threat is that a bigger interest-rate shock might still occur. While a larger shock is less likely, given the normalization of rates that we have seen so far, it can certainly not be ruled out. Moreover, the leveraged strategies highlighted above leave investors potentially exposed to sizable losses should a sharp jump in yields materialize, and such losses could force institutions to liquidate positions, pushing yields yet higher.

A second concern with interest rate volatility risk relates to the recent growth in floating rate loans and the loosening of underwriting standards. Since most leveraged lending is done with floating rate instruments and borrowers have high levels of debt, a sharp rise in short term interest rates could also have significant adverse effects to these borrowers' credit risk and possibly their credit holders. In addition, since the crisis, some banks have combined floating rate lending with market-based pricing, whereby they tie loans' credit spreads to borrowers' CDS spreads. This practice has the potential to create an amplifying mechanism for interest-rate shocks that may ultimately have significant effects on borrowers' credit risk and by extension on their creditors.

A continued low rate environment has additional risks. It will continue to drain earnings of financial institutions. Pension and retirement funds historically relied on rate of return assumptions based on earlier periods when interest rates were between 5 and 10 percent. Therefore, pension and retirement liabilities that were based on assumptions of such higher returns will reduce the earnings of these companies, as their assets will yield substantially less in a low-interest rate environment. For insurance companies, low rates affect policyholder behavior in a way that reduces earnings. In addition, low rates may make it difficult to sell new policies for some products at a profit. In Japan, a country that has experienced a prolonged period of low rates for nearly 25 years, a number of insurers went bankrupt, although low interest rates were only one contributing factor in a complex process.

## 7.6 Operational Risks

### Cybersecurity: Vulnerabilities to Attacks on Financial Services

Cyber incidents can impact the confidentiality, integrity, and availability of the information and technologies essential to the provision of services, resulting in financial, compliance, and reputation risk. Moreover, cyber incidents that disrupt, degrade, or impact the integrity and availability of critical financial infrastructure could have consequences on operations and efficiency. Such incidents can undermine the confidence of consumers and investors, and ultimately, threaten the stability of the financial system.

In the past two years, several financial institutions sustained distributed denial-of-service attacks to their public-facing websites. The frequency of such incidents declined over much of 2013. Other types of cyber incidents have engendered public concern, in part because of their increasing magnitude. For instance, the recent theft of customer information at Target and other retailers showed how skilled cyber thieves could gain access to significant amounts of credit and debit cardholder data. It also highlighted the potential risks posed by the financial sector's interconnectedness with other major sectors of the economy. Indeed, cyber criminals exploited vulnerabilities at certain third-party and retailer

IT networks in order to gain access to customer information that could be used illegally throughout the broader retail payment system. Similar attacks against other non-financial sector networks may continue to pose threats to customers of financial institutions.

Mitigating the evolving cyber threats, effectively managing incidents, and promoting recovery efforts are critical to maintaining public confidence and reducing financial risk. These actions require a close partnership between the public and private sectors. In 2013, the Federal Financial Institutions Examination Council established a cyber-related working group to review cyber-related activities. Financial institutions have been investing in ways to protect their systems and infrastructure and to design their core information and transaction systems to make it harder for intruders to gain access to valuable data. Financial services industry associations have similarly been focused on bolstering resilience. The Financial Services Sector Coordinating Council, and the Financial Services Information Sharing and Analysis Center are the private sector's principal representatives on cybersecurity matters. Over the last year, these two groups have collaborated with the Treasury and members of regulatory, law enforcement, and intelligence communities to identify measures and best practices for disseminating timely and actionable information.

The President's Executive Order 13636 on Improving Critical Infrastructure Cybersecurity should help strengthen these activities. Among its core provisions is the establishment of a new cybersecurity framework to encourage private institutions to strengthen cybersecurity practices as well as an expedited process for obtaining security clearances so that qualified employees at these firms can gain access to sensitive information and technical assistance from the government.

In addition, the Department of Justice and the Federal Trade Commission in April 2014 released an antitrust policy statement on the sharing of cybersecurity information among industry, which is designed to reduce uncertainty for those who want to share ways to prevent and combat cyber attacks.

The financial sector is increasingly dependent on many other industry sectors, including energy, transportation, and telecommunications. As a result, a cyber event that disrupts or destroys any critical infrastructure organizations in these areas could have significant spillover effects on the financial sector.

### Market Infrastructure and Market Continuity

A number of different operational issues affected the U.S. securities markets in 2013, including network connectivity and hardware failures, software changes and configuration management errors, and human operational errors. These issues led to the suspension of trading on the affected exchanges for up to several hours, the disruption of trade and quote publication for stocks, the display of erroneous trading data, broken trades, the execution of expired orders, and the publication of inaccurate quotes. Although none of these incidents rose to the level of posing a threat to financial stability, they do serve as important reminders of the need to address operational risks. Some notable events include:

- On August 20, 2013, an internal error in Goldman Sachs's trading systems caused the firm's non-actionable indications of interest in certain options symbols to be treated as actual orders to buy and sell options with unintended limit prices. These orders were sent to the options exchanges just prior to the opening of trading. Some of the resulting trades were cancelled according to the obvious error rules of the options exchanges, but Goldman Sachs took net losses on the trades that were not cancelled.
- On August 22, 2013, NASDAQ halted trading in all NASDAQ-listed securities for more than three hours after the Unlisted Trading Privileges Securities Information Processor, the single source of consolidated market data for Nasdaq-listed securities, was unable to process quotes from the exchanges for dissemination to the public. Once the halt was lifted, trading resumed and the

markets held a normal end-of-day close for NASDAQ-listed securities.

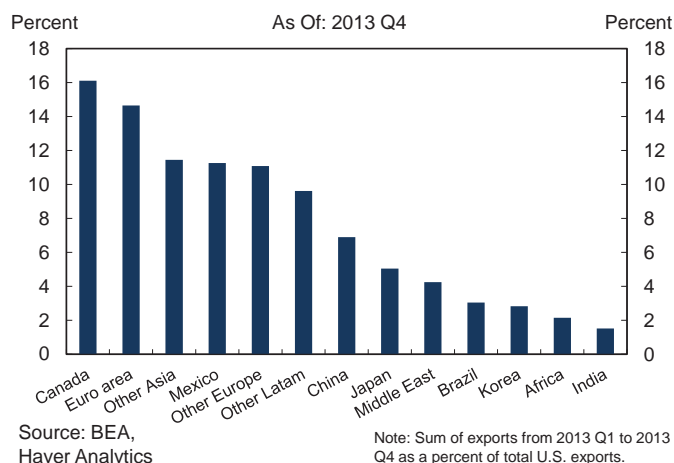
The importance of system integrity in highly interconnected markets is critical. When systems do not operate as intended, there are consequences for all market participants. Significant and frequent system failures that impact financial markets can potentially erode investor confidence and may threaten market stability. During 2013 regulators took steps to address such infrastructure concerns as well as continue to address automated-trading system issues. In March 2013, the SEC proposed Regulation Systems Compliance and Integrity to strengthen the automated systems of important participants in the securities markets. Additionally, in September 2013 the CFTC published "Concept Release on Risk Controls and Systems Safeguards for Automated Trading Environments" which requested information about market practices relating to the use of automated trading systems and possible regulations that would have a direct impact on a wide variety of market participants.

## 7.7 Foreign Economic and Financial Developments

Foreign risks can threaten U.S. financial stability and economic activity. The nature of these risks has shifted over the past year with many EMEs experiencing considerable market stress, stemming from a number of domestic challenges and changes in expectations for U.S. monetary policy. EMEs have generally stronger macroeconomic fundamentals and structural buffers compared to previous crisis periods. China's ability to reform its economy while avoiding an abrupt slowdown in growth remains critical for the global economy and EMEs in particular. In the past year, potential risks in the euro area and Japan have declined. Still, the potential for negative shocks to the U.S. economy from strains abroad remain significant.

There are a number of channels through which international developments could spill over to the U.S. economy and financial system. For example, weakness in foreign growth and asset prices may translate into lower demand for U.S. exports, weighing on U.S. growth. In aggregate, EMEs import the largest share of U.S. goods

## 7.7.1 Destination of U.S. Exports of Goods and Services



and service exports, with the largest importers being Mexico and China. In addition to its direct trade ties to the United States, China also stands out for its significant contribution to global growth—roughly one-quarter since 2010. Trade links with Japan and the euro area are sizeable as well ([Chart 7.7.1](#)).

Another channel for spillover is through U.S. banks' country exposures ([Chart 7.7.2](#)). Exposures to EMEs totaled \$786 billion, including sovereign and private sector exposures, as of the third quarter 2013 weighted toward private sector borrowers in investment-grade rated countries, with the largest exposures to Brazil, Mexico, Korea, India, and China. U.S. banks' total exposure to Europe is even greater at \$1.7 trillion, while Japanese exposure totals \$377 billion. Indirect exposures are also important; some European banking systems, including ones in the euro area periphery, have larger exposures to EMEs than do the U.S. banking system banks.

## 7.7.2 Country Exposures of All U.S. Banks

As Of: Sep-2013

|                  | Total Exposure<br>(Billions of US\$) | Cross-Border Claims<br>(Billions of US\$) | Foreign Office Claims<br>(Billions of US\$) | Total Exposure Relative to Tier 1 Capital<br>(Percent) | Memo: Unused Commitments<br>(Billions of US\$) |
|------------------|--------------------------------------|---|---|--|--|
| <b>Europe</b>    | 1686                                 | 955                                       | 513   | 150%   | 246  |
| - Euro area      | 906                                  | 701                                       | 76  | 80%  | 134  |
| <b>Japan</b>     | 377                                  | 134                                       | 225   | 33%  | 31   |
| <b>Total EME</b> | 786                                  | 387                                       | 378   | 70%  | 87   |
| - China          | 88                                   | 53  | 33  | 8%   | 5  |

Source: FFIEC Country Exposure Report

Note: EME exposures exclude financial centers. Euro area does not include data for Cyprus, Estonia, Latvia, Malta, or Slovenia, which are not publicly available.

### Emerging Markets

U.S. economic and financial linkages with the emerging world in aggregate are sizeable, but links with any one country appear limited. While EME growth has decelerated in recent years, and external vulnerabilities have increased, risks of a broad EME crisis appear contained. Past EME crises have often come in clusters, reflecting changes in the global environment, shared vulnerabilities, and common external funding sources. The downside risk is that conditions deteriorate, reducing growth, which spurs further reductions in capital flows to EMs and increases global financial strains.

In some countries, market confidence in the trajectory of domestic policy or politics has declined, contributing to financial pressures. Additionally, there are signs of increasing vulnerability in the corporate sector in some EMEs stemming from significant borrowing and deteriorating profitability in the context of weaker growth. However, the level of vulnerability across the EMEs

appears materially lower than in the run-up to past crisis episodes. This reflects improved policy frameworks, including flexible exchange rate regimes, independent central banks, and generally lower levels of government indebtedness. Moreover, existing foreign reserves can cover years of maturing debt in most EMEs, providing scope to ride out periods of increasing market volatility and reduced funding. Additionally, while foreign portfolio inflows have surged since the global financial crisis, the relative importance of stable foreign direct investment flows in EMEs' external funding has also increased. Finally, EME banks generally have stronger capital and liquidity positions and are better managed and supervised than has historically been the case.

### China

Recent Chinese economic data suggest that activity is decelerating, in line with the government's desire to slow credit expansion (see Section 4.4.2). Given the difficulty in achieving a well-timed and calibrated rebalancing, authorities will encounter significant challenges in their attempts to shift growth away from inefficient investment and exports towards consumption. Authorities also face a challenge in addressing liquidity risks and rapid growth in off-balance sheet liabilities in the financial sector, which contributed to elevated volatility in the interbank money market in the second half of 2013. China is set to gradually undertake a host of difficult structural reforms, such as interest rate and capital account liberalization. China's strong external position, however, provides an important buffer against shocks.

### Euro Area

Public sector debt burdens, at the periphery, are projected to stabilize at high levels, leaving that part of the euro area vulnerable to policy setbacks, shifts in market sentiment, and eventually, rising interest rates. The announcement of the ECB's outright monetary transactions (OMT) program effectively served as a backstop to peripheral sovereign debt markets and contributed to the sharp reduction in peripheral spreads since June 2012. However, the OMT itself is now subject to some uncertainty following the decision by Germany's constitutional court to refer its case on the program's legality to

the European Court of Justice, indicating that it views the current program as non-compliant with the EU Treaty.

Financial fragmentation within the euro area also persists. The ECB's comprehensive assessment of the largest euro area banks will be an important test for the new regulatory and supervisory framework with implications for the credibility of the ECB and confidence in euro area's banks. Ensuring adequate credibility and transparency regarding methodology, risk exposures and results, given limited clarity regarding available national and regional backstops to address identified capital shortfalls, will be important for the success of the exercise.

## 7.8 Data Gaps and Data Quality

More than five years after the financial crisis, regulators have made significant progress in addressing financial data gaps. Regulators collect real-time data from derivatives markets, detailed loan- and position-level financial data from banks, and data from MMFs and private funds.

However, gaps remain in the data that are available, both to regulators and market participants. The Council remains concerned about the risks of funding runs and fire sales in wholesale funding markets. Council members have highlighted weaknesses in the scope and availability of data that are available to regulators concerned with monitoring these risks, particularly around repo and securities lending activities. U.S. banking regulators now have access to fairly detailed data on tri-party repo and GCF repo transactions through the two clearing banks that conduct all of the domestic matching and settlement activity and have this information for all of their customers. However, regulators and policymakers currently have no reliable, ongoing information on bilateral repo market activity, which is more difficult to collect because activity in this segment does not flow through a settlement agent like tri-party and GCF repo transactions do.

There are similar data gaps regarding the securities lending activities of financial institutions. Regulators are still unable to fully monitor securities lending transactions and the reinvestment of cash collateral. It is difficult to know the depth of securities lending in a particular issue, the counterparty exposures, or the number of times that an issue has been re-lent. The Dodd-Frank Act requires the SEC to adopt rules increasing the transparency of information about securities lending available to broker-dealers and investors.

The lack of data standards governing legal entities, instruments, and transactions continues to create challenges for financial analysis, risk management, supervision, and financial stability monitoring. There has been important progress in rolling out the LEI to precisely identify parties to financial transactions. However, more work remains. Working closely with Council member agencies, the OFR is tasked with promoting financial data standards and has taken a lead role in the rollout of the LEI. Although the mandating of the LEI in the CFTC's SDR rules initially spurred the implementation of the LEI, other regulators have only recently begun to establish the LEI in regulatory reporting and rulemakings.

An important development in 2014 is the continued creation of SDRs and SBSDRs, which collect and maintain confidential information about transactions and make those data available to regulators. However, under current rules the repositories have significant discretion in how they report the data. Without strong and common standards, the data collected by repositories are unlikely to bring the desired benefits to counterparty analysis and financial stability monitoring. The CFTC is working to improve data quality and data standards in swaps data reporting with input from the OFR. However, some U.S. authorities' access to these data remains a challenge due to legal and other obstacles.



# Abbreviations

|       |   |
|-------|---|
| ABCP  | Asset-Backed Commercial Paper             |
| ABS   | Asset-Backed Securities                   |
| AFS   | Available-for-Sale                        |
| AIG   | American International Group              |
| AUM   | Assets Under Management                   |
| BCR   | Backstop Capital Requirements             |
| BHC   | Bank Holding Company                      |
| BoE   | Bank of England                           |
| BoJ   | Bank of Japan                             |
| C&I   | Commercial and Industrial                 |
| CCAR  | Comprehensive Capital Analysis and Review |
| CCP   | Central Counterparty                      |
| CDS   | Credit Default Swap                       |
| CDs   | Certificates of Deposit                   |
| CFPB  | Bureau of Consumer Financial Protection   |
| CFTC  | Commodity Futures Trading Commission      |
| CLO   | Collateralized Loan Obligation            |
| CMBS  | Commercial Mortgage-Backed Security       |
| CoVaR | Conditional Value-at-Risk                 |
| CP    | Commercial Paper                          |
| CRE   | Commercial Real Estate                    |

|         |   |
|---------|---|
| CSP     | Common Securitization Platform            |
| DFAST   | Dodd-Frank Act Stress Tests               |
| DTCC    | Depository Trust and Clearing Corporation |
| DTI     | Debt-to-Income                            |
| ECB     | European Central Bank                     |
| EM      | Emerging Market                           |
| EME     | Emerging Market Economy                   |
| ETF     | Exchange-Traded Funds                     |
| ETP     | Exchange-Traded Product                   |
| EU      | European Union                            |
| EURIBOR | Euro Interbank Offered Rate               |
| FASB    | Financial Accounting Standards Board      |
| FBO     | Foreign Banking Organization              |
| FDIC    | Federal Deposit Insurance Corporation     |
| FHA     | Federal Housing Administration            |
| FHFA    | Federal Housing Finance Agency            |
| FICO    | Fair Isaac Corporation                    |
| FIO     | Federal Insurance Office                  |
| FMU     | Financial Market Utilities                |
| FOIA    | Freedom of Information Act                |
| FOMC    | Federal Open Market Committee             |
| FRBNY   | Federal Reserve Bank of New York          |
| FSB     | Financial Stability Board                 |
| FSOC    | Financial Stability Oversight Council     |

|        |  |
|--------|--|
| FX     | Foreign Exchange                                     |
| G-20   | The Group of Twenty                                  |
| GCF    | General Collateral Finance                           |
| GDP    | Gross Domestic Product                               |
| GSE    | Government-Sponsored Enterprise                      |
| G-SIFI | Global Systemically Important Financial Institution  |
| G-SII  | Global Systemically Important Insurer                |
| HLA    | Higher Loss Absorbency                               |
| HUD    | U.S. Department of Housing and Urban Development     |
| IAIS   | International Association of Insurance Supervisors   |
| IASB   | International Accounting Standards Board             |
| ICS    | Insurance Capital Standard                           |
| IMF    | International Monetary Fund                          |
| IOSCO  | International Organization of Securities Commissions |
| ISDA   | International Swaps and Derivatives Association      |
| JGB    | Japanese Government Bond                             |
| LCR    | Liquidity Coverage Ratio                             |
| LEI    | Legal Entity Identifier                              |
| LIBOR  | London Interbank Offered Rate                        |
| MBS    | Mortgage-Backed Securities                           |
| MIDAS  | Market Information Data Analytics System             |
| MMF    | Money Market Fund                                    |
| MPC    | Monetary Policy Committee                            |
| MSPs   | Major Swap Participants                              |

|        |   |
|--------|---|
| MSR    | Mortgage Servicing Rights                       |
| NAIC   | National Association of Insurance Commissioners |
| NAV    | Net Asset Value                                 |
| NFIB   | National Federation of Independent Businesses   |
| NIM    | Net Interest Margin                             |
| OCC    | Office of the Comptroller of the Currency       |
| OFR    | Office of Financial Research                    |
| OLA    | Orderly Liquidation Authority                   |
| OMT    | Outright Monetary Transactions                  |
| OSSG   | Official Sector Steering Group                  |
| OTC    | Over-the-Counter                                |
| P/C    | Property and Casualty Insurance                 |
| PFMI   | Principles for Financial Market Infrastructures |
| QM     | Qualified Mortgage                              |
| QRM    | Qualified Residential Mortgage                  |
| REIT   | Real Estate Investment Trusts                   |
| Repo   | Repurchase Agreements                           |
| RESPA  | Real Estate Settlement Procedures Act           |
| RMBS   | Residential Mortgage-Backed Securities          |
| ROA    | Return on Average Assets                        |
| RWA    | Risk-Weighted Assets                            |
| S&P    | Standard and Poor's                             |
| SBSDRs | Security-Based Swap Data Repositories           |
| SBSR   | Security-Based Swap Reporting                   |

|           |   |
|-----------|---|
| SDRs      | Swap Data Repositories                          |
| SEC       | Securities and Exchange Commission              |
| SEF       | Swap Execution Facilities                       |
| SES       | Systemic Expected Shortfall                     |
| SLOOS     | Senior Loan Officer Opinion Survey              |
| SPOE      | Single Point of Entry                           |
| SRC       | Systemic Risk Committee                         |
| TIBOR     | Tokyo Interbank Offered Rate                    |
| TILA      | Truth in Lending Act                            |
| U.S. GAAP | Generally Accepted Accounting Principles        |
| UMI       | Unique Mortgage Identifier                      |
| UPB       | Unpaid Balance                                  |
| USD       | U.S. Dollar                                     |
| VaR       | Value-at-Risk                                   |
| VIX       | Chicago Board Options Exchange Volatility Index |
| WMP       | Wealth-Management Products                      |

# Glossary

|   |  |
|---|--|
| <b>Asset-Backed Commercial Paper (ABCP)</b> | Short-term debt that has a fixed maturity of up to 270 days and is backed by some financial asset, such as trade receivables, consumer debt receivables, securities, or auto and equipment loans or leases.  |
| <b>Asset-Backed Security (ABS)</b>          | A fixed income or other security that is collateralized by any type of self-liquidating financial asset that allows the holder of the security to receive payments that depend primarily on cash flows from the assets.  |
| <b>Available-for-Sale (AFS)</b>             | An accounting term for debt and equity securities that are accounted for at fair value on firms' balance sheets and are not classified as trading securities or as held-to-maturity securities. Changes in fair value for AFS securities are recognized in stockholders' equity as part of accumulated other comprehensive income. |
| <b>Base Money</b>                           | The sum of currency in circulation and reserve balances.   |
| <b>Basel III Common Equity Tier 1 ratio</b> | A ratio which divides common equity Tier 1 by Basel III risk-weighted assets.  |
| <b>Bilateral Repo</b>                       | Bilateral repos are repos between two institutions where settlement typically occurs on a "delivery versus payment" basis. More specifically, the transfer of the collateral to the cash lender occurs simultaneously with the transfer of the cash to the collateral provider.  |
| <b>Carry Trade</b>                          | An investment strategy involving borrowing at low interest rates to purchase assets that yield higher returns.   |
| <b>Central Counterparty (CCP)</b>           | An entity that interposes itself between counterparties to contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer and thereby ensuring the performance of open contracts.   |
| <b>Clearing Bank</b>                        | A BHC subsidiary that facilitates payment and settlement of financial transactions, such as check clearing, or facilitates trades between the sellers and buyers of securities or other financial instruments or contracts.  |
| <b>Collateral</b>                           | Any asset pledged by a borrower to guarantee payment of a debt.  |



|  |   |
|--|---|
| Collateralized Loan Obligation (CLO)             | Securitization vehicles backed predominantly by commercial loans.   |
| Collateralized Mortgage Obligation (CMO)         | An obligation of a bankruptcy remote special purpose vehicle with claims to specific cash flows from a pool of MBS. The streams of principal and interest payments on the MBS underlying loans are distributed to the different classes of CMO interests, known as tranches, according to a deal structure. Each tranche may have different principal balances, coupon rates, prepayment risks, and maturity dates. |
| Collateral Transformation                        | In securities lending on a non-cash collateral basis, a party usually swaps, or temporarily exchanges their lower quality assets, by posting them as collateral for higher quality assets, such as Treasury securities.   |
| Commercial Mortgage-Backed Security (CMBS)       | A security that is collateralized by a pool of commercial mortgage loans and makes payments derived from the interest and principal payments on the underlying mortgage loans.  |
| Commercial Paper (CP)                            | Short-term (maturity of up to 270 days), unsecured corporate debt.  |
| Common Securitization Platform (CSP)             | A common securitization infrastructure between Freddie Mac and Fannie Mae for RMBS.   |
| Comprehensive Capital Analysis and Review (CCAR) | An annual exercise by the Federal Reserve to ensure that institutions have robust, forward-looking capital planning processes that account for their unique risks and sufficient capital to continue operations throughout times of economic and financial stress.  |
| Conditional Value-at-Risk (CoVaR)                | The value-at-risk (VaR) of the financial system conditional on institutions being in distress.  |
| Consumer Price Index (CPI)                       | A monthly index containing monthly data on changes in the prices paid by urban consumers for a representative basket of goods and services.   |
| Convexity Event Risk                             | Risk that an initial increase in long-term interest rates can be significantly amplified by many MBS investors actively hedging the duration of their MBS. Convexity events can result in rapid changes in long-term interest rates, sharp increases in interest rate volatility, and reduced liquidity in fixed income markets. See Duration Hedging.  |

|                                       |  |
|---------------------------------------|--|
| Credit Default Swap (CDS)             | A financial contract in which one party agrees to make a payment to the other party in the event of a specified credit event, in exchange for one or more fixed payments.  |
| Credit Rating Agency                  | A private company that evaluates the credit quality of debt issuers as well as their issued securities and provides ratings on the issuers and those securities. Many credit rating agencies are Nationally Recognized Statistical Rating Organizations, the largest of which are Fitch Ratings, Moody's Investors Service, and Standard & Poor's. |
| Debt-to-Income (DTI) Ratio            | The ratio of debt payments to income for a borrower.   |
| Defined Benefit (DB) Plan             | A retirement plan in which the cost to the employer is based on a predetermined formula to calculate the amount of a participant's future benefit. In DB plans, the investment risk is borne by the plan sponsor.  |
| Defined Contribution (DC) Plan        | A retirement plan in which the cost to the employer is limited to the specified annual contribution. In DC plans, the investment risk is borne by the plan participant.  |
| Distress Insurance Premium (DIP)      | A measure of systemic risk that integrates the characteristics of bank size, default probability, and interconnectedness.  |
| Dodd-Frank Act Stress Tests (DFAST)   | Annual stress tests required by Dodd-Frank for national banks and federal savings associations with total consolidated assets of more than \$10 billion.   |
| Duration                              | The sensitivity of the prices of bonds and other fixed-income securities to changes in the level of interest rates.  |
| Duration Hedging                      | A process of dynamically changing portfolio allocation to fixed income instruments—such as Treasury securities or futures, or interest rate swaps or swaptions—so as to limit fluctuation of the portfolio interest rate duration.   |
| Euro Interbank Offered Rate (EURIBOR) | The rate at which Euro interbank term deposits are offered by one prime bank to another prime bank within the euro area.   |
| Exchange Traded Product (ETP)         | An investment fund whose shares are traded on an exchange. ETPs offer continuous pricing, unlike mutual funds which offer only end-of-day pricing. ETPs are often designed to track an index or a portfolio of assets.   |

|                                       |   |
|---------------------------------------|---|
| Federal Funds Rate                    | The interest rate at which depository institutions lend balances to each other overnight. The FOMC sets a target level for the overnight federal funds rate, and the FRBNY then uses open market operations to influence the overnight federal funds rate to trade around the policy target rate or within the target rate range.   |
| FICO Score                            | A measure of a borrower's creditworthiness based on the borrower's credit data; developed by the Fair Isaac Corporation.  |
| Financial Market Infrastructure (FMI) | A multilateral system among participating financial institutions, including the operator of the system, used for the purposes of recording, clearing, or settling payments, securities, derivatives, or other financial transactions. Under the Dodd-Frank Act, certain FMIs are recognized as FMUs.  |
| Financial Market Utility (FMU)        | A Dodd-Frank defined entity, which, subject to certain exclusions, is "any person that manages or operates a multilateral system for the purpose of transferring, clearing, or settling payments, securities, or other financial transactions among financial institutions or between financial institutions and the person."   |
| Fire Sale                             | The disorderly liquidation of assets to meet margin requirements or other urgent cash needs. Such a sudden selloff drives down prices, potentially below their intrinsic value, when the quantities to be sold are large relative to the typical volume of transactions. Fire sales can be self-reinforcing and lead to additional forced selling by some market participants that, subsequent to an initial fire sale and consequent decline in asset prices, may also need to meet margin or other urgent cash needs. |
| Fiscal Consolidation                  | Changes in government policy pertaining to taxes and spending intended to reduce deficits and slow the pace of debt accumulation.   |
| Fiscal Year                           | Any 12-month accounting period. The fiscal year for the federal government begins on October 1 and ends on September 30 of the following year; it is named after the calendar year in which it ends.  |
| Future                                | A standardized contract traded over exchanges to buy or sell an asset in the future.  |
| General Collateral Finance (GCF)      | An interdealer repo market in which the Fixed Income Clearing Corporation plays the role of intraday CCP. Trades are netted at the end of each day and settled at the tri-party clearing banks. See Tri-party Repo.   |

|                                       |   |
|---------------------------------------|---|
| Government-Sponsored Enterprise (GSE) | A corporate entity that has a federal charter authorized by law, but that is a privately owned financial institution. Examples include the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac).   |
| Gross Domestic Product (GDP)          | The broadest measure of aggregate economic activity, measuring the total value of all final goods and services produced within a country's borders during a specific period.  |
| Haircut                               | The discount, represented as a percentage of par or market value, at which an asset can be pledged as collateral. For example, a \$1,000,000 bond with a 5 percent haircut would collateralize a \$950,000 loan. The purpose of a haircut is to provide a collateral margin for a secured lender.                       |
| Held-to-Maturity                      | An accounting term for debt securities held in portfolio and accounted for at cost less any impairment, under the proviso that the company has no intent to sell and it is more likely than not that it will hold those securities to maturity.   |
| Home Equity Line of Credit (HELOC)    | A line of credit extended to a homeowner that uses the home as collateral.  |
| High-Quality Liquid Asset             | Assets such as government bonds that are considered eligible as liquidity buffers in Basel III's LCR. High-quality liquid assets should be liquid in markets during times of stress and, ideally, be central bank eligible.   |
| Household Debt Service Ratio          | An estimate of the ratio of debt payments to disposable personal income. Debt payments consist of the estimated required payments on outstanding mortgage and consumer debt.  |
| Interest Rate Risk Management         | The management of the exposure of an individual's or an institution's financial condition to movements in interest rates.   |
| Interest Rate Swap                    | A derivative contract in which two parties swap interest rate cash flows on a periodic basis, referencing a specified notional amount for a fixed term. Typically one party will pay a predetermined fixed rate while the other party will pay a short-term variable reference rate that resets at specified intervals. |
| Large-Scale Asset Purchases           | Purchases by the Federal Reserve of securities issued by the U.S. government or securities issued or guaranteed by government-sponsored agencies (including Fannie Mae, Freddie Mac, Ginnie Mae, and the Federal Home Loan Banks) in the implementation of monetary policy.   |

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| Legal Entity Identifier (LEI)         | A 20-digit alpha-numeric code that connects to key reference information that enables clear and unique identification of companies participating in global financial markets. The LEI system is designed to facilitate many financial stability objectives, including: improved risk management in firms; better assessment of microprudential and macroprudential risks; expedition of orderly resolution; containment of market abuse and financial fraud; and provision of higher-quality and more accurate financial data. |
| Level 3 Assets                        | Assets where fair value measurement is based on unobservable inputs.   |
| Leveraged Buyout                      | An acquisition of a company financed by a private equity contribution combined with borrowed funds, with debt comprising a significant portion of the purchase price.  |
| Leveraged Loan                        | Loans extended to a borrower who already has significant amounts of debt or whose debt is not rated investment-grade by credit rating agencies.  |
| London Interbank Offered Rate (LIBOR) | The interest rate at which banks can borrow unsecured funds from other banks in London wholesale money markets, as measured by daily surveys. The published rate is a trimmed average of the rates obtained in the survey.   |
| Liquidity Coverage Ratio (LCR)        | A Basel III standard to ensure that a bank maintains adequate unencumbered, high-quality liquid assets to meet its anticipated liquidity needs for a 30-day horizon under a liquidity stress scenario specified by supervisors.  |
| Loan-to-Value Ratio                   | The ratio of the amount of a loan to the value of the asset that the loan funds, typically expressed as a percentage. This is a key metric when considering the level of collateralization of a mortgage.  |
| Major Security-Based Swap Participant | A person that is not a security-based swap dealer and maintains a substantial position in security-based swaps, creates substantial counterparty exposure, or is a financial entity that is highly leveraged and not subject to federal banking capital rules.   |
| Major Swap Participant (MSP)          | A person that is not a swap dealer and maintains a substantial position in swaps, holds outstanding swaps that create substantial counterparty exposure, or is a highly leveraged financial entity which is not otherwise subject to capital requirements.   |
| Maturity Gap                          | The weighted-average time to maturity of financial assets less the weighted-average time to maturity of liabilities.   |

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| Money Market Mutual Fund (MMF)       | A type of mutual fund that invests in short-term, liquid securities such as government bills, CDs, CP, or repos.   |
| Mortgage Servicing Company           | A company that acts as an agent for mortgage holders by collecting and distributing mortgage cash flows. Mortgage servicers also manage defaults, modifications, settlements, foreclosure proceedings, and various notifications of borrowers and investors.   |
| Mortgage Servicing Rights (MSRs)     | The right to service and collect fees on a mortgage.   |
| Mortgage-Backed Security (MBS)       | ABS backed by a pool of mortgages. Investors in the security receive payments derived from the interest and principal payments on the underlying mortgages. This term typically applies to MBS issued or guaranteed by the GSEs; these securities can also be called “agency MBS.”   |
| Municipal Bond                       | A bond issued by states, cities, counties, local governmental agencies, or certain nongovernment issuers to finance certain general or project-related activities.   |
| Net Asset Value (NAV)                | An investment company’s total assets minus its total liabilities.  |
| Net Interest Margin (NIM)            | Net interest income as percent of interest-earning assets.   |
| Open Market Operations               | The purchase and sale of securities in the open market by a central bank to implement monetary policy.   |
| Option                               | A financial contract granting the holder the right but not the obligation to engage in a future transaction on an underlying security or real asset. The most basic examples are an equity call option, which provides the right but not the obligation to buy a block of shares at a fixed price for a fixed period, and an equity put option, which similarly grants the right to sell a block of shares.  |
| Outright Monetary Transactions (OMT) | An ECB program under which secondary market purchases of sovereign bonds can be made, with the aim of safeguarding appropriate monetary policy transmission and the singleness of the monetary policy. A necessary condition for OMT is a support agreement under which the European Financial Stability Facility or European Stability Mechanism program can make primary market purchases of sovereign debt. Such an agreement would include a range of policy conditions. |
| Over-the-Counter (OTC)               | A method of trading that does not involve an organized exchange. In OTM markets, participants trade directly on a bilateral basis, typically through voice or computer communication and often with certain standardized documentation with counterparty-dependent terms.  |



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| Prudential Regulation                | Regulation aimed at ensuring the safe and sound operation of financial institutions, set by both state and federal authorities.   |
| Public Debt                          | All debt issued by Treasury and the Federal Financing Bank, including both debt held by the public and debt held in intergovernmental accounts such as the Social Security Trust Funds. Not included is debt issued by government agencies other than the Department of the Treasury.   |
| Purchasing Managers Index            | An index based off a survey of manufacturing companies, which asks questions about new orders, inventory levels, production, supplier deliveries and the employment environment.  |
| Qualified Mortgage (QM)              | A mortgage loan that meets certain underwriting criteria announced by the CFPB. An originator of a QM is provided with certain protections from borrower lawsuits alleging that the originator failed to fulfill its duty under the Dodd-Frank Act to make a good faith and reasonable determination of the borrower's ability to repay the loan.   |
| Qualified Residential Mortgage (QRM) | A mortgage loan that is exempt from the Dodd-Frank Act's securitization risk retention rule requiring securitization issuers to retain a portion of securitized risk exposure in transactions that they issue.  |
| Qualitative and Quantitative Easing  | A program introduced by the BoJ in April 2013 to achieve the price stability target of 2 percent in terms of the year-on-year rate of change in the CPI at the earliest possible time, with a time horizon of about two years. The program will double the monetary base and the amounts outstanding of JGBs as well as ETFs in two years, and more than double the average remaining maturity of JGB purchases.  |
| Real Estate Investment Trust (REIT)  | An operating company that manages income-producing real estate or real estate-related assets. Certain REITs also operate real estate properties in which they invest. To qualify as a REIT, a company must have three-fourths of its assets and gross income connected to real estate investment and must distribute at least 90 percent of its taxable income to shareholders annually in the form of dividends. |
| Receiver                             | A custodian appointed to maximize the value of the assets of a failed institution or company and to settle its liabilities.   |
| Repurchase Agreement (Repo)          | The sale of a security combined with an agreement to repurchase the security, or a similar security, on a specified future date at a prearranged price. A repo is a secured lending arrangement.  |

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| Residential Mortgage-Backed Security (RMBS) | A security that is collateralized by a pool of residential mortgage loans and makes payments derived from the interest and principal payments on the underlying mortgage loans.   |
| Revolving Credit                            | A lending arrangement whereby a lender commits to provide a certain amount of funding to a borrower on demand. The borrower may generally draw funds and repay the committed funding at any time over the term of the agreement.  |
| Risk-Based Capital                          | An amount of capital, based on the risk-weighting of various asset categories, that a financial institution holds to help protect against losses.   |
| Risk-Weighted Assets (RWA)                  | A risk-based concept used as the denominator of risk-based capital ratios (common equity tier 1, tier 1 risk-based, and total risk-based) with respect to Basel capital guidelines for banking organizations. The RWA is a weighted total asset value calculated from assigned risk categories or modeled analysis. Broadly, total RWA are determined by calculating RWA for market risk and operational risk, as applicable, and adding the sum of RWA for on-balance sheet, off-balance sheet, counterparty, and other credit risks. Details vary, in part, depending upon the version(s) of Basel capital guidelines that may apply to the banking organization. |
| Rollover Risk                               | The risk that as an institution's debt nears maturity, the institution may not be able to refinance the existing debt or may have to refinance at less favorable terms.   |
| Run Risk                                    | The risk that investors lose confidence in an institution—due to concerns about counterparties, collateral, solvency, or related issues—and respond by pulling back their funding.  |
| Securities Information Processor            | A system that consolidates and disseminates equity prices.  |
| Securities Lending/Borrowing                | The temporary transfer of securities from one party to another for a specified fee and term, in exchange for collateral in the form of cash or securities.  |
| Securitization                              | A financial transaction in which assets such as mortgage loans are pooled, securities representing interests in the pool are issued, and proceeds from the underlying pooled assets are used to service and repay securities issued via the securitization.   |

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| Security-Based Swap Dealer                | A person that holds itself out as a dealer in security-based swaps, makes a market in security-based swaps, regularly enters into security-based swaps with counterparties, or engages in any activity causing it to be known as a dealer or market maker in security-based swaps; does not include a person entering into security-based swaps for such person's own account.  |
| Short-Term Wholesale Funding              | Short-term funding instruments not covered by deposit insurance that are typically issued to institutional investors. Examples include large checkable and time deposits, brokered CDs, CP, Federal Home Loan Bank borrowings, and repos.   |
| Sponsor-backed payment-in-kind (PIK) bond | A bond that compensates the holder with other bonds rather than cash.   |
| Swap                                      | An exchange of cash flows with defined terms and over a fixed period, agreed upon by two parties. A swap contract may reference underlying financial products across various asset classes including interest rates, credit, equity, commodity, and FX.   |
| Swap Data Repository (SDR)                | A person that collects and maintains information or records with respect to transactions or positions in, or the terms and conditions of, swaps entered into by third parties for the purpose of providing a centralized recordkeeping facility for swaps. In certain jurisdictions, SDRs are referred to as trade repositories. The Committee on Payment and Settlement Systems and IOSCO describes a trade repository as "an entity that maintains a centralized electronic record (database) of transaction data." |
| Swap Execution Facility (SEF)             | A term defined in the Dodd-Frank Act as a trading platform which market participants use to execute and trade swaps by accepting bids and offers made by other participants.  |
| Swap Dealer                               | A person that holds itself out as a dealer in swaps, makes a market in swaps, regularly enters into swaps with counterparties, or engages in any activity causing it to be known as a dealer or market maker in swaps; does not include a person entering into swaps for such person's own account.   |
| Swap Future                               | A futures contract that mimics the economic substance of a swap.  |
| Systemic Expected Shortfall (SES)         | A systemic risk indicator that estimates the extent to which the market value equity of a financial firm would be depleted by a decline in equity prices.   |
| Swaption                                  | An option granting the right to enter into a swap. See Option and Swap.   |

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| Tri-Party Repo Infrastructure Reform Task Force | A task force formed in September 2009 under the auspices of the Payments Risk Committee, a private sector body sponsored by the FRB/NY. The Task Force membership included representatives from multiple types of market participants in the tri-party repo market, as well as relevant industry associations. |
| Tier 1 Capital                                  | A measure that includes common stock, preferred stock, and retained earnings   |
| Tier 1 Common                                   | Tier 1 capital less non-common elements, including perpetual preferred stock and related surplus, minority interest in subsidiaries, trust preferred securities and mandatory convertible preferred securities.  |
| Time Deposits                                   | Deposits which the depositor, generally, does not have the right to withdraw before a designated maturity date without paying an early withdrawal penalty. A CD is a time deposit.   |
| Tri-Party Repo                                  | A repo in which a clearing bank acts as third-party agent to provide collateral management services and to facilitate the exchange of cash against collateral between the two counterparties.  |
| Underwriting Standards                          | Terms, conditions, and criteria used to determine the extension of credit in the form of a loan or bond.   |
| Value-at-Risk (VaR)                             | A tool measuring the risk of portfolio losses. The VaR projects the probability and maximum expected loss for a specific time period. For example, the VaR over 10 days and with 99 percent certainty measures the most one would expect to lose over a 10-day period, 99 percent of the time.                 |
| Wealth-Management Products (WMPs)               | Products sold to investors as higher-yielding alternatives to time deposits, WMPs are largely off-balance sheet investment vehicles offered by banks, trusts, and securities companies.  |
| Weighted-Average Life                           | A weighted average of the time to each principal payment in a security.  |
| Weighted-Average Maturity                       | A weighted average of the time to maturity on all mortgages in a mortgage-backed security.   |
| Yield Curve                                     | A graphical representation of the relationship between bond yields and their respective maturities.  |

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#### Notes on the Data

Any data sourced from ICAP Electronic Broking LLC ("ICAP") is unattributed and ICAP takes no responsibility for its accuracy or completeness.

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