4.1.1 Federal Debt Held by the Public

As Of: 2016

Note: Data for fiscal years. Years after 2016 are projected.

Source: CBO, Haver Analytics
4.1.2 10-Year Treasury Yields

Source: U.S. Department of the Treasury
4.1.3 2-Year Treasury Yields

As Of: 31-Oct-2017

Source: U.S. Department of the Treasury
4.1.4 Fixed Income Implied Volatility

Merrill Lynch Option Volatility Estimate (MOVE) Index

1994-Present MOVE Average

Note: Implied volatility is calculated using a yield curve-weighted index of the normalized implied volatility on 1-month Treasury options.

Source: Bloomberg, L.P.
4.2.1 Advanced Economies Real GDP Growth

As Of: 2017 Q3

Source: Eurostat, CAO, BEA, Haver Analytics

Note: Data represents seasonally adjusted quarter-over-quarter annualized real GDP growth rates.
4.2.2 Real GDP Growth

As Of: 2016

Percent


Note: Year-over-year percent change. Data after 2016 are projected.

Source: IMF, Haver Analytics
4.2.3 Euro Area Real GDP Growth

As Of: 2016

Percent

Spain
France
Euro Area
Italy
Germany

Note: Year-over-year percent change.
Data after 2016 are projected.

Source: IMF, Haver Analytics
4.2.4 European 10-Year Yields

As Of: 31-Oct-2017

Source: Bloomberg, L.P.
4.2.5 Contributions to Japanese GDP Growth

Source: Cabinet Office of Japan, Haver Analytics

As Of: 2017 Q3

Note: Data represents seasonally adjusted quarter-over-quarter annualized real GDP growth rates.
4.2.6 Japanese Consumer Price Inflation

As Of: Sep-2017

Note: Data represents year-over-year percent change. CPI is adjusted for the consumption tax increase that took effect in April 2014.

Source: Bank of Japan, Haver Analytics
A.1 European Non-Performing Loan Ratios

As Of: Jun-2017

Source: European Banking Authority

Note: Ratio of non-performing loans and advances to total gross loans and advances. Weighted averages by country.
4.2.7 Chinese Real GDP Growth

As Of: 2016

Source: China National Bureau of Statistics, Haver Analytics

Note: Year-over-year percent change.
4.2.8 Chinese Manufacturing and Services Growth

Source: China National Bureau of Statistics, Haver Analytics

Note: Year-over-year percent change.
4.2.9 Chinese Equity Market (CSI 300 Index)

As Of: 31-Oct-2017

Source: Capital IQ
4.2.10 Chinese Credit Growth

As Of: Oct-2017

Total Social Financing

+ Local Gov’t Bond Issuance

Source: The People’s Bank of China, Haver Analytics

Note: Year-over-year monthly change. Total credit is defined as the sum of total social financing (TSF) and local government bond issuance. TSF refers to the total volume of financing provided by the financial system to the real economy.
Credit to the Chinese Nonfinancial Private Sector

Source: China National Bureau of Statistics, BIS, Haver Analytics

Note: Rolling 4-quarter sum of GDP.
4.2.12 Gross Foreign Investor Capital Inflows to EMEs

Billions of US$ As Of: 2017 Q2 Billions of US$

Source: IMF, Haver Analytics
4.2.13 Emerging Market Gross Global Bond Issuance

As Of: 31-Oct-2017

Billions of US$

Note: Bonds have maturities greater than one year and have been internationally marketed or placed. "Public" includes issuance by municipal and state-owned enterprises.

Source: Dealogic
4.2.14 Emerging Market Bond Spreads

As Of: 31-Oct-2017

Note: JP Morgan EMBI+ Sovereign Spreads indices for each region.

Source: JP Morgan, Haver Analytics

Note: JP Morgan EMBI+ Sovereign Spreads indices for each region.
4.2.15 Change in State and Local Government Tax Revenues

- Source: Census Bureau

Note: Data represents year-over-year change. Revenue measures includes revenues from property, individual income, corporate income, and sales taxes. Gray bars signify NBER recessions.

As Of: 2017 Q2
4.2.16 Long-Term Mutual Fund Flows: Municipal Bonds

Billions of US$  As Of: Sep-2017  Billions of US$

Source: ICI, Haver Analytics
4.2.17 Municipal Bond Spreads

Source: Thomson Reuters MMD, Haver Analytics

Note: Spreads between municipal and Treasury securities of comparable maturities.
4.2.18 Municipal Bond Issuance

As Of: Oct-2017

Billions of US$

Source: Thomson Reuters, SIFMA

Note: Excludes maturities of 13 months or less and private placements.
4.3.1 Debt Ratios for Nonfinancial Corporations

As Of: 2017 Q2

Debt to GDP (right axis)

Debt to Total Assets (left axis)

Source: Federal Reserve, Haver Analytics

Note: Gray bars signify NBER recessions.
4.3.2 Liquid Assets to Assets for Nonfinancial Corporations

As Of: 2017 Q2

Source: Federal Reserve, Haver Analytics

Note: Liquid assets includes foreign deposits, checkable deposits and currency, time and savings deposits, money market fund shares, security repurchase agreements, debt securities, and mutual fund shares.
Net Percentage

Reporting Stronger Demand from Large and Medium-Sized Firms

Reporting Tighter Standards for Large and Medium-Sized Firms

Source: SLOOS, Haver Analytics

Note: Data includes firms with annual sales of $50 million or more over the last 3 months. Net percentage balance of responses. Gray bars signify NBER recessions.
4.3.4 Noncurrent Commercial and Industrial Loans

As Of: 2017 Q2

Note: Percent of total C&I loans.
Gray bars signify NBER recessions.

Source: FDIC, Haver Analytics
4.3.5 Rolling 12-Month Speculative-Grade Default Rate

As Of: Oct-2017

Percent

Bonds

Loans

Note: Issuer-weighted default rate. “Speculative-grade” refers to non-investment grade instruments.

Source: Moody’s Investors Service
4.3.6 Corporate Bond Issuance

As Of: Oct-2017

Trillions of US$

Note: Includes all non-convertible corporate debt, MTNs, and Yankee bonds, but excludes all issues with maturities of 1 year or less and CDs.

Source: Thomson Reuters, SIFMA
4.3.7 U.S. Cash Corporate Credit Spreads

As Of: 31-Oct-2017

Basis Points

Leveraged Loans (right axis)
High-Yield (right axis)
Investment Grade (left axis)

Note: Secondary market spreads. Investment grade and high-yield data represent option-adjusted spreads. Dotted lines represent 1997-present median.

Source: Bank of America Merrill Lynch, Federal Reserve, S&P LCD
4.3.8 Distressed Ratios

Note: S&P LSTA Index Distress Ratio depicts the percentage of performing loans trading below 80. Merrill Lynch High-Yield Index Distress Ratio depicts the percentage of performing high-yield bonds with yields over Treasuries of 1,000 or more basis points. The high-yield index uses data from the Merrill Lynch High-Yield Index from Jan-1997 through Jul-2017 and data from the S&P U.S. High-Yield Corporate Bond Index from Aug-2017 to present.

Source: S&P LCD, Merrill Lynch
4.3.9 CLO Issuance

As Of: Oct-2017

Source: S&P LCD
4.3.10 Leveraged Loan Primary Market by Investor Type

As Of: 2017 Q3

Source: S&P LCD
4.4.1 Household Debt as a Percent of Disposable Personal Income

As Of: 2017 Q2

Source: BEA, Federal Reserve, Haver Analytics

Note: Other Household Credit includes debts of both households and nonprofits.
4.4.2 Components of Consumer Credit

As Of: 2017 Q3

Billions of US$

- Auto Loans
- Credit Card Debt
- Student Loans
- Other Household Debt

Source: FRBNY Consumer Credit Panel/Equifax, Haver Analytics

Note: Gray bar signifies NBER recession.
4.4.3 Household Debt Service Ratio

As Of: 2017 Q2

Note: Ratio of debt-service payments to disposable personal income. Seasonally adjusted. Gray bars signify NBER recessions.

Source: Federal Reserve, Haver Analytics
4.4.4 Owners’ Equity as Share of Household Real Estate

As Of: 2017 Q2

Source: Federal Reserve, Haver Analytics

Note: Gray bars signify NBER recessions.
4.4.5 Share of Household Debt by Delinquency Status

Percent

As Of: 2017 Q3

Percent

<table>
<thead>
<tr>
<th>Year</th>
<th>Severely Derogatory</th>
<th>120+ Days Late</th>
<th>90 Days Late</th>
<th>60 Days Late</th>
<th>30 Days Late</th>
</tr>
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<tbody>
<tr>
<td>2003</td>
<td>4.4</td>
<td>3.2</td>
<td>2.1</td>
<td>1.5</td>
<td>1.0</td>
</tr>
<tr>
<td>2005</td>
<td>4.5</td>
<td>3.3</td>
<td>2.2</td>
<td>1.6</td>
<td>1.1</td>
</tr>
<tr>
<td>2007</td>
<td>5.0</td>
<td>3.6</td>
<td>2.4</td>
<td>1.8</td>
<td>1.2</td>
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<tr>
<td>2009</td>
<td>10.0</td>
<td>5.5</td>
<td>3.5</td>
<td>2.5</td>
<td>1.5</td>
</tr>
<tr>
<td>2011</td>
<td>8.0</td>
<td>4.5</td>
<td>2.5</td>
<td>1.5</td>
<td>1.0</td>
</tr>
<tr>
<td>2013</td>
<td>6.0</td>
<td>3.0</td>
<td>2.0</td>
<td>1.2</td>
<td>0.8</td>
</tr>
<tr>
<td>2015</td>
<td>4.5</td>
<td>2.5</td>
<td>1.5</td>
<td>1.0</td>
<td>0.5</td>
</tr>
<tr>
<td>2017</td>
<td>3.0</td>
<td>2.0</td>
<td>1.0</td>
<td>0.8</td>
<td>0.4</td>
</tr>
</tbody>
</table>

Note: Severely derogatory loans are loans for which there are reports of a repossession, charge off to bad debt, or foreclosure.

Source: FRBNY Consumer Credit Panel/Equifax, Haver Analytics
4.5.1 House Prices by Census Region

As Of: Aug-2017

Index

Index


Mountain
Pacific
West South Central
South Atlantic
West North Central
Total U.S.
New England
East South Central
Middle Atlantic
East North Central

Note: Purchase-only price index. Jan-1991 = 100.

Source: FHFA, Haver Analytics
4.5.2 Mortgage Originations and Rates

Billions of US$  As Of: 2017 Q3  Percent

Refinance (left axis)  Purchase (left axis)

30-Year Mortgage Rate (right axis)

Source: Mortgage Bankers Association, Freddie Mac Primary Mortgage Market Survey

Note: Originations represent all 1-4 family homes. Originations calculated as 4-quarter moving averages. Mortgage rates calculated as quarterly averages.
4.5.3 Mortgage Delinquency and Foreclosure

As Of: 2017 Q3

Percent

Mortgage Payments 90+ Days Past Due

Mortgage Foreclosure Inventory

Source: Mortgage Bankers Association, Haver Analytics

Note: Percent of all mortgages.
4.5.4 Mortgages with Negative Equity

Billions of US$ | As Of: 2017 Q2 | Percent
---|---|---

Value of Negative Equity in Residential Mortgages (left axis)

Percent of Residential Mortgages with Negative Equity (right axis)

Source: CoreLogic
4.5.5 Purchase Origination Volume by Credit Score

As Of: 2016

Percent of Originations

Note: Includes first lien purchases only.

Source: McDash, FHFA calculations
4.5.6 Mortgage Originations by Product

Percent of Originations  As Of: 2017 Q3  Percent of Originations

Source: Inside Mortgage Finance
4.5.7 RMBS Issuance

As Of: Oct-2017

Source: Fannie Mae, Freddie Mac, Ginnie Mae, Bloomberg, L.P., Thomson Reuters, SIFMA
4.5.8 Mortgage Servicing Market

Trillions of US$ As Of: 2017 Q3 Trillions of US$

Note: Data covers top 25 servicers in each quarter.

Source: Inside Mortgage Finance
4.5.9 Commercial Property Price Indices

As Of: Oct-2017

Source: Real Capital Analytics

Note: Jan-2008 = 100.
4.5.10 CRE Loans by Institution

Trillions of US$  As Of: 2017 Q2  Trillions of US$

- Insurers
- CMBS Issuers and REITs
- Government Agencies
- Banks

Source: Federal Reserve, Haver Analytics
4.5.11 Percent of Banks Tightening Loan Standards

Net Percentage

As Of: Oct-2017

Net Percentage

Source: Federal Reserve, Haver Analytics
4.5.12 CMBS Issuance

Billions of US$

As Of: 2017 Q3

Source: Inside Mortgage Finance
4.5.13 CMBS Senior Debt Spreads

As Of: 27-Oct-2017

Note: Spreads are 10-year Swaps to Senior AAA CMBS.

Source: J.P. Morgan
B.1 CRE Capitalization Rates and Spreads

As Of: 2017 Q2

Source: CoStar Group

Note: Dotted lines represent 1995-present average.
B.2 CRE Loan Levels to GDP

As Of: 2017 Q3

Source: FDIC, BEA, Haver Analytics

Note: Loans held at FDIC-insured commercial banks.
Note: Nominal U.S. Dollar Trade-Weighted Index is a weighted average of the foreign exchange value of the U.S. dollar against the currencies of a broad group of major U.S. trading partners.
4.6.2 U.S. Dollar Performance

Index

As Of: 31-Oct-2017

Index

Vs. Euro

Broad Dollar Index

Vs. EM

Vs. Yen

Source: Federal Reserve, Haver Analytics

Note: 1-Jan-2008 = 100. EM is a weighted average of the FX values of the dollar against a subset of currencies in the broad index that do not circulate widely outside the country of issue.
4.6.3 Change in U.S. Dollar Exchange Rates

As Of: 31-Oct-2017

Source: Wall Street Journal, Haver Analytics
### 4.7.1 Returns in Selected Equities Indices

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. (S&amp;P)</td>
<td>21.1%</td>
<td>12.8%</td>
</tr>
<tr>
<td>Euro (Euro Stoxx)</td>
<td>20.9%</td>
<td>9.9%</td>
</tr>
<tr>
<td>Japan (Nikkei)</td>
<td>26.3%</td>
<td>19.8%</td>
</tr>
<tr>
<td>U.K. (FTSE)</td>
<td>7.7%</td>
<td>5.3%</td>
</tr>
<tr>
<td><strong>Selected Europe</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany (DAX)</td>
<td>24.0%</td>
<td>12.7%</td>
</tr>
<tr>
<td>France (CAC)</td>
<td>22.0%</td>
<td>9.9%</td>
</tr>
<tr>
<td>Italy (FTSE MIB)</td>
<td>33.1%</td>
<td>8.0%</td>
</tr>
<tr>
<td>Spain (IBEX)</td>
<td>15.1%</td>
<td>6.1%</td>
</tr>
<tr>
<td><strong>Emerging Markets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSCI Emerging Market Index</td>
<td>23.3%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Brazil (Bovespa)</td>
<td>14.5%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Russia (MICEX)</td>
<td>3.8%</td>
<td>7.7%</td>
</tr>
<tr>
<td>India (Sensex)</td>
<td>18.9%</td>
<td>12.4%</td>
</tr>
<tr>
<td>China (Shanghai SE)</td>
<td>9.4%</td>
<td>10.4%</td>
</tr>
<tr>
<td>Hong Kong (Hang Seng)</td>
<td>23.2%</td>
<td>5.5%</td>
</tr>
<tr>
<td>South Korea (KOSPI)</td>
<td>25.7%</td>
<td>5.7%</td>
</tr>
</tbody>
</table>

Source: Capital IQ
4.7.2 S&P 500 Key Ratios

As Of: 31-Oct-2017

Source: Bloomberg, L.P.

Note: Dotted lines represent Sep 1997-present median.
4.7.3 S&P 500 Volatility

As Of: 31-Oct-2017

Note: In Sep 2003, CBOE revised the methodology to calculate VIX.
4.8.1 Commodities

As Of: 31-Oct-2017

Index

Agriculture (S&P GSCI Agricultural Spot Index)
Industrial Metals (S&P GSCI Industrial Metals Spot Index)
Crude Oil (WTI)
Natural Gas

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

Note: 02-Jan-2008 = 100.
4.9.1 Commercial Paper Outstanding

As Of: 25-Oct-2017

Source: Federal Reserve

Note: Domestic includes CP issued in the U.S. by entities with foreign parents.
4.9.2 Commercial Paper Interest Rates

As Of: 31-Oct-2017

Source: Federal Reserve Bank of St. Louis
4.9.3 Primary Dealer Repo Agreements

Overnight/Continuing

As Of: 25-Oct-2017

Term

Trillions of US$

Source: FRBNY
4.9.4 Value of the Tri-Party Repo Market

Source: FRBNY, Haver Analytics
4.9.5 Collateral in the Tri-Party Repo Market

As Of: Oct-2017

Source: FRBNY, Haver Analytics

Note: Other includes CDOs, international securities, money markets, municipal debt, and whole loans.
4.9.6 Value of Securities on Loan


Source: Markit Group Limited

Note: Data is based on a survey of agent-based lenders.
4.9.7 Securities on Loan Against Cash and Noncash Collateral

Billions of US$

As Of: 31-Dec-2015

Percent

Source: OFR/Federal Reserve/SEC
Securities Lending Data Collection Pilot
4.9.8 Securities on Loan by Owner Type

- Governmental Entities ($327)
- Pension Funds and Endowments ($332)
- Investment Firms ($174)
- Insurance Companies ($36)
- Banks and Broker-Dealers ($16)
- Other ($134)

Note: All figures in billions of US$. Averages of data collected on three reporting dates. Other includes securities owners not identified by pilot participants.

Source: OFR/Federal Reserve/SEC Securities Lending Data Collection Pilot

As Of: 31-Dec-2015
4.9.9 Securities on Loan by Asset Class

Source:
OFR/Federal Reserve/SEC Securities Lending Data Collection Pilot, Markit Group Limited

U.S. Treasury and Agency Securities ($302)
U.S. Equities ($315)
Foreign Sovereign and Supranational Securities ($121)
U.S. Corporate Bonds ($62)
Foreign Equities ($156)
Foreign Corporate Bonds ($17)
Not Available ($46)

Note: All figures in billions of US$. Averages of data collected on three reporting dates. Not Available includes securities that could not be classified.

As Of: 31-Dec-2015
4.9.10 Securities Lending Cash Collateral Reinvestment

**Money Market Securities** (20.1%)

- **Repo** (36.6%)
- **Money Market Funds** (9.3%)
- **Liquidity Funds** (6.0%)
- **Cash Delivered to Securities Lender** (8.6%)
- **Other** (12.6%)
- **Short-Term Investment Funds** (6.8%)

Note: Averages of data collected on three reporting dates. Other includes private structured debt, corporate bonds, sovereign bonds, and agency securities.

As Of: 31-Dec-2015

Source: OFR/Federal Reserve/SEC
Securities Lending Data Collection Pilot
4.10.1 Normalized Futures Prices

As Of: 31-Oct-2017

Index

U.S. Dollar
E-mini S&P 500
10-Year Treasury Futures
S&P Commodity Index

Source: Bloomberg, L.P.

Note: 2-Jan-2014 = 1.0.
4.10.2 Market Volatility Indices

Source: Bloomberg, L.P.
4.10.3 Normalized Futures Exchange Volume

Index

As Of: 2016

New York Mercantile Exchange
ICE Futures U.S.
Commodity Exchange Inc.
Chicago Mercantile Exchange
Chicago Board of Trade

Source: CFTC
4.10.4 Normalized Futures Exchange Open Interest

Source: CFTC
4.10.5 Normalized Futures Exchange Number of Products

Index

As Of: 2016

New York Mercantile Exchange
ICE Futures U.S.
Commodity Exchange Inc.
Chicago Mercantile Exchange
Chicago Board of Trade

Source: CFTC
4.10.6 Automation in Futures Markets

Source: CFTC
4.10.7 Automation in Options Markets

Source: CFTC
4.10.8 OTC Equity Options: Global Notional Outstanding

As Of: 2017 Q2

Source: BIS, Haver Analytics
4.10.9 OTC Equity Option Share of All OTC Derivatives

As Of: 2017 Q2

Percent

0.0 0.5 1.0 1.5 2.0


Percent

Source: BIS, Haver Analytics
4.10.10 OTC Equity Options: Global Market Value

Billions of US$ As Of: 2017 Q2 Billions of US$

- Non-Financial Customers
- Other Financial Institutions
- Reporting Dealers

Source: BIS, Haver Analytics
4.10.11 Derivatives Notional Amount Outstanding

As Of: 27-Oct-2017

Source: CFTC
4.10.12 Derivatives Notional Volume

As Of: 27-Oct-2017

Credit Index (left axis)
Interest Rate Derivatives (right axis)

Source: CFTC
Note: 12-week moving averages.
4.10.13 Global OTC Derivatives Market

As Of: 2017 Q2

Trillions of US$

Source: BIS, Haver Analytics

Note: Notional amounts.
4.10.14 Interest Rate Derivatives: Global Notional Outstanding

Source: BIS, Haver Analytics
4.10.15 Interest Rate Derivative Compression Volume

As Of: Oct-2017

Trillions of US$ 250
200
150
100
50
0
2003 2005 2007 2009 2011 2013 2015 2017

Non-CCP
CCP

Source: TriOptima

Note: Gross notional is represented as single-counted for notional compressed outside of a CCP and double-counted for notional compressed inside of a CCP.
4.10.16 Global Cleared OTC Interest Rate Derivatives

Trillions of US$  

As Of: Oct-2017  

Note: Maturity weighted cumulative compression volume is calculated as the sum of the current and previous year’s compression volume, estimating with two year average maturity for the compressed trades. 2017 data is year-to-date.

Source: ClarusFT CCPView, TriOptima, LCH.SwapClear
4.10.17 Credit Derivatives by Counterparty

As Of: Oct-2017

Note: Gross notional outstanding. Source: DTCC
Source: BIS

Note: Gross notional outstanding.
4.10.19 Interest Rate Derivatives Inflation Swap Clearing


Cleared Volume (right axis) Cleared Notional Outstanding (left axis)

Uncleared Swap Margin Rule Implementation Date

Source: ClarusFT CCPView

Note: 12-week moving averages for volume data.
4.10.20 FX Non-Deliverable-Forward Clearing


0 | 150
900 | 0

Uncleared Swap Margin Rule Implementation Date

Cleared Volume (right axis)
Cleared Notional Outstanding (left axis)

Note: 12-week moving averages for volume data.

Source: ClarusFT CCPView
Source: BIS
4.10.22 U.S. Central Clearing Market Share

As Of: 2017 Q3

Percent

0 20 40 60 80 100

0 20 40 60 80


Cleared CDS

Index Swaps

Cleared Interest Rate Derivatives

Note: Percentage of transaction dollar volume.

Source: CFTC
4.10.24 FCMs Holding Client Funds

As Of: Sep-2017

Count

Swaps
Part 30
Futures

Source: CFTC, FIA
Billions of US$ As Of: 31-Oct-2017

4.10.25 U.S. On-SEF Trading Volume


CDS Indices (left axis)
Interest Rate Derivatives (right axis)

Note: 20-day moving averages.

Source: ISDA SwapsInfo
4.10.26 U.S. On-SEF Trading Share

As Of: 31-Oct-2017

Source: ISDA SwapsInfo

Note: Share of notional volume. 20-day moving averages.
Source: FR Y-9C
4.11.2 Common Equity Tier 1 Ratios

<table>
<thead>
<tr>
<th>Percent</th>
<th>As Of: 2017 Q2</th>
<th>Percent</th>
</tr>
</thead>
</table>

Source: FR Y-9C

Note: Prior to 2014:Q1, the numerator of the common equity tier 1 ratio is tier 1 common capital. Beginning in 2014:Q1 for advanced approaches BHCs and in 2015:Q1 for all other BHCs, the numerator is common equity tier 1 capital.
4.11.3 Selected Sources of Funding at CCAR Banks

Note: Long-term funding includes other borrowed money, subordinated notes, and large time deposits with maturities >1 year. Short-term funding includes such liabilities with maturities <1 year plus trading liabilities, repos, CP, and foreign deposits.

Source: FR Y-9C
4.11.4 Prime Institutional MMF Funding for G-SIBs


Source: SEC, OFR
4.11.5 LIBOR and Deposit Rate Spreads to OIS

As Of: 30-Oct-2017

Source: FDIC, Federal Reserve
Bank of St. Louis, Bloomberg, L.P.

Note: 3-month CD and LIBOR spreads to OIS.
4.11.6 Return on Equity and Return on Assets

As Of: 2017 Q2

ROA (left axis)

ROE (right axis)

Note: Return on equity is equal to net income divided by average equity. Return on assets is equal to net income divided by average assets.

Source: FR Y-9C
4.11.7 Net Interest Margins

As Of: 2017 Q2

Note: Net interest margin is equal to net interest income divided by the quarterly average of interest-earning assets.

Source: FR Y-9C
4.11.8 Legal Expenses at Largest BHCs

<table>
<thead>
<tr>
<th>Billions of US$</th>
<th>As Of: 2017 Q2</th>
<th>Billions of US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>3.0</td>
<td>2017</td>
</tr>
<tr>
<td>2012</td>
<td>3.5</td>
<td>2018</td>
</tr>
<tr>
<td>2013</td>
<td>3.2</td>
<td>2019</td>
</tr>
<tr>
<td>2014</td>
<td>12.0</td>
<td>2020</td>
</tr>
<tr>
<td>2015</td>
<td>8.0</td>
<td>2021</td>
</tr>
<tr>
<td>2016</td>
<td>4.5</td>
<td>2022</td>
</tr>
<tr>
<td>2017</td>
<td>1.5</td>
<td>2023</td>
</tr>
</tbody>
</table>

Note: Legal expenses includes litigation expense and legal fees and expenses. Includes legal expenses at BAC, C, GS, JPM, MS, and WFC.

Source: FR Y-9C
4.11.9 Non-Performing Loans

Greater than $50B

Less than $50B

Source: FR Y-9C
4.11.10 Loan-Loss Reserves

Percent of NPLs

As Of: 2017 Q2

Percent of NPLs

Source: FR Y-9C
4.11.13 Selected High-Quality Liquid Assets at BHCs

Percent of Assets | As Of: 2017 Q2 | Percent of Assets

Standard LCR BHCs

Modified LCR BHCs

Other

Source: FR Y-9C, FR 2900

Note: HQLA is estimated by adding excess reserves to an estimate of securities that qualify for HQLA. Securities are estimated from the FR Y-9C. Haircuts and level 2 asset limitations are incorporated into the estimate.
4.11.14 Selected Liquid Assets at Standard LCR BHCs

Percent of Assets | As Of: 2017 Q2 | Percent of Assets
--- | --- | ---

Reserves

Fannie Mae and Freddie Mac MBS

Treasury Securities

Source: FR Y-9C, FR 2900
Note: Duration gap is the approximate weighted-average time of cash inflows less the approximate weighted-average time of cash outflows.

Source: FR Y-9C
4.11.16 P/B and P/E Ratios of Six Large Complex BHCs

As Of: 31-Oct-2017

Note: Market cap-weighted average of BAC, C, GS, JPM, MS, and WFC.
4.11.17 CDS Spreads of Six Large Complex BHCs

As Of: 31-Oct-2017

Source: Markit Group Limited

Note: CDS spreads of BAC, C, GS, JPM, MS, and WFC.
4.11.18 Initial and Stressed Tier 1 Common Capital Ratios

As Of: Jun-2017

<table>
<thead>
<tr>
<th>Year</th>
<th>Pre-Stress</th>
<th>Post-Stress Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>DFAST 2013</td>
<td>11.5%</td>
<td>11.0%</td>
</tr>
<tr>
<td>2014</td>
<td>11.7%</td>
<td>11.3%</td>
</tr>
<tr>
<td>2015</td>
<td>12.1%</td>
<td>11.8%</td>
</tr>
<tr>
<td>2016</td>
<td>12.3%</td>
<td>12.2%</td>
</tr>
<tr>
<td>2017</td>
<td>12.5%</td>
<td>12.3%</td>
</tr>
</tbody>
</table>


Source: Federal Reserve
### Non-Objection to Capital Plan

<table>
<thead>
<tr>
<th>Ally Financial</th>
<th>Citizens Financial</th>
<th>MUFG Americas</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Express</td>
<td>Comerica</td>
<td>Northern Trust</td>
</tr>
<tr>
<td>BancWest</td>
<td>Discover Financial</td>
<td>PNC Financial</td>
</tr>
<tr>
<td>Bank of America</td>
<td>Fifth Third Bancorp</td>
<td>Regions Financial</td>
</tr>
<tr>
<td>Bank of New York Mellon</td>
<td>Goldman Sachs</td>
<td>State Street</td>
</tr>
<tr>
<td>BB&amp;T</td>
<td>HSBC North America</td>
<td>SunTrust</td>
</tr>
<tr>
<td>BBVA Compass</td>
<td>Huntington Bancshares</td>
<td>TD Group U.S.</td>
</tr>
<tr>
<td>BMO Financial</td>
<td>JPMorgan Chase</td>
<td>U.S. Bancorp</td>
</tr>
<tr>
<td>Capital One Financial</td>
<td>KeyCorp</td>
<td>Wells Fargo</td>
</tr>
<tr>
<td>Citigroup</td>
<td>M&amp;T Bank</td>
<td>Zions</td>
</tr>
</tbody>
</table>

### Conditional Non-Objection to Capital Plan

- Morgan Stanley

### Objection to Capital Plan

- Deutsche Bank
- Santander Holdings USA

Note: Morgan Stanley’s capital plan received a non-objection upon resubmission.
## Federal Reserve's Actions in CCAR 2017

### Non-Objection to Capital Plan

<table>
<thead>
<tr>
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<th>MUFG Americas</th>
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<td>Regions Financial</td>
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<tr>
<td>Bank of New York Mellon</td>
<td>Goldman Sachs</td>
<td>Santander Holdings USA</td>
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<td>BB&amp;T</td>
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<td>U.S. Bancorp</td>
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<td>M&amp;T Bank</td>
<td>Wells Fargo</td>
</tr>
<tr>
<td>Citizens Financial</td>
<td>Morgan Stanley</td>
<td>Zions</td>
</tr>
</tbody>
</table>

### Conditional Non-Objection to Capital Plan

- Capital One Financial

**Source:** Federal Reserve
Noninterest Income
Net Interest Income
Provisions
Total Pre-Tax Income
Realized Gains/Losses on Investments
Noninterest Expense

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

Source: FDIC
As Of: 2017 Q2

Trillions of US$

<table>
<thead>
<tr>
<th>As Of: 2017 Q2</th>
<th>Trillions of US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Securities Purchased with Repos &amp; Fed Funds Sold</td>
<td>Reserve Balances</td>
</tr>
<tr>
<td>Non-C&amp;I Loans</td>
<td>Cash and Balances Due from Depository Institutions (excluding Reserve Balances)</td>
</tr>
<tr>
<td>C&amp;I Loans</td>
<td>Other Assets</td>
</tr>
<tr>
<td>Net Due From Related Depository Institutions</td>
<td></td>
</tr>
</tbody>
</table>

Source: Federal Reserve, Haver Analytics

Note: Other assets includes government securities, asset-backed securities, and other trading assets.
4.11.24 Cash Assets and Net Due to Related Entities

As Of: 25-Oct-2017

Source: Federal Reserve
As Of: 2017 Q2

4.11.25 U.S. Branches and Agencies of Foreign Banks: Liabilities

Trillions of US$

Deposits & Credit Balances
Net Due to Related Depository Institutions
Other Liabilities
Securities Sold with Repos & Fed Funds Purchased

Source: Federal Reserve, Haver Analytics

Note: Other liabilities includes transaction accounts, non-transaction accounts, and other borrowed money.
4.11.26 Credit Union Income

As Of: 2017 Q2

Source: NCUA

Note: Federally-insured credit unions.
4.11.27 Credit Union Deposits

Money Market and IRA Deposit Share (left axis)

Interest-Sensitive Deposit Share (right axis)

As Of: 2017 Q2

Source: NCUA

Note: Federally-insured credit unions. Interest-sensitive deposit share includes money market and IRA deposit share, share certificates, and certain other deposits.
4.11.28 Credit Union Net Long-Term Assets

Percent of Total Assets | As Of: 2017 Q2 | Percent of Total Assets

- **Long-Term Investments**
- **Fixed Assets**
- **Mortgage Loans Maturing in 5+ Years**
- **Business Loans**

Note: Federally-insured credit unions. Long-term investments mature in three or more years.

Source: NCUA
4.11.29 Credit Union Investments by Maturity

As Of: 2017 Q2

Source: NCUA

Note: Federally-insured credit unions. Investments <1 year exclude securities with maturities <3 months.
4.12.1 Number of Broker-Dealers and Industry Net Income

Number of Firms | As Of: 2016 | Billions of US$
---|---|---
2009 | 4900 |
2010 | 4700 |
2011 | 3600 |
2012 | 4300 |
2013 | 4100 |
2014 | 3900 |
2015 | 3800 |
2016 | 3000 |

Source: FINRA
4.12.2 Broker-Dealer Revenues

Billions of US$ As Of: 2016 Billions of US$

Fees – Supervision, Advisory, Administration Other
Underwriting Margin Interest
Commissions Sale of Investment

Source: FINRA
4.12.3 Broker-Dealer Assets and Leverage

Trillions of US$ As Of: 2017 Q2 Ratio

Source: FINRA

Note: Leverage is the ratio of total assets to total ownership equity. 2017 data as of second quarter 2017.
4.12.4 Large Broker-Dealer Assets and Leverage by Affiliation

As Of: 2017 Q2

Trillions of US$

Source: FINRA

Note: Data covers BHC- and FBO-affiliated broker-dealers that are among the 25 largest broker-dealers by assets as of second quarter 2017.
4.12.5 Insurance Industry Net Income

Bilions of US$

As Of: 2017 Q2

Source: SNL Financial

Note: Life includes accident and health.
4.12.6 Net Yield on Invested Assets

As Of: 2017 Q2

Source: SNL Financial, Bank of America Merrill Lynch, Haver Analytics

Note: Life includes accident and health.
4.12.7 Insurance Industry Capital and Surplus

Billions of US$  

<table>
<thead>
<tr>
<th>As Of: 2017 Q2</th>
<th>Percent of Total Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Capital and Surplus / Assets (right axis)</td>
<td></td>
</tr>
<tr>
<td>P&amp;C Capital and Surplus / Assets (right axis)</td>
<td></td>
</tr>
<tr>
<td>Life Capital and Surplus (left axis)</td>
<td></td>
</tr>
<tr>
<td>P&amp;C Capital and Surplus (left axis)</td>
<td></td>
</tr>
</tbody>
</table>

Note: C&S/Assets is calculated as capital and surplus as a percent of net admitted assets less net admitted separate account assets. Life includes accident and health.

Source: SNL Financial
4.12.8 Consumer Loans and Leases Outstanding

Trillions of US$

As Of: Oct-2017

Commercial Banks

Finance Companies

Note: Loans and leases owned and securitized. Series breaks in December 2010 and 2014 due to change in data collection methodology. Gray bars signify NBER recessions.

Source: Federal Reserve, Haver Analytics
4.12.9 Business Loans and Leases Outstanding

Source: Federal Reserve, Haver Analytics

Note: Loans and leases owned and securitized. Series break in December 2010 due to change in data collection methodology. Gray bars signify NBER recessions.
Source: Thomson Reuters, SIFMA

Note: 2017 data is year-to-date.
4.12.11 Selected ABS Spreads

As Of: 31-Oct-2017

Source: J.P. Morgan

Note: Spreads to swaps.
4.12.12 Agency REIT Assets and Leverage

As Of: 2017 Q2

Ratio

Billions of US$

Leverage (left axis)

Total Assets (right axis)

Note: Leverage is the ratio of total assets to equity. Not all agency REITs existed in all time periods in the figure.

Source: Bloomberg, L.P.
4.12.13 Agency REIT Price-to-Book Ratio

As Of: 2017 Q2

Note: Price-to-book ratio is weighted by market capitalization. Not all agency REITs existed in all time periods in the figure.

Source: Bloomberg, L.P.
C.1 MMF Assets by Fund Type


<table>
<thead>
<tr>
<th>Year</th>
<th>Prime</th>
<th>Government and Treasury</th>
<th>Tax-Exempt</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
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<td>2016</td>
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<td></td>
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<tr>
<td>2017</td>
<td></td>
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</tr>
</tbody>
</table>

Source: SEC
C.2 ON RRP Take-Up by MMFs

Billions of US$  As Of: 30-Jun-2017  Billions of US$


Source: FRBNY
C.3 Liquid Asset Shares of Prime MMFs

Percent of Total Assets

As Of: Oct-2017

Percent of Total Assets

Source: SEC

Note: Weighted by fund size.
C.4 LIBOR-OIS Spread

Source: Bloomberg L.P.

As Of: 2017 Q3

Trillions of US$

Note: Other is composed of unit investment trusts and closed-end funds. 2017 YTD figures include 2016 UIT data, which is reported annually.

Source: ICI, Haver Analytics
4.13.3 Monthly Equity Mutual Fund Flows

Billions of US$  As Of: Sep-2017  Billions of US$

Source: ICI, Haver Analytics
4.13.4 Bank Loan Mutual Funds: Annual Flows


Source: Morningstar, Inc.
4.13.5 High-Yield Mutual Funds: Annual Flows

As Of: Oct-2017

Source: Morningstar, Inc.
4.13.6 Alternative Mutual Funds: Annual Flows

As Of: Oct-2017

Source: Morningstar, Inc.
4.13.7 Cumulative Equity Fund Flows

As Of: Oct-2017

Source: Morningstar, Inc.

Note: Includes ETFs and mutual funds.
4.13.8 U.S.-Listed ETP AUM

<table>
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<tr>
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<tbody>
<tr>
<td></td>
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</tbody>
</table>

Source: Morningstar, Inc.
4.13.9 Retirement Fund Assets by Plan Type

As Of: 2017 Q1

<table>
<thead>
<tr>
<th>Year</th>
<th>Individual Accounts</th>
<th>Private Defined Contribution Plans</th>
<th>Private Defined Benefit Plans</th>
<th>State and Local</th>
<th>Federal</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>2009</td>
<td></td>
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<td>2011</td>
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<td>2015</td>
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<tr>
<td>2017</td>
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</tr>
</tbody>
</table>

Trillions of US$

Source: Federal Reserve, Haver Analytics
4.13.10 Public and Private Pension Funding Levels

Percent

As Of: 2016

Percent


Private Defined Benefit Plans

Public Defined Benefit Plans

Source: Public Fund Survey, Milliman 2016 Pension Funding Study
4.13.12 M&A Loan Volume for Private Equity-Backed Issuers

Source: S&P LCD
4.14.1 U.S. Consumer Adoption of Payment Instruments

Percent of Consumers

As Of: 2014

Percent of Consumers


Source: Federal Reserve
Bank of Boston