4.1.1 Federal Debt Held by the Public

As Of: 2017

Percent of GDP

Percent of GDP

CBO Baseline Projection

Source: CBO, Haver Analytics

Note: Data for fiscal years. Years after 2017 are projected.
4.1.2 U.S. Treasury Yields and Yield Curve

As Of: 31-Oct-2018

Source: U.S. Department of the Treasury
4.1.3 10-Year Treasury Yields

As Of: 31-Oct-2018

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

Merrill Lynch Option Volatility Estimate (MOVE) Index

As Of: 31-Oct-2018

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

Percent

As Of: 2018 Q3

Percent

United States
Japan
United Kingdom
Euro Area

Source: Eurostat, CAO, BEA, Haver Analytics

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

As Of: 2017

Spain
France
Euro Area
Italy
Germany

Note: Year-over-year percent change. Data after 2017 are projected.

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

As Of: 31-Oct-2018

Source: Bloomberg, L.P.
4.2.4 Italian Sovereign Bond Spreads

10-Year BTP-Bund Spread
2-Year BTP-Bund Spread

Note: Spreads between Italian and German sovereign bonds.
4.2.5 Greece Fiscal Projections

Percent
As Of: 2017
Percent

Source: IMF, Haver Analytics

Note: Projections from IMF WEO. Years after 2017 are projected.
4.2.6 Contributions to UK GDP Growth

As Of: 2018 Q3

Percent

Source: UK Office of National Statistics, Haver Analytics

Note: Data represents year-over-year real GDP growth rates. Components may not sum to total due to statistical discrepancies.
4.2.7 UK Yield Curve

As Of: 31-Oct-2018

Source: Haver Analytics
4.2.8 Japanese Consumer Price Inflation

Percent

As Of: Oct-2018

Percent


Source: Bank of Japan, Haver Analytics

Note: Data represents year-over-year percent change. CPI excludes fresh food and is adjusted for the consumption tax increase that took effect in April 2014.
4.2.9 Japan 10-Year Government Bond Yield

As Of: 31-Oct-2018

Source: Bloomberg, L.P.
4.2.10 Gross Foreign Investor Capital Inflows to EMEs

Billions of US$ As Of: 2018 Q2 Billions of US$

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

Billions of US$

As Of: 30-Sep-2018

Billions of US$

Source: Dealogic

Note: Bonds have maturities greater than one year and have been internationally marketed or placed. “Public” includes issuance by municipal and state-owned enterprises.
4.2.12 Emerging Market Sovereign CDS Spreads

As Of: 31-Oct-2018

Index

Argentina
Turkey
Brazil
Markit CDX EM Index

Source: Bloomberg, L.P.

Note: 5-year USD spreads.
4.2.13 Emerging Market Current Account Deficits

As Of: 2018 Q2

Source: BCB, CBRT, INDECM, Haver Analytics

Note: Data represents four quarter rolling average current account as a % of GDP
4.2.14 Emerging Market External Debt

As Of: 2018 Q2

Source: World Bank, BCB, CBRT, INDECM, Haver Analytics

Note: Data represents four quarter rolling average external debt as a % of GDP
4.2.15 Emerging Market Core CPI

As Of: Oct-2018

Source: IBGE, DGEC, TRSTAT, INDECM, Haver Analytics

Note: Data represents year-over-year change in core CPI. Argentina represents Buenos Aires CPI Ex seasonal and regulated goods.
4.2.16 Chinese Real GDP Growth

Source: China National Bureau of Statistics, Haver Analytics

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

As Of: 2018 Q3

Source: China National Bureau of Statistics, Haver Analytics

Note: Year-over-year percent change.
4.2.18 Chinese Credit Growth

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.
4.2.19 Credit to the Chinese Nonfinancial Private Sector

As Of: 2018 Q1

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

Note: Rolling 4-quarter sum of GDP.
4.2.20 Change in State and Local Government Tax Revenues

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

Source: Census Bureau
4.2.21 Long-Term Mutual Fund Flows: Municipal Bonds

Billions of US$

As Of: Sep-2018

Billions of US$

Source: ICI, Haver Analytics
4.2.22 Municipal Bond Spreads

As Of: 26-Oct-2018

Note: Spreads between municipal and Treasury securities of comparable maturities.

Source: Municipal Market Analytics, Bloomberg, L.P.
4.2.23 Municipal Bond Issuance

As Of: Oct-2018

Source: Thomson Reuters, SIFMA

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

Source: Federal Reserve, Haver Analytics

Note: Gray bars signify NBER recessions.
4.3.2 U.S Nonfinancial Business Leverage

As Of: 2018 Q2

Gross Debt / Assets  (left axis)

Gross Debt / EBITDA  (right axis)

Source: Compustat

Note: Four-quarter moving average of the median ratio. Includes rated and unrated nonfinancial businesses.
4.3.3 U.S. Nonfinancial Business Interest Coverage Ratios

As Of: 2018 Q2

**Ratio**

**EBITDA/Interest Expense**

**EBIT/Interest Expense**

Note: Four-quarter moving average of median ratio.
Includes rated and unrated nonfinancial businesses.

Source: Compustat
4.3.4 Liquid Assets to Assets for Nonfinancial Corporations

Percent

As Of: 2018 Q2

Percent

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.

Source: Federal Reserve, Haver Analytics
4.3.5 U.S. Cash Corporate Credit Spreads

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

Note: Secondary market spreads. Investment grade and high-yield data represent option-adjusted spreads. Dotted lines represent 1997-present median.
4.3.6 Gross Issuance of Corporate Bonds

Trillions of US$  As Of: Sep-2018  Trillions of US$

<table>
<thead>
<tr>
<th>Year</th>
<th>High-Yield</th>
<th>Investment Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>0.3</td>
<td>0.7</td>
</tr>
<tr>
<td>2008</td>
<td>0.3</td>
<td>0.7</td>
</tr>
<tr>
<td>2010</td>
<td>0.4</td>
<td>0.6</td>
</tr>
<tr>
<td>2012</td>
<td>0.6</td>
<td>0.4</td>
</tr>
<tr>
<td>2014</td>
<td>0.8</td>
<td>0.2</td>
</tr>
<tr>
<td>2016</td>
<td>0.9</td>
<td>0.1</td>
</tr>
<tr>
<td>2018</td>
<td>1.1</td>
<td>0.1</td>
</tr>
</tbody>
</table>

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 CLO Issuance

Billions of US$  

As Of: Sep-2018

Billions of US$  

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

As Of: 2018 Q3

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

As Of: 2018 Q2

Percent

150
125
100
75
50
25
0


Source: BEA, Federal Reserve, Haver Analytics

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

Source: FRBNY Consumer Credit Panel/Equifax, Haver Analytics

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

Source: Federal Reserve, Haver Analytics

Note: Ratio of debt-service payments to disposable personal income. Seasonally adjusted.
4.4.4 Owners’ Equity as Share of Household Real Estate

As Of: 2018 Q2

Source: Federal Reserve, Haver Analytics
4.5.1 House Prices by Census Region

Index

As Of: Sep-2018

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: 2018 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 Origination Market

Billions of US$ As Of: 2018 Q3 Percent

Nonbank (left axis) Bank (left axis)

Nonbank Share of Total (right axis)

Note: 2018 data through third quarter. Data covers top 25 originators in each year.

Source: Inside Mortgage Finance
4.5.4 Mortgage Servicing Market

Trillions of US$  As Of: 2018 Q3  Percent

Source: Inside Mortgage Finance

Note: Data is as of fourth quarter each year except 2018 is as of third quarter. Data covers top 25 servicers in each quarter.
### 4.5.5 Mortgage Delinquency and Foreclosure

**As Of: 2018 Q3**

- **Percent**
- **Percent**

Source: Mortgage Bankers Association, Haver Analytics

Note: Percent of all mortgages.
Value of Negative Equity in Residential Mortgages (left axis)

Percent of Residential Mortgages with Negative Equity (right axis)

Source: CoreLogic

As Of: 2018 Q2
4.5.7 Purchase Origination Volume by Credit Score

Source: McDash, FHFA calculations

Note: Includes first lien purchases only.
4.5.8 Mortgage Originations by Product

Percent of Originations | As Of: 2018 Q3 | Percent of Originations

Private Portfolio and Securitized

GSE

FHA / VA

Source: Inside Mortgage Finance
4.5.9 RMBS Issuance

As Of: Sep-2018

Trillions of US$

Source: Fannie Mae, Freddie Mac, Ginnie Mae, Bloomberg, L.P., Thomson Reuters, SIFMA
4.5.10 Commercial Property Price Indices

Source: Real Capital Analytics

Note: Jul-2007 = 100.
4.5.11 Multifamily Capitalization Rates and Spreads

Percent

As Of: Sep-2018

Percent

Multifamily Cap Rate (left axis)

Multifamily Cap Rate Spread (right axis)


Note: Dotted lines represent 2001-present average.

Source: Real Capital Analytics
4.5.12 CMBS Issuance

As Of: 2018 Q3

Billions of US$

Source: Inside Mortgage Finance
4.6.1 Nominal U.S. Dollar Trade-Weighted Index

As Of: Oct-2018

Index

Source: Federal Reserve, Haver Analytics

Note: Jan-1998 = 100. 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 Exchange Rates

As Of: Oct-2018

Source: Federal Reserve, Haver Analytics

Note: Jan2010 = 100. EM dollar index 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-2018

Percent

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

**As Of: 31-Oct-2018**

<table>
<thead>
<tr>
<th></th>
<th>6 Month Returns</th>
<th>1 Year Returns</th>
<th>5 Year Annualized Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major Economies</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S. (S&amp;P)</td>
<td>2.4%</td>
<td>5.3%</td>
<td>9.1%</td>
</tr>
<tr>
<td>Euro (Euro Stoxx)</td>
<td>(9.6%)</td>
<td>(11.2%)</td>
<td>2.7%</td>
</tr>
<tr>
<td>Japan (Nikkei)</td>
<td>(2.4%)</td>
<td>(0.4%)</td>
<td>8.9%</td>
</tr>
<tr>
<td>U.K. (FTSE)</td>
<td>(5.1%)</td>
<td>(4.9%)</td>
<td>1.2%</td>
</tr>
<tr>
<td><strong>Selected Europe</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany (DAX)</td>
<td>(9.2%)</td>
<td>(13.5%)</td>
<td>4.8%</td>
</tr>
<tr>
<td>France (CAC)</td>
<td>(7.7%)</td>
<td>(7.4%)</td>
<td>3.4%</td>
</tr>
<tr>
<td>Italy (FTSE MIB)</td>
<td>(20.6%)</td>
<td>(16.4%)</td>
<td>(0.3%)</td>
</tr>
<tr>
<td>Spain (IBEX)</td>
<td>(10.9%)</td>
<td>(15.5%)</td>
<td>(2.1%)</td>
</tr>
<tr>
<td><strong>Emerging Markets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSCI Emerging Market Index</td>
<td>(17.9%)</td>
<td>(14.6%)</td>
<td>(1.6%)</td>
</tr>
<tr>
<td>Brazil (Bovespa)</td>
<td>1.5%</td>
<td>17.6%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Russia (MICEX)</td>
<td>2.0%</td>
<td>14.0%</td>
<td>9.3%</td>
</tr>
<tr>
<td>India (Sensex)</td>
<td>(2.0%)</td>
<td>3.7%</td>
<td>10.2%</td>
</tr>
<tr>
<td>China (Shanghai SE)</td>
<td>(15.6%)</td>
<td>(23.3%)</td>
<td>4.0%</td>
</tr>
<tr>
<td>Hong Kong (Hang Seng)</td>
<td>(18.9%)</td>
<td>(11.6%)</td>
<td>1.5%</td>
</tr>
<tr>
<td>South Korea (KOSPI)</td>
<td>(19.3%)</td>
<td>(19.6%)</td>
<td>(0.0%)</td>
</tr>
</tbody>
</table>

**Source:** Capital IQ
4.7.2 U.S. Stock Valuations

As Of: 30-Nov-2018

<table>
<thead>
<tr>
<th>Metric</th>
<th>Current</th>
<th>Historical Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAPE Ratio</td>
<td>30.6</td>
<td>96%</td>
</tr>
<tr>
<td>Buffett Indicator</td>
<td>146%</td>
<td>96%</td>
</tr>
<tr>
<td>Price-to-Book</td>
<td>3.3%</td>
<td>80%</td>
</tr>
<tr>
<td>Price-to-Earnings</td>
<td>18.9</td>
<td>71%</td>
</tr>
<tr>
<td>Forward Price-to-Earnings</td>
<td>16.2</td>
<td>62%</td>
</tr>
</tbody>
</table>

Source: Bloomberg L.P., Wilshire Associates, Haver Analytics, OFR

4.7.3 S&P 500 Volatility

As Of: 31-Oct-2018

Source: Bloomberg, L.P.
4.8.1 Commodities

As Of: 31-Oct-2018

Index

0 25 50 75 100 125 150 175 200

2008 2010 2012 2014 2016 2018

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

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

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

Trillions of US$

As Of: Sep-2018

Trillions of US$

Note: Domestic includes CP issued in the U.S. by entities with foreign parents.

Source: Federal Reserve
4.9.2 Commercial Paper Interest Rates

As Of: 28-Sep-2018

90-Day AA-Rated ABCP
90-Day AA-Rated Financial
90-Day AA-Rated Nonfinancial
Overnight AA-Rated ABCP
Overnight AA-Rated Financial
Overnight AA-Rated Nonfinancial

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

Trillions of US$ As Of: 26-Sep-2018 Trillions of US$

Source: FRBNY

Overnight/Continuing Term
4.9.4 Collateral in the Tri-Party Repo Market

As Of: Sep-2018

Source: FRBNY, Haver Analytics

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

Trillions of US$

Global Market (including U.S.)

U.S. Market

As Of: 28-Sep-2018

Note: Data is based on a survey of agent-based lenders.

Source: Markit Group Limited
4.9.6 U.S. Securities Lending Cash Reinvestment

Trillions of US$

As Of: 2018 Q2

Total Cash Reinvestment (left axis)

Mean WAM (right axis)

Median WAM (right axis)

Source: The Risk Management Association

Note: Data is based on a survey of agent-based lenders.
4.9.7 U.S. Securities Lending Cash Reinvestment

As Of: 2018 Q2

Source: The Risk Management Association; OFR.

Note: Nongovernment repos have collateral of whole loans, equity, and corporate debt. Data is based on a survey of agent-based lenders.
4.10.1 Normalized Futures Prices

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

Source: CFTC
4.10.4 Normalized Futures Exchange Open Interest

Index

As Of: 2017

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

Source: CFTC
4.10.5 Normalized Futures Exchange Number of Products

Index

As Of: 2017

Source: CFTC
4.10.6 OTC Equity Options: Global Notional Outstanding

As Of: 2018 Q2

Trillions of US$

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

As Of: 2018 Q2

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

Billions of US$  As Of: 2018 Q2  Billions of US$

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

Source: BIS, Haver Analytics
4.10.9 Derivatives Notional Amount Outstanding

Source: CFTC
4.10.10 Derivatives Notional Volume

Credit Index (left axis)

Interest Rate Derivatives (right axis)

Source: CFTC

Note: 12-week moving averages.
4.10.11 Interest Rate Derivatives: Global Notional Outstanding

Trillions of US$

Source: BIS, Haver Analytics

As Of: 2018 Q2
4.10.12 Interest Rate Derivative Compression Volume

Trillions of US$

As Of: Jun-2018

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.
Trillions of US$  

4.10.13 Global Cleared OTC Interest Rate Derivatives

As Of: Jun-2018

Maturity Weighted Cum. Compression Volume
Cleared Notional

Source: ClarusFT CCPView, TriOptima, LCH.SwapClear

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. 2018 data is year-to-date.
4.10.14 Global Credit Derivatives by Product

As Of: 2018 Q2

Trillions of US$

Source: BIS

Note: Gross notional outstanding; prior to 2010, index CDS were reported as multi-name CDS.
4.10.15 Interest Rate Derivatives Inflation Swap Clearing

Billions of US$  As Of: 28-Sep-2018  Billions of US$

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
4.10.16 FX Non-Deliverable-Forward Clearing

Billions of US$  As Of: 28-Sep-2018  Billions of US$

Uncleared Swap Margin Rule Implementation Date

Cleared Volume (right axis)

Cleared Notional Outstanding (left axis)

Source: ClarusFT CCPView

Note: 12-week moving averages for volume data.
4.10.17 Global OTC Central Clearing Market Share

As Of: 2018 Q2

Share

Trillions of US$

Interest Rate

FX

Credit

Equity

Source: BIS
4.10.18 U.S. Central Clearing Market Share

As Of: 2018 Q3

Note: Percentage of new transaction dollar volume.

Source: CFTC
4.10.19 Margin Funds Held at CFTC Registered FCMs

Billions of US$ As Of: Sep-2018 Billions of US$

- Swaps
- Part 30
- Futures

Source: FIA
4.10.20 CFTC Registered FCMs Holding Client Funds

Count

As Of: Sep-2018

Count

Swaps
Part 30
Futures

Source: FIA
4.10.21 FCM Concentration: Customer 4d(a)(2) Balances

As Of: 2017

Source: CFTC financial data for FCMs

Note: Represents total amount of funds that an FCM is required to segregate on behalf of customers who are trading futures and options on futures at US exchanges.
4.10.22 FCM Concentration: Customer Swap Balances

As Of: 2018 Q2

Top 10  Top 5  Top 3

Source: CFTC
financial data for FCMs

Note: Represents the amount of funds an FCM is required to segregate for customers who trade cleared swaps.
4.10.23 U.S. On-SEF Trading Volume

Billions of US$ As Of: 28-Sep-2018 Billions of US$

CDS Indices Interest Rate Derivatives

Note: Share of notional volume. 20-day moving averages.

Source: CFTC
4.10.24 U.S. On-SEF Trading Share

As Of: 28-Sep-2018

Percent

CDS Indices
Interest Rate Derivatives

Note: Share of notional volume. 20-day moving averages.

Source: CFTC
4.11.1 Total Assets by BHC Type

As Of: 2018 Q2

<table>
<thead>
<tr>
<th>Category</th>
<th>Trillions of US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-SIBs</td>
<td>11.3</td>
</tr>
<tr>
<td>Non-G-SIB CCAR</td>
<td>4.4</td>
</tr>
<tr>
<td>Other</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Source: FR Y-9C
4.11.2 Common Equity Tier 1 Ratios

As Of: 2018 Q2

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.

Source: FR Y-9C
4.11.3 Selected Sources of Funding at CCAR BHCs

Percent of Total Assets  As Of: 2018 Q2  Percent of Total Assets

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 Cumulative Changes in Deposit Rates

As Of: 26-Oct-2018

Percent

-0.05
0.05
0.15
0.25
0.35
0.45

G-SIBs
Non-G-SIB CCAR
Other

Source: SNL Financial

Note: Based on average quoted rates for Jumbo CD - $100K; up to 1 year maturity.
4.11.5 LIBOR-OIS Spread

As Of: 31-Oct-2018

Source: Bloomberg, L.P.

Note: SEC money market fund reform came into effect on October 14, 2016
4.11.6 Return on Equity and Return on Assets

As Of: 2018 Q2

ROE (right axis)
ROA (left axis)

Note: Dashed lines represent 2003 – 2007 averages. 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: 2018 Q2

Percent

Percent

2010 2012 2014 2016 2018

Other
Non-G-SIB CCAR
G-SIBs

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 Delinquency Rates

Note: Includes all loans in foreign and domestic offices. Delinquent loans are loans 30 days or more past due or in nonaccrual status.

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

Reserves / Net Charge-Offs (right axis)
Reserves / Delinquent Loans (left axis)

As Of: 2018 Q2

Source: FR Y-9C
4.11.10 Credit Card Delinquency Rates

Percent
As Of: 2018 Q2
Percent

Note: Delinquencies are determined using nonaccrual loans and loans that are past due 30 days or more.
4.11.11 Auto Loan Delinquency Rates

As Of: 2018 Q2

Note: Delinquencies are determined using nonaccrual loans and loans that are past due 30 days or more.

Source: Call Report
4.11.12 Loans to Nondepository Financial Institutions

<table>
<thead>
<tr>
<th>Percent of Total Loans</th>
<th>As Of: 2018 Q2</th>
<th>Percent of Total Loans</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: FR Y-9C
4.11.13 Liquidity Coverage Ratio

Source: LCR Disclosures from banks’ websites

Note: The solid line represents the regulatory minimum.
High-Quality Liquid Assets by BHC Type

4.11.14

Percent of Assets

As Of: 2018 Q2

Percent of Assets

Standard LCR BHCs

Modified LCR BHCs

Other

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.

Source: FR Y-9C, FR 2900
4.11.15 Selected Liquid Assets at All BHCs

Percent of Assets | As Of: 2018 Q2 | Percent of Assets
---|---|---
Reserve Balances
Ginnie Mae MBS
Fannie Mae and Freddie Mac MBS
Treasury Securities

Source: FR Y-9C, FR 2900
Note: At advanced approaches banking organizations. Advanced approaches framework generally applies to banks with at least $250 billion in total consolidated assets or at least $10 billion in total on-balance sheet foreign exposure. Cumulative change from 2012 Q4 – 2018 Q2.
4.11.17 Held-to-Maturity Securities

Percent of Investment Securities

As Of: 2018 Q2

Percent of Investment Securities

Non-advanced approaches banking organizations

Advanced approaches banking organizations

Note: Investment securities are held-to-maturity securities plus available-for-sale securities

Source: FR Y-9C
Duration gap is the approximate weighted-average time of cash inflows less the approximate weighted-average time of cash outflows.
4.11.19 Stock Prices

As Of: 31-Oct-2018

Note: January 3, 2012 = 100. EU Bank Stock Index created from stock price information for the following banks: BCS, BNP, CS, ACA, DB, SAN, UBS. All indexes are created by equally weighting banks.

Source: Bloomberg, L.P.
4.11.22 Foreign Banks 5-Year CDS Spreads

As Of: 31-Oct-2018

Source: Bloomberg, L.P.
4.11.23 Initial and Stressed Capital Ratios

Percent

Pre-Stress

Post-Stress Minimum

As Of: Jun-2018

Source: Federal Reserve

4.11.24 Federal Reserve's Actions in CCAR 2017

<table>
<thead>
<tr>
<th>Non-Objection to Capital Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ally Financial</td>
</tr>
<tr>
<td>American Express</td>
</tr>
<tr>
<td>BancWest</td>
</tr>
<tr>
<td>Bank of America</td>
</tr>
<tr>
<td>Bank of New York Mellon</td>
</tr>
<tr>
<td>BB&amp;T</td>
</tr>
<tr>
<td>BBVA Compass</td>
</tr>
<tr>
<td>BMO Financial</td>
</tr>
<tr>
<td>CIT Group</td>
</tr>
<tr>
<td>Citigroup</td>
</tr>
<tr>
<td>Citizens Financial</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Conditional Non-Objection to Capital Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital One Financial</td>
</tr>
</tbody>
</table>

Source: Federal Reserve
## Federal Reserve's Actions in CCAR 2018

### Non-Objection to Capital Plan

<table>
<thead>
<tr>
<th>Ally Financial</th>
<th>Citizens Financial</th>
<th>Northern Trust</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Express</td>
<td>Credit Suisse Holdings (USA)</td>
<td>PNC</td>
</tr>
<tr>
<td>Bank of America</td>
<td>Discover Financial</td>
<td>Regions Financial</td>
</tr>
<tr>
<td>BB&amp;T</td>
<td>Fifth Third</td>
<td>RBC USA</td>
</tr>
<tr>
<td>BBVA Compass</td>
<td>HSBC North America Holdings</td>
<td>Santander Holdings USA</td>
</tr>
<tr>
<td>BMO Financial</td>
<td>Huntington</td>
<td>SunTrust</td>
</tr>
<tr>
<td>Barclays USA</td>
<td>JPMorgan Chase</td>
<td>TD Group U.S.</td>
</tr>
<tr>
<td>BNP Paribas</td>
<td>Keycorp</td>
<td>UBS Americas</td>
</tr>
<tr>
<td>Bank of New York Mellon</td>
<td>M&amp;T Bank</td>
<td>US Bancorp</td>
</tr>
<tr>
<td>Capital One Financial</td>
<td>MUFG Americas</td>
<td>Wells Fargo</td>
</tr>
<tr>
<td>Citigroup</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Conditional Non-Objection to Capital Plan

| Goldman Sachs | Morgan Stanley | State Street |

### Objection to Capital Plan

| DB USA |

Source: Federal Reserve
4.11.26 FDIC-Insured Failed Institutions

Number of Institutions As Of: 2018 Q2 Percent

Number of Institutions (left axis)

Assets of Failed Institutions as a Percent of Nominal GDP (right axis)

Source: BEA, FDIC, Haver Analytics

4.11.27 Commercial Bank and Thrift Pre-Tax Income

Billions of US$

As Of: 2018 Q2

Billions of US$

- Noninterest Income
- Net Interest Income
- Total Pre-Tax Income
- Provisions
- Realized Gains/Losses on Investments
- Noninterest Expense
- Note: Includes all FDIC-insured commercial banks and thrifts. Values are annualized.

Source: FDIC
4.11.28 U.S. Branches and Agencies of Foreign Banks: Assets

As Of: 2018 Q2

Trillions of US$

Securities Purchased with Repos & Fed Funds Sold
Net Due from Related Institutions
Reserve Balances
Cash and Balances Due from Depository Institutions (Excluding Reserve Balances)
Other Assets
Non-C&I Loans
C&I Loans

Note: Other assets includes government securities, asset-backed securities, and other trading assets.

Source: Federal Reserve, Haver Analytics
Source: Federal Reserve, Haver Analytics

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

As Of: 2018 Q2

<table>
<thead>
<tr>
<th>Year</th>
<th>Noninterest Income</th>
<th>Net Interest Income</th>
<th>Net Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td></td>
<td></td>
<td>11.30</td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td></td>
<td>0.75</td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td>0.50</td>
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<tr>
<td>2012</td>
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<td></td>
<td>0.25</td>
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<tr>
<td>2014</td>
<td></td>
<td></td>
<td>0.00</td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td></td>
<td>0.00</td>
</tr>
<tr>
<td>2018</td>
<td></td>
<td></td>
<td>0.00</td>
</tr>
</tbody>
</table>

Source: NCUA

Note: Federally-insured credit unions. Values are annualized.
4.11.31 Credit Union Deposits

Money Market and IRA Deposit Share (left axis)

Interest-Sensitive Deposit Share (right axis)

As Of: 2018 Q2

Percent

Percent


Source: NCUA

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

Percent of Total Assets  As Of: 2018 Q2  Percent of Total Assets

- Investments Longer Than 3 Years
- Fixed Rate First Mortgages

Source: NCUA
4.11.33 Credit Union Investments by Maturity

Percent of Total Assets | As Of: 2018 Q2 | Percent of Total Assets

- 3-5 Years
- 1-3 Years
- 5-10 Years
- >10 Years
- <1 Year

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: 2017

Billions of US$

Source: FINRA
4.12.2 Broker-Dealer Revenues

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

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

Source: FINRA
Note: Leverage is the ratio of total assets to total ownership equity. 2018 data as of second quarter 2018.
4.12.4 Large Broker-Dealer Assets and Leverage by Affiliation

Trillions of US$ As Of: 2018 Q2

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 2018.
4.12.5 Insurance Industry Net Income

Billions of US$

As Of: 2018 Q2

Billions of US$

Source: SNL Financial

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

As Of: 2018 Q2

Percent

Percent

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>Year</th>
<th>Life Capital and Surplus / Assets (right axis)</th>
<th>P&amp;C Capital and Surplus / Assets (right axis)</th>
<th>Life Capital and Surplus (left axis)</th>
<th>P&amp;C Capital and Surplus (left axis)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td>2017</td>
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<tr>
<td>2018</td>
<td></td>
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</tr>
</tbody>
</table>

As Of: 2018 Q2

Percent of Total Assets

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

Source: Federal Reserve, Haver Analytics

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

Trillions of US$

As Of: Sep-2018

Trillions of US$

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.
4.12.10 ABS Issuance

As Of: Sep-2018

Source: Thomson Reuters, SIFMA
4.12.11 Select ABS Spreads

Source: J.P. Morgan

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

As Of: 2018 Q2

Ratio

Billions of US$

Total Assets (right axis)

Leverage (left 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: 2018 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.
4.13.1 MMF Assets by Fund Type


- **Tax-Exempt**
- **Government and Treasury**
- **Prime**

Source: SEC
4.13.2 Liquid Asset Shares of Prime MMFs

Percent of Total Assets

As Of: Oct-2018

Percent of Total Assets

Source: SEC

Note: Weighted by fund size.
4.13.3 Weighted Average Maturity by Fund Type

Basis Points

As Of: Oct-2018

Basis Points

Source: SEC
### 4.13.4 Net Assets of the Investment Company Industry

**Trillions of US$**

**As Of: 2018 Q3**

**Trillions of US$**

<table>
<thead>
<tr>
<th>Year</th>
<th>Other</th>
<th>ETFs</th>
<th>MMFs</th>
<th>Bond/Hybrid Mutual Funds</th>
<th>Equity Mutual Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
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<td>2011</td>
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<tr>
<td>2017</td>
<td></td>
<td>22</td>
<td>21</td>
<td>24</td>
<td>23</td>
</tr>
</tbody>
</table>

**Note:** Other is composed of unit investment trusts and closed-end funds. 2018 YTD figures include 2017 UIT data, which is reported annually.

**Source:** ICI, Haver Analytics
4.13.5 Monthly Bond Mutual Fund Flows

Billions of US$  As Of: Sep-2018  Billions of US$

[Bar chart showing monthly bond mutual fund flows from 2013 to 2018, with categories for Tax-Exempt and Taxable funds.]

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

As Of: Sep-2018

Billions of US$

Source: ICI, Haver Analytics
4.13.7 High-Yield Mutual Funds: Quarterly Flows

As Of: 2018 Q3

Billions of US$

Source: Morningstar, Inc.
4.13.8 Bank Loan Mutual Funds: Quarterly Flows

Billions of US$  As Of: 2018 Q3  Billions of US$

Source: Morningstar, Inc.
4.13.9 Alternative Mutual Funds: Quarterly Flows

As Of: 2018 Q3

Source: Morningstar, Inc.
4.13.10 Cumulative Equity Fund Flows

Trillions of US$ As Of: Sep-2018 Trillions of US$

International Passively Managed
International Actively Managed
U.S. Passively Managed
U.S. Actively Managed

Source: Morningstar, Inc. Note: Includes ETFs and mutual funds.
4.13.11 U.S.-Listed ETP AUM

Trillions of US$

As Of: Sep-2018

Trillions of US$

AUM
Cumulative Market Appreciation
Cumulative Flows to ETFs

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

As Of: 2018 Q1

Trillions of US$

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

Source: NASRA Public Fund Survey, Milliman 2018 Corporate Pension Funding Study
4.13.14 North American Private Equity AUM

Source: Preqin
4.13.15 M&A Loan Volume for Private Equity-Backed Issuers

As Of: 31-Oct-2018


YTD

Source: S&P LCD
4.14.1 Market Capitalization of Blockchain-Based Digital Assets

Source: Coinmarketcap.com; OFR
4.14.2 U.S. Consumer Adoption of Payment Instruments

Percent of Consumers

As Of: 2017

Percent of Consumers

Cash
Check
Online Banking Bill Payments
Checking Account
Credit
Debit

Source: Federal Reserve
Bank of Boston

D.1 VIX and S&P 500 Indices

Points

As Of: 31-Oct-2018

VIX Index (left axis)
S&P 500 Index (right axis)

Source: Bloomberg, L.P.
D.2 Total Assets of Inverse VIX ETPs

|--------------|---------------------|--------------|

- **VelocityShares Daily Inverse VIX Short Term ETN (XIV)**
- **VelocityShares Daily Inverse VIX Medium Term ETN (ZIV)**
- **ProShares Short VIX Short-Term Futures (SVXY)**

Source: Bloomberg, L.P.