Figure 1.

FED’S ASSETS* (trillion dollars)

<table>
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<tr>
<th>Year</th>
<th>QE1</th>
<th>QE2</th>
<th>QE3</th>
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* Fed data are averages of daily figures for weeks ending Wednesday. Source: Federal Reserve Board.

Figure 2.

OFFICIAL INTEREST RATES (percent)

Source: Federal Reserve Board, European Central Bank and Haver Analytics.
Figure 3.

**FEDERAL FUNDS RATE TARGET RANGE**
(percentage)

**Fed Funds Range**
- Top (2.25)
- Actual (2.12)
- Bottom (2.00)

Source: Federal Reserve Board.

Figure 4.

**FEDERAL FUNDS RATE FUTURES**
(percentage)

- 12-month (1.19)
- 6-month (1.47)
- 3-month (1.82)
- nearby (1.82)

Source: Chicago Mercantile Exchange.
Figure 5.

**ECB OFFICIAL RATE**
(Percent)

Source: European Central Bank.

Figure 6.

**ECB ASSETS**
(trillion euros)

D = ECB President Mario Draghi pledged to do “whatever it takes” to defend the euro (7/26/12). NIRP = negative interest-rate policy (6/5/2014). QE (1/22/15), QEE = expansion and extension of QE (3/10/16, corporate bond purchases started 6/1/16). QT (12/31/2018)

Source: European Central Bank.
Figure 7.

JAPAN: BANK RESERVE BALANCES AT BOJ
(trillion yen, reserve adjusted)

Note: Z = Zero Interest Rate Policy. A = Markets start to anticipate Abenomics. QQE is Quantitative and Qualitative Easing. QQEE is the expanded and extended version of QQE. NIRP = Negative interest rate policy. YC = Yield curve targeting.
Source: Bank of Japan.

Figure 8.

CHINA: M2 & BANK LOANS
(trillion US dollars)

Source: People’s Bank of China.
Figure 9.

TOTAL ASSETS

Fed
(trillion dollars) (3.7)

ECB
(trillion euros) (4.7)

BOJ
(trillion yen) (568.3)

PBOC
(trillion yuan) (35.8)

Source: Haver Analytics.
Figure 10.

**MAJOR CENTRAL BANKS: TOTAL ASSETS**
(trillion dollars, nsa)

- **Fed (Jul=3.7)**
- **ECB (Jul=5.3)**
- **BOJ (Jul=5.2)**
- **PBOC (Jul=5.2)**

Source: Haver Analytics.

Figure 11.

**MAJOR CENTRAL BANKS: TOTAL ASSETS**
(trillion dollars, nsa)

Total of Fed, ECB, BOJ, & PBOC (19.4)

Source: Haver Analytics.
Figure 12.

TOTAL ASSETS OF MAJOR CENTRAL BANKS
(as a percent of local currency nominal GDP)

Source: Haver Analytics.

Figure 13.

10-YEAR GOVERNMENT BOND YIELDS
(percent)

10-Year Yields
- Germany (-0.69)
- Japan (-0.23)
- US (1.55)

Source: Haver Analytics.
Figure 14.

US TREASURY 10-YEAR BOND & TIPS YIELDS
(percent, daily)

10-Year Treasury
Bond Yield (1.55)
TIPS Yield (0.02)

Source: Federal Reserve Board.

Figure 15.

WIDELY-USED PROXY FOR 10-YEAR EXPECTED INFLATION RATE*
(percent, daily)

Expected Inflation Proxy (1.53)

Source: Federal Reserve Board.
Figure 16.

NONFARM BUSINESS PRODUCTIVITY & REAL BOND YIELD

- **Productivity**
  - (20-quarter percent change) (1.2)

- **Real Bond Yield**
  - (60-month average) (0.3)

*10-year US Treasury bond yield minus yearly percent change in core CPI.
Source: US Department of Commerce, Federal Reserve Board, and Bureau of Economic Analysis.

Figure 17.

G7 PRODUCTIVITY: OUTPUT PER EMPLOYED PERSON
(indexed Q4-2002=100, ratio scale)

- Canada (Q1=110.2)
- France (Q1=112.8)
- Germany (Q2=108.8)
- Italy (Q1=101.1)
- Japan (Q2=109.4)
- UK (Q2=110.8)
- US (Q2=122.3)

Source: Haver Analytics.
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