Predicting the Markets: Chapter 10 Charts: Predicting Bonds
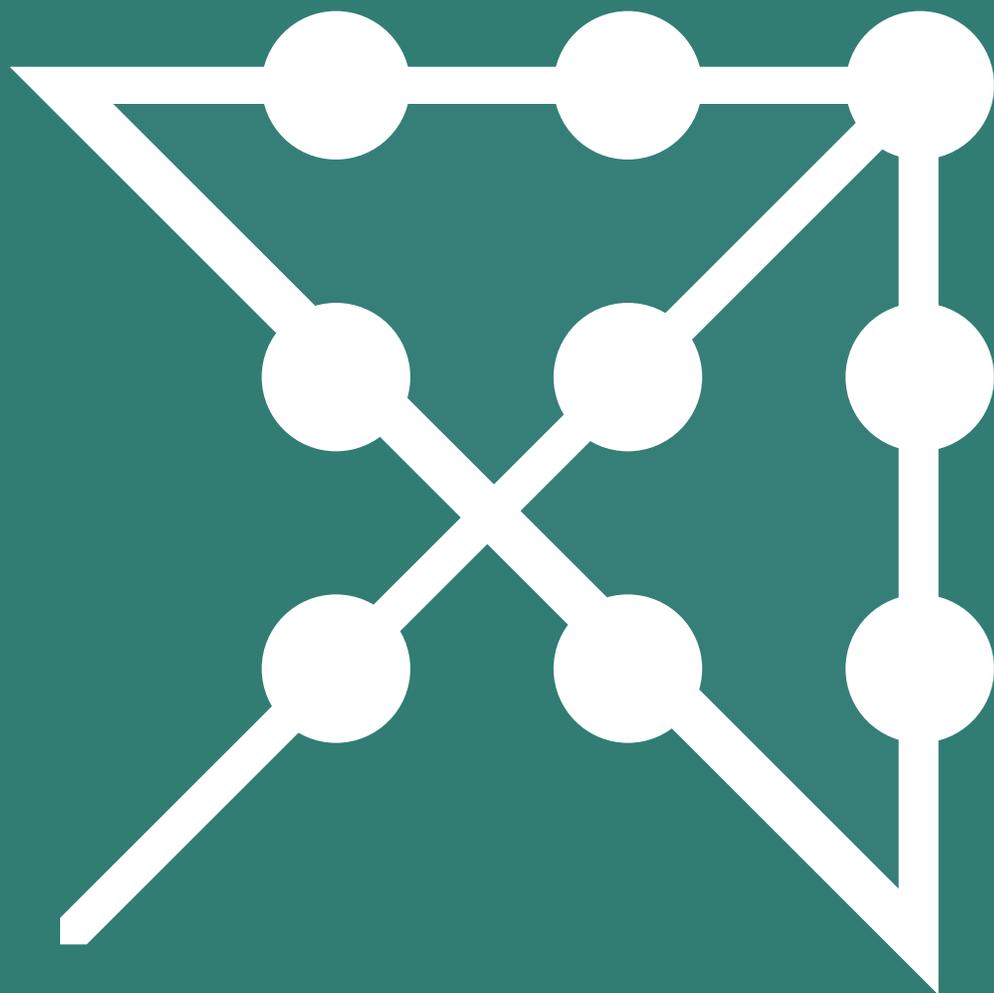
Yardeni Research, Inc.

Dr. Edward Yardeni
Chief Investment Strategist

Mali Quintana
Senior Economist
info@yardenibook.com

thinking outside the box

Table Of Contents

February 25, 2018 / **Chapter 10 Charts: Predicting Bonds**   Yardeni Research, Inc.

www.yardeni.com

Predicting Bonds

Figure 1.

US TREASURY 10-YEAR BOND YIELD: 1965-1989
(percent, daily)

15.84
9/30/81

13.99
5/30/84

10.23
10/16/87

10.12
5/4/83

5.38
3/23/71

yardeni.com

Source: Federal Reserve Board.

Figure 2.

US CONSUMER PRICE INDEX: 1965-1989
(yearly percent change, monthly)

14.8
3/80

12.3
12/74

2.5
7/83

2.7
6/72

4.8
3/84

1.1
12/86

yardeni.com

Source: Bureau of Labor Statistics.

Yardeni Research, Inc.
www.yardeni.com

Predicting Bonds

Figure 3.

FEDERAL FUNDS RATE: 1965-1989
(percent, weekly)

yardeni.com

Source: Federal Reserve Board.

Figure 4.

US BANK PRIME LOAN RATE: 1965-1989
(percent, weekly)

yardeni.com

Source: Federal Reserve Board.

Yardeni Research, Inc.
www.yardeni.com

Predicting Bonds

Figure 5.

US UNEMPLOYMENT RATE: 1965-1989
(percent, monthly)

10.8
12/82

9.0
5/75

6.1
8/71

4.6
10/73

5.6
5/79

3.4
5/69

5.0
3/89

yardeni.com

Source: Bureau of Labor Statistics.

Figure 6.

REAL GDP: 1965-1989
(trillion 2009 dollars, saar, quarterly, ratio scale)

yardeni.com

Source: Bureau of Economic Analysis.

Yardeni Research, Inc.

www.yardeni.com

Predicting Bonds

Figure 7.

US TREASURY BOND YIELD & NOMINAL GDP GROWTH

— US Treasury 10-Year Bond Yield (percent)

— Nominal GDP (yearly percent change)

Q4

Jan

yardeni.com

Source: Bureau of Economic Analysis and Federal Reserve Board.

Figure 8.

SPREAD BETWEEN US TREASURY BOND YIELD & NOMINAL GDP GROWTH*
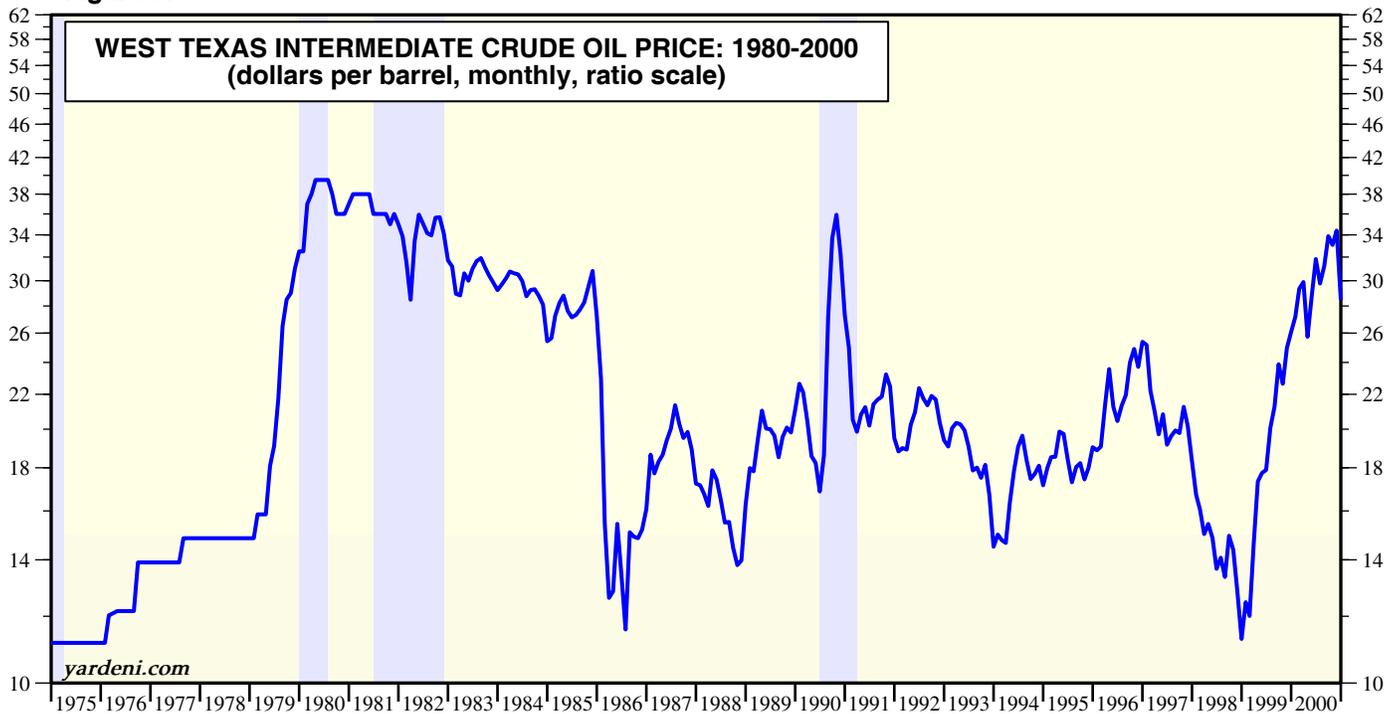(percentage points)

Q4

yardeni.com

* US Treasury 10-year bond yield minus yearly percent change in nominal GDP.
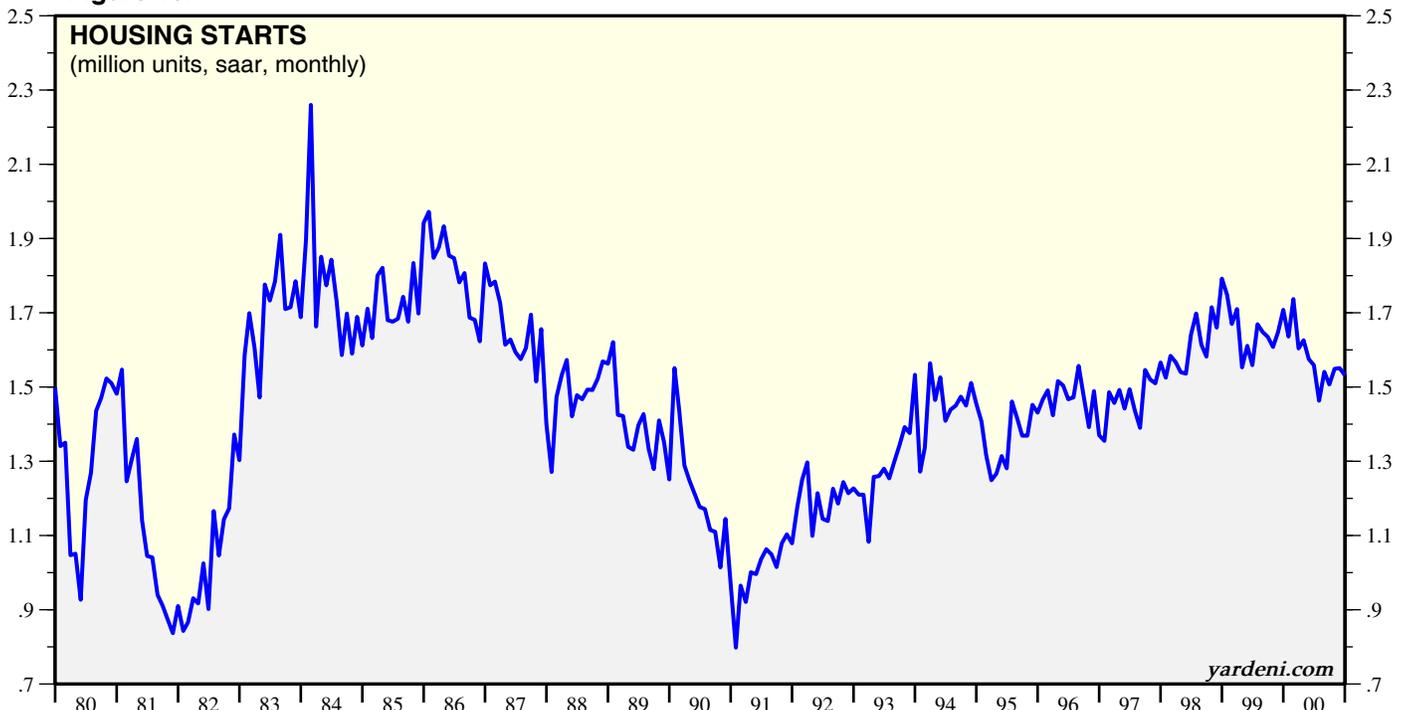Source: Bureau of Economic Analysis and Federal Reserve Board.

Predicting Bonds

Figure 9.

WEST TEXAS INTERMEDIATE CRUDE OIL PRICE: 1980-2000
(dollars per barrel, monthly, ratio scale)

yardeni.com

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Haver Analytics.

Figure 10.

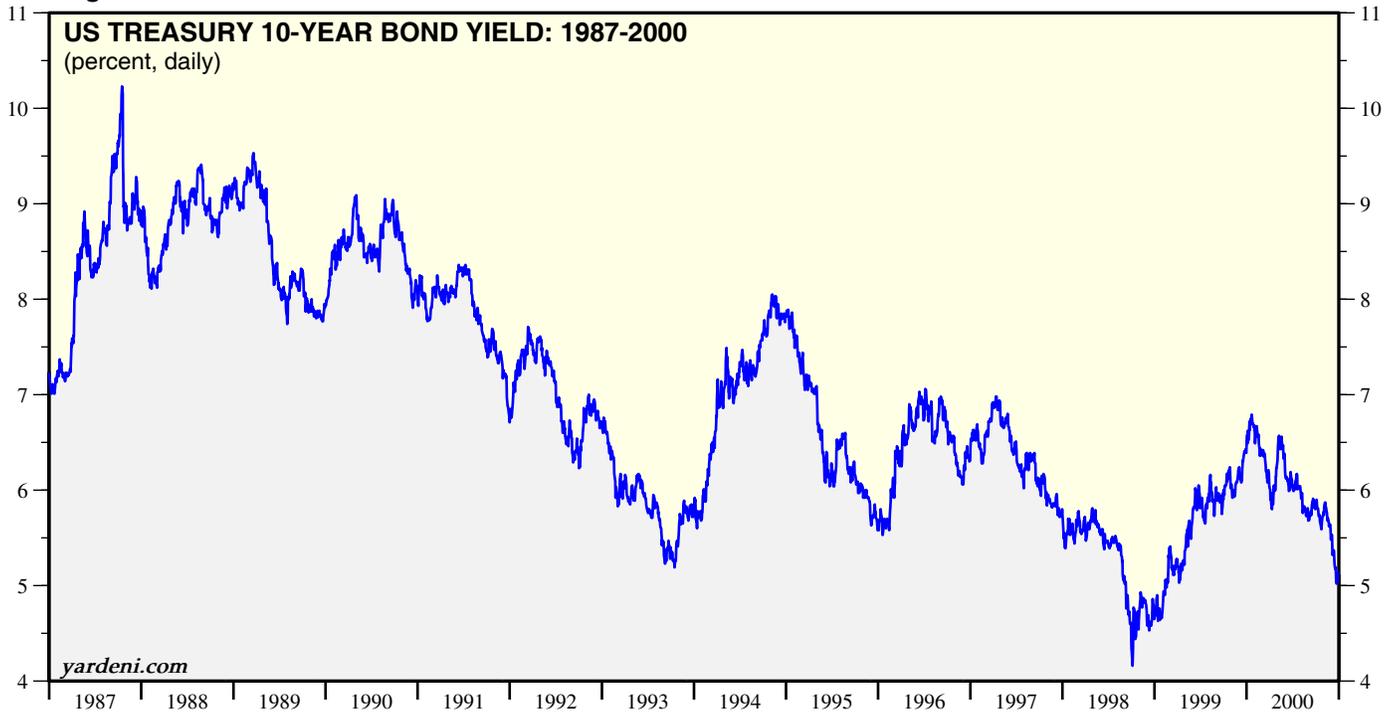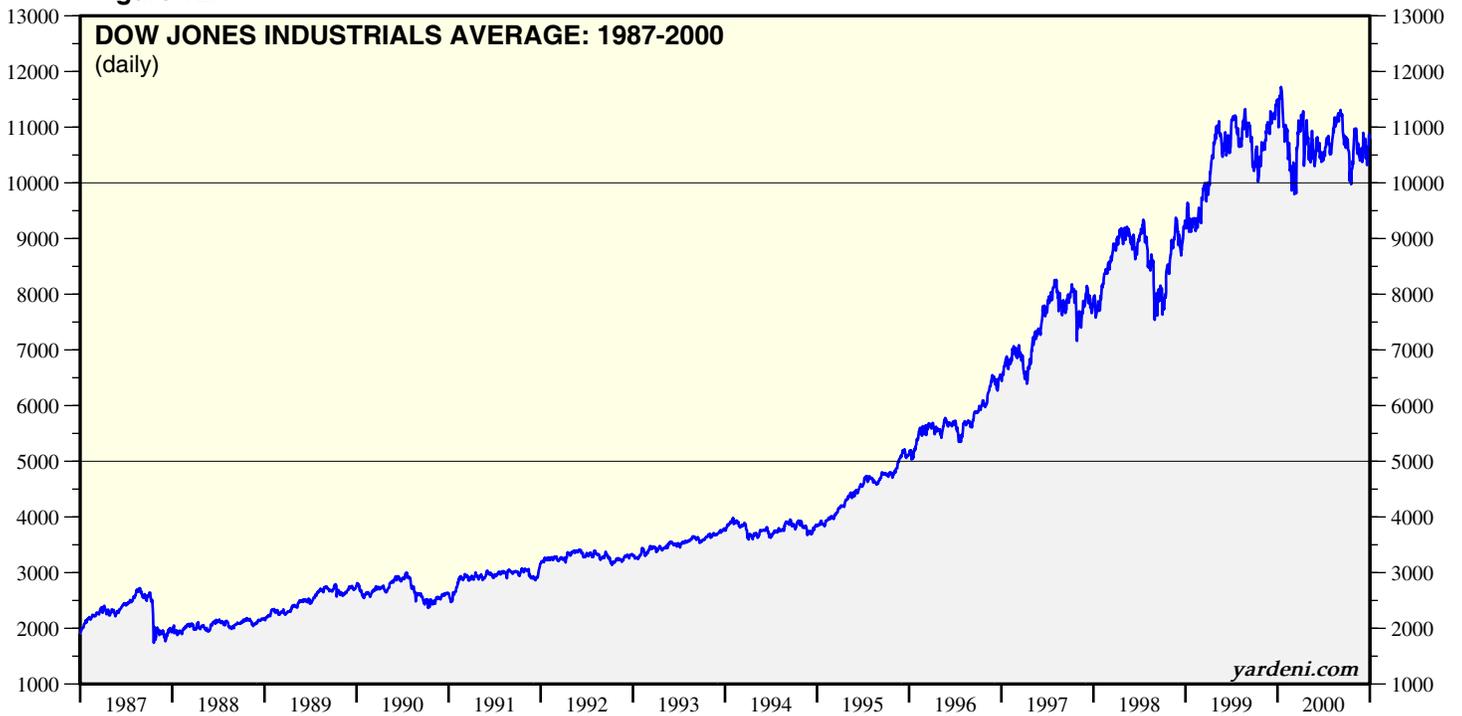**HOUSING STARTS**
(million units, saar, monthly)

yardeni.com

Source: Census Bureau.

Yardeni Research, Inc.
www.yardeni.com

Predicting Bonds

Figure 11.

US TREASURY 10-YEAR BOND YIELD: 1987-2000
(percent, daily)

yardeni.com

Source: Federal Reserve Board.

Figure 12.

DOW JONES INDUSTRIALS AVERAGE: 1987-2000
(daily)

yardeni.com

Source: Dow Jones Inc.

Yardeni Research, Inc.
www.yardeni.com

Predicting Bonds

Figure 13.

THE AGE WAVE, INFLATION, and BOND YIELD IN THE US
(percent)

US Treasury 10-Year Bond Yield***

Age Wave*

Inflation Trend**

Jan

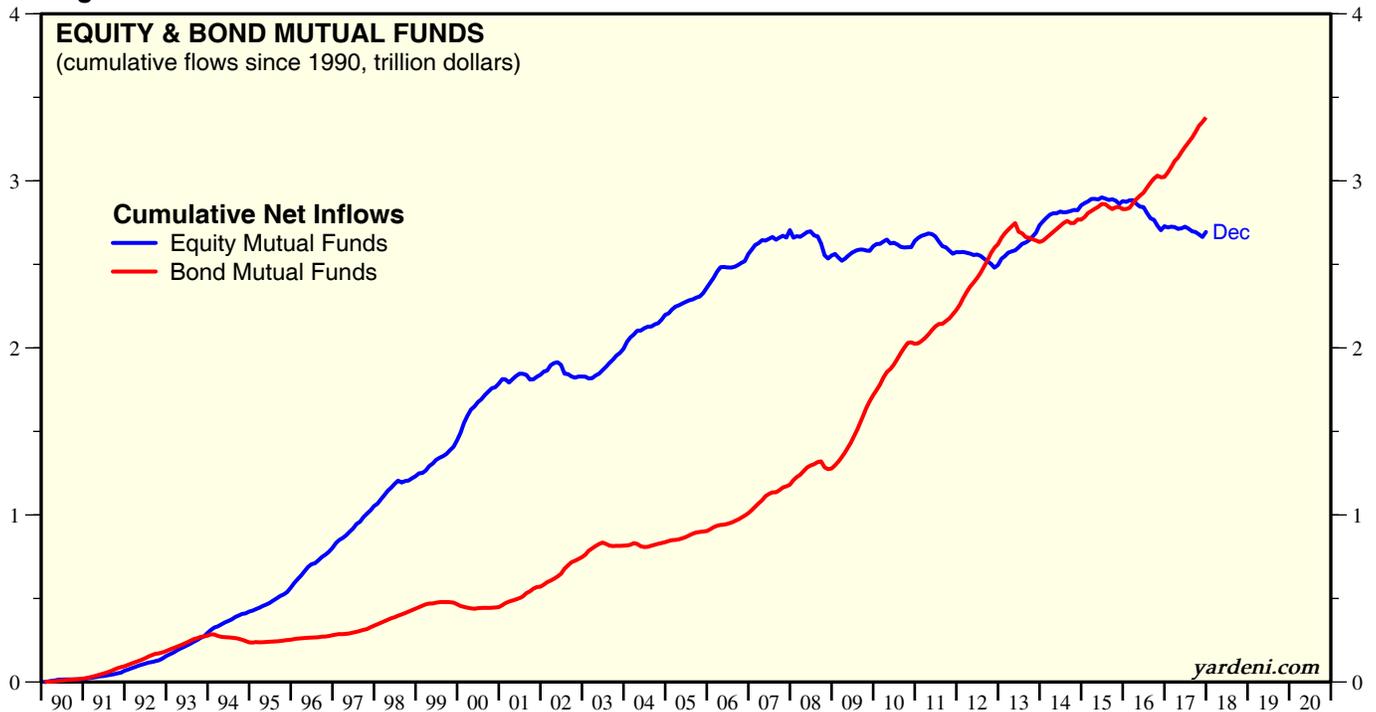yardeni.com
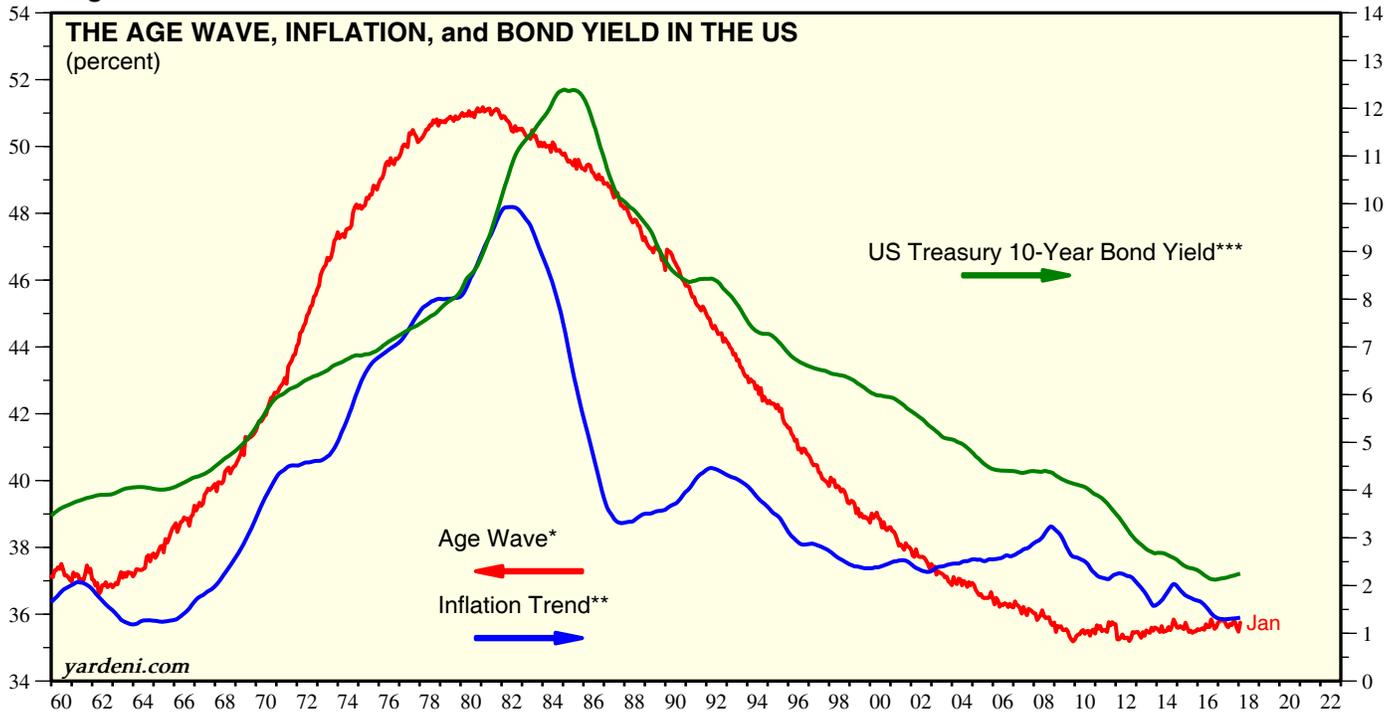
* Percent of labor force 16-34 years old.
** Five-year moving average of yearly percent change in CPI.
*** Five-year moving average of ten-year government bond yield.
Source: Bureau of Labor Statistics and Federal Reserve Board.
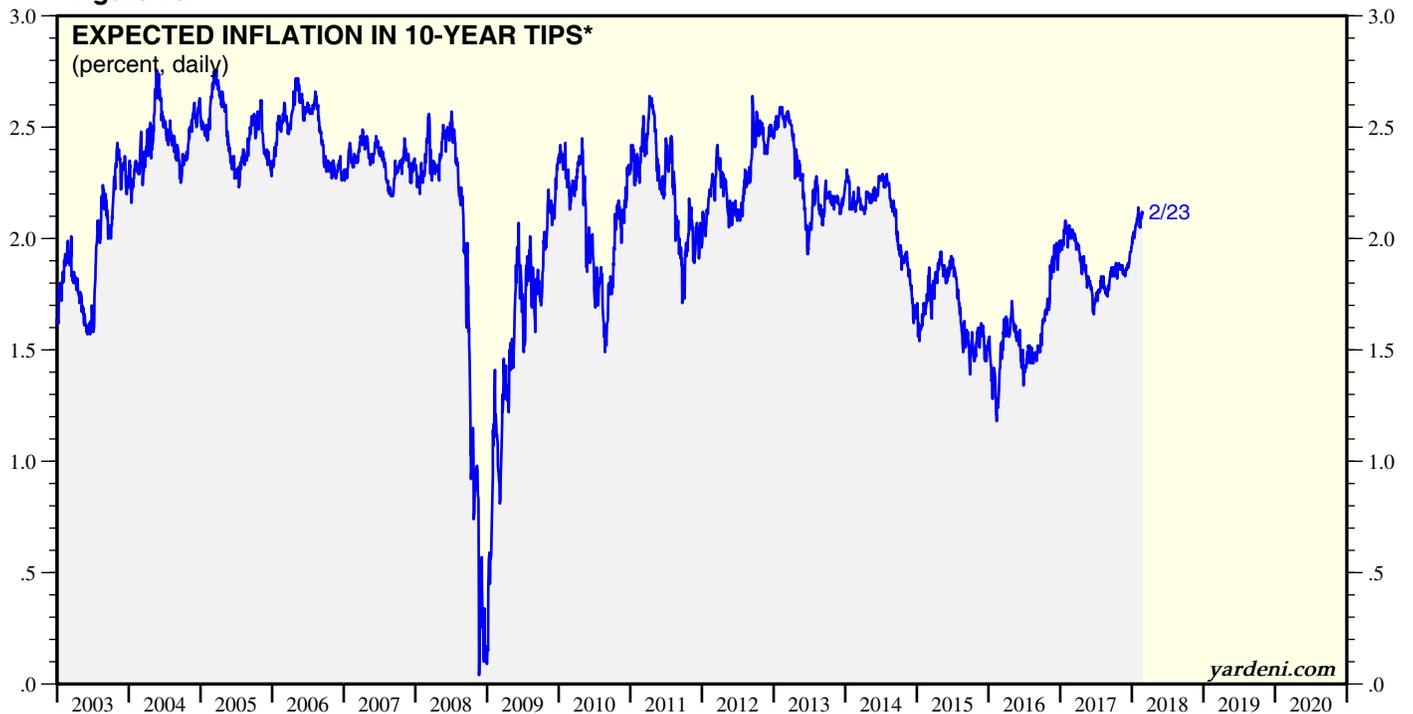
Figure 14.

EQUITY & BOND MUTUAL FUNDS
(cumulative flows since 1990, trillion dollars)

Cumulative Net Inflows
— Equity Mutual Funds
— Bond Mutual Funds

Dec

yardeni.com

Source: Investment Company Institute.

Predicting Bonds

Figure 15.

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

10-Year Treasury
— Bond Yield
— TIPS Yield

yardeni.com

Source: Federal Reserve Board.

Figure 16.

EXPECTED INFLATION IN 10-YEAR TIPS*
(percent, daily)

yardeni.com

* Nominal minus TIPS yield.
Source: Federal Reserve Board.

Predicting Bonds

Figure 17.
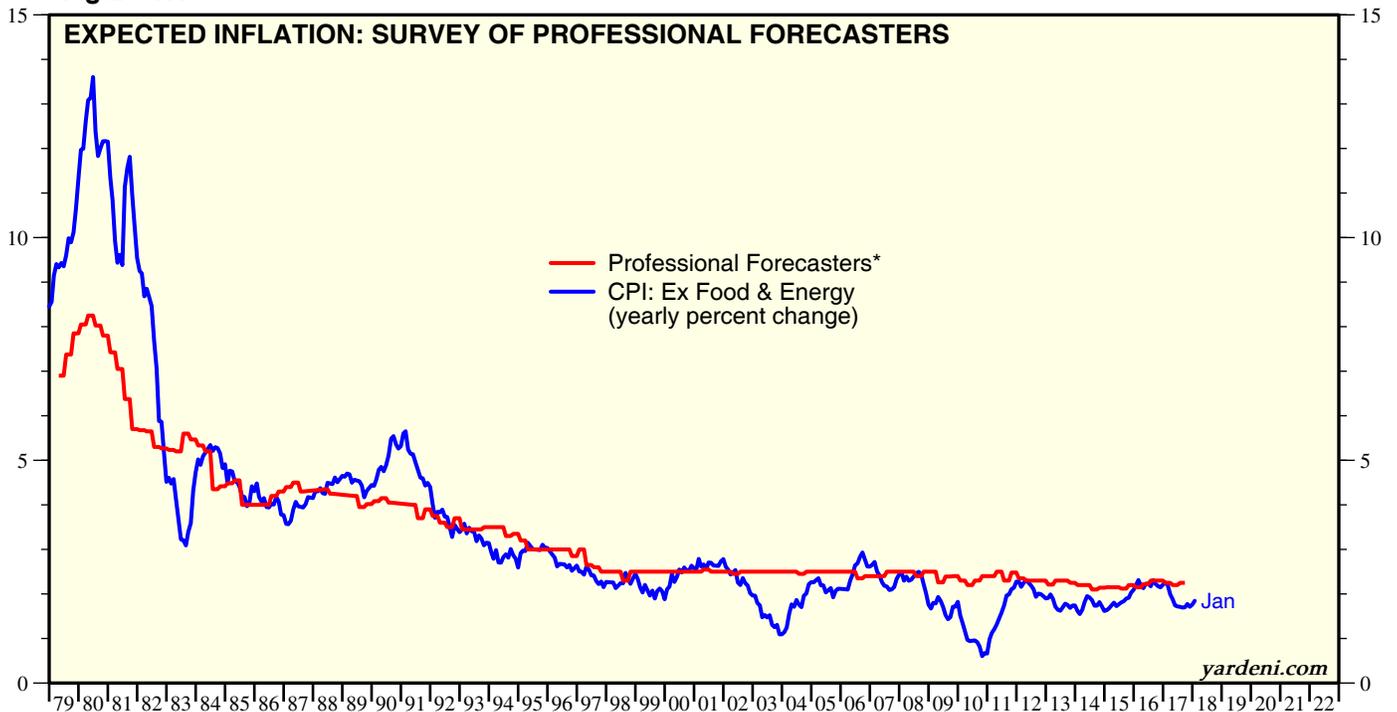
EXPECTED INFLATION: SURVEY OF PROFESSIONAL FORECASTERS

— Professional Forecasters*
— CPI: Ex Food & Energy
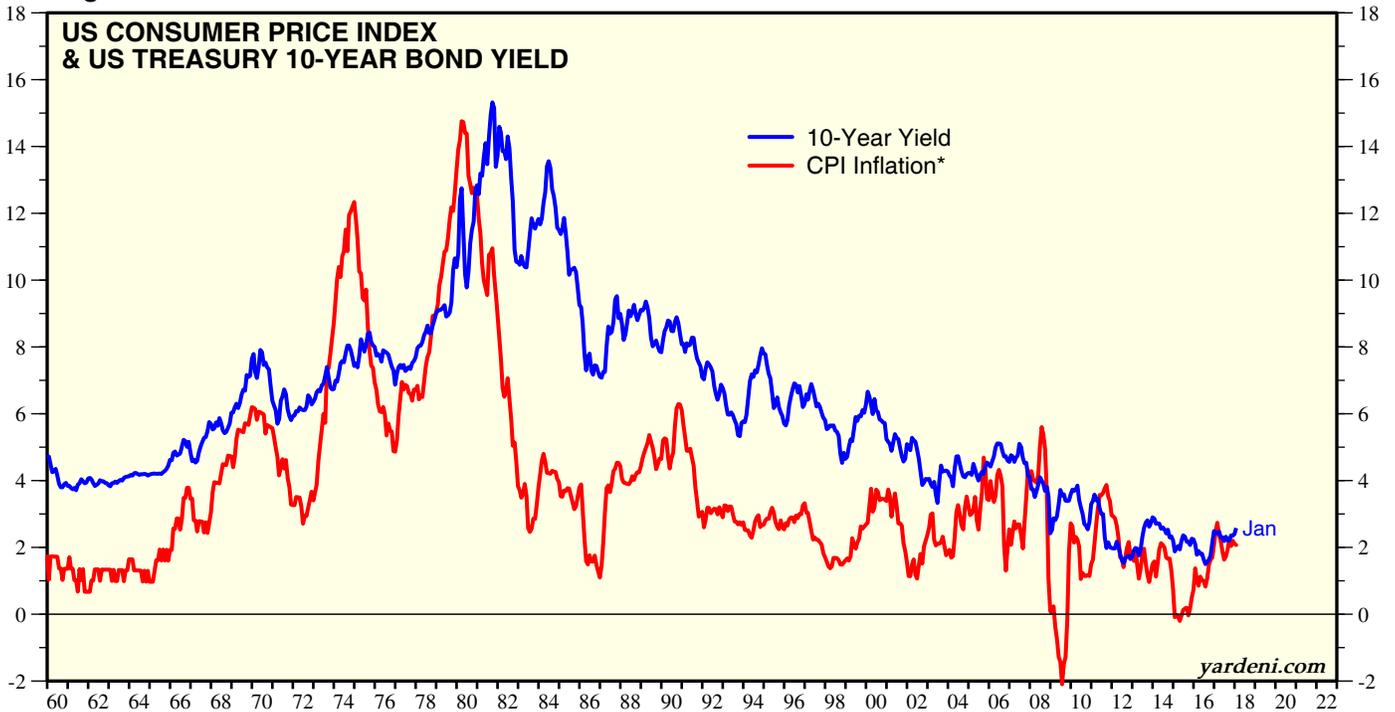(yearly percent change)

Jan

yardeni.com

* Median forecast of year-over-year CPI inflation rate over the next 10 years using Philadelphia Fed Survey of Professional Forecasters data (monthly series interpolated from quarterly data starting as two quarters per year during Q4-1979 until Q4-1991 when the data continue with four quarters per year).
Source: Bureau of Labor Statistics and Federal Reserve Bank of Philadelphia.

Figure 18.
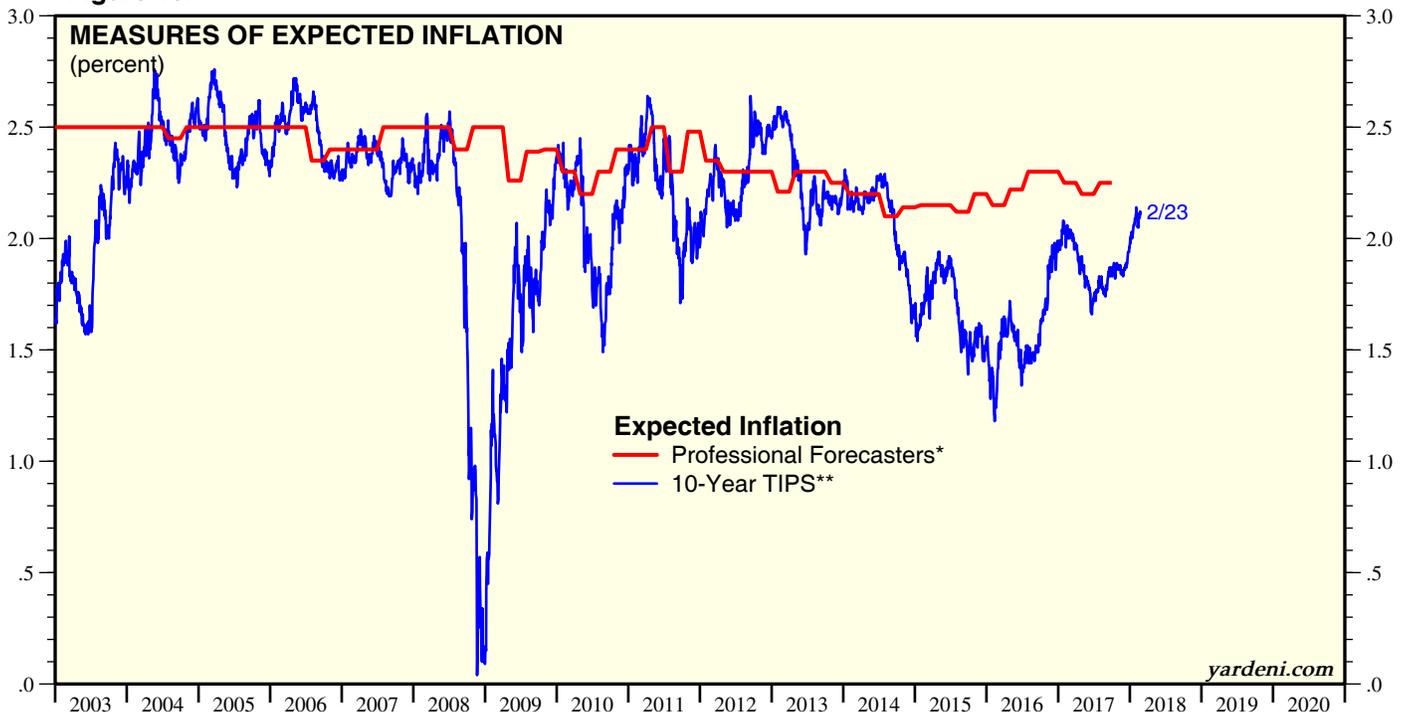
MEASURES OF EXPECTED INFLATION
(percent)

Expected Inflation
— Professional Forecasters*
— 10-Year TIPS**

2/23

yardeni.com

* Median forecast of year-over-year CPI inflation rate over the next 10 years using Philadelphia Fed Survey of Professional Forecasters data (monthly series interpolated from quarterly data starting as two quarters per year during Q4-1979 until Q4-1991 when the data continue with four quarters per year).
** Nominal US Treasury 10-year minus 10-year TIPS yields.
Source: Federal Reserve Board and Federal Reserve Bank of Philadelphia.
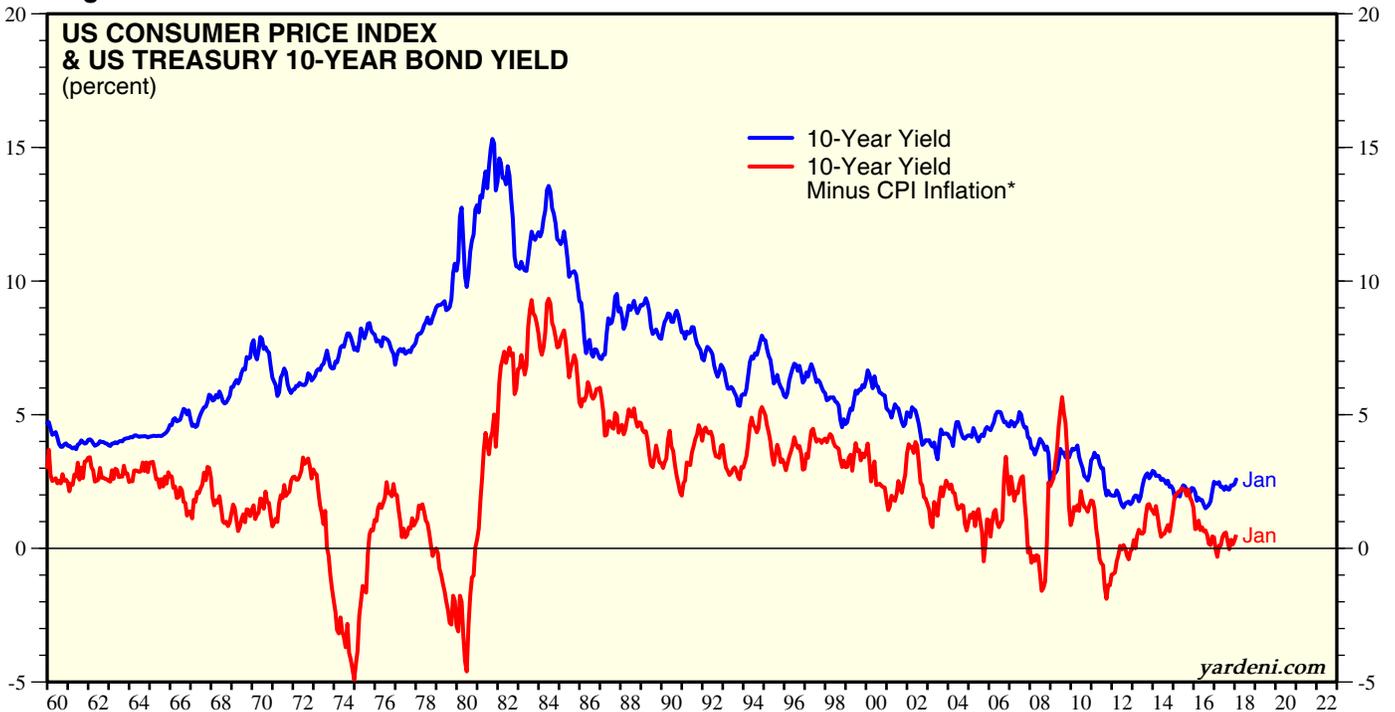
Predicting Bonds

Figure 19.

**US CONSUMER PRICE INDEX
& US TREASURY 10-YEAR BOND YIELD**

— 10-Year Yield
— CPI Inflation*

yardeni.com

* Yearly percent change.
Source: Federal Reserve Board and Bureau of Labor Statistics.

Figure 20.

**US CONSUMER PRICE INDEX
& US TREASURY 10-YEAR BOND YIELD**
(percent)

— 10-Year Yield
— 10-Year Yield
Minus CPI Inflation*

yardeni.com

* Yearly percent change.
Source: Federal Reserve Board and Bureau of Labor Statistics.

Predicting Bonds

Figure 21.

REAL FEDERAL FUNDS RATE*
(percent)

yardeni.com
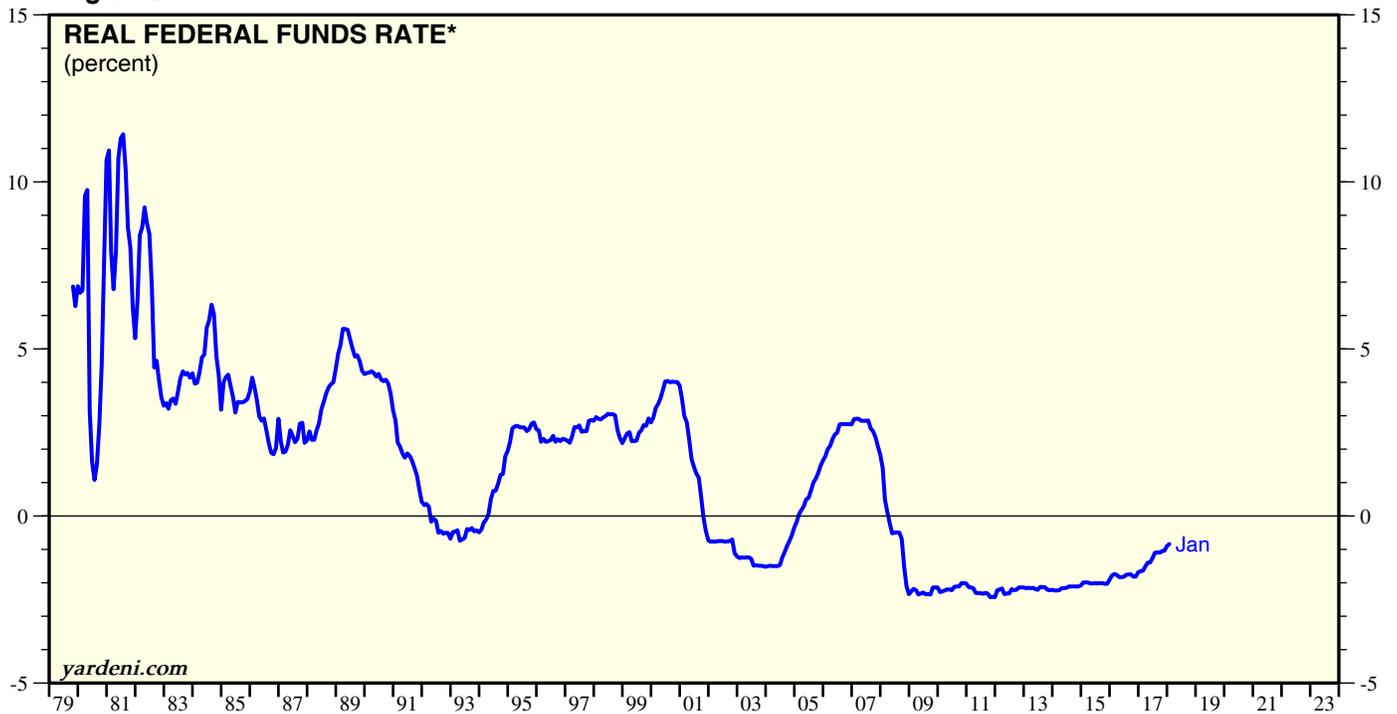
* Federal funds rate minus median forecast of year-over-year CPI inflation rate over the next 10 years using Philadelphia Fed Survey of
Professional Forecasters data (monthly series interpolated from quarterly data starting as two quarters per year during Q4-1979 until Q4-1991 when
the data continue with four quarters a year).
Source: Federal Reserve Board, US Treasury, and Federal Reserve Bank of Philadelphia.
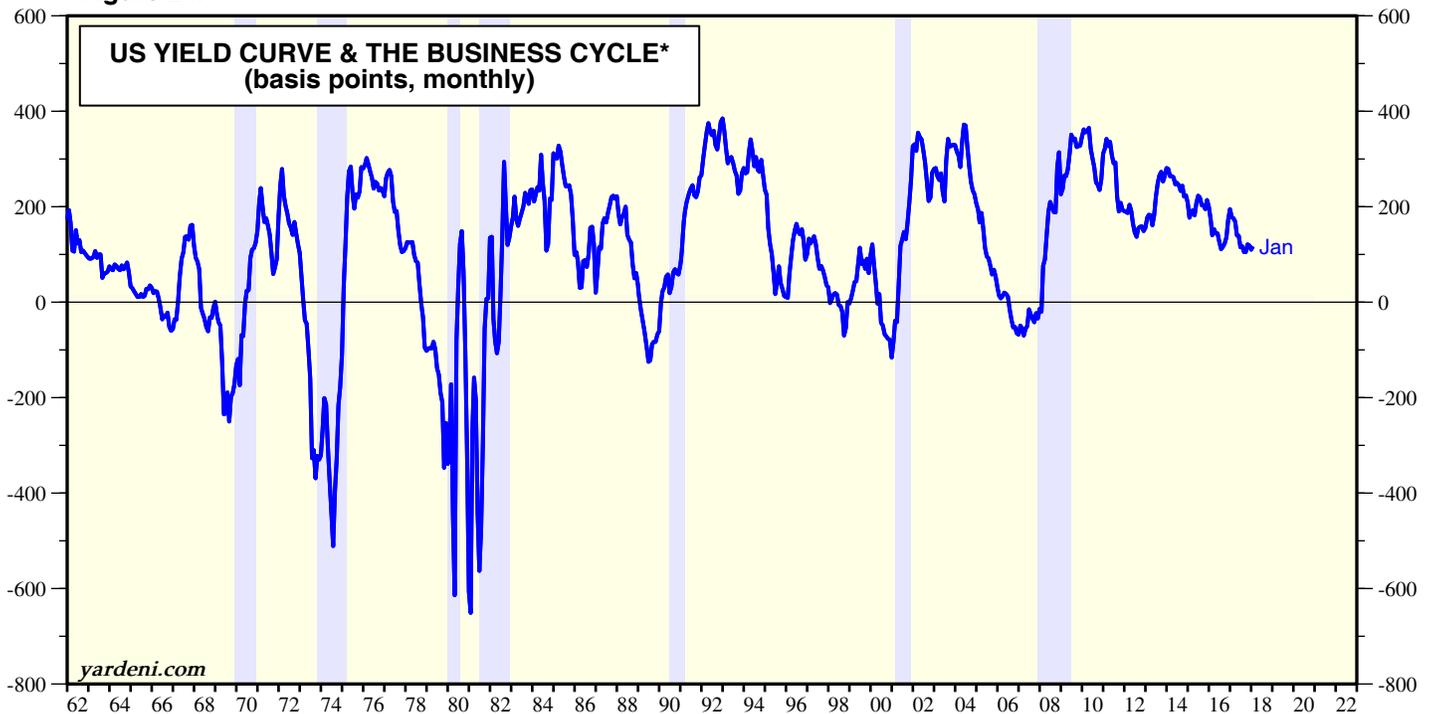
Figure 22.

REAL BOND YIELD*

yardeni.com
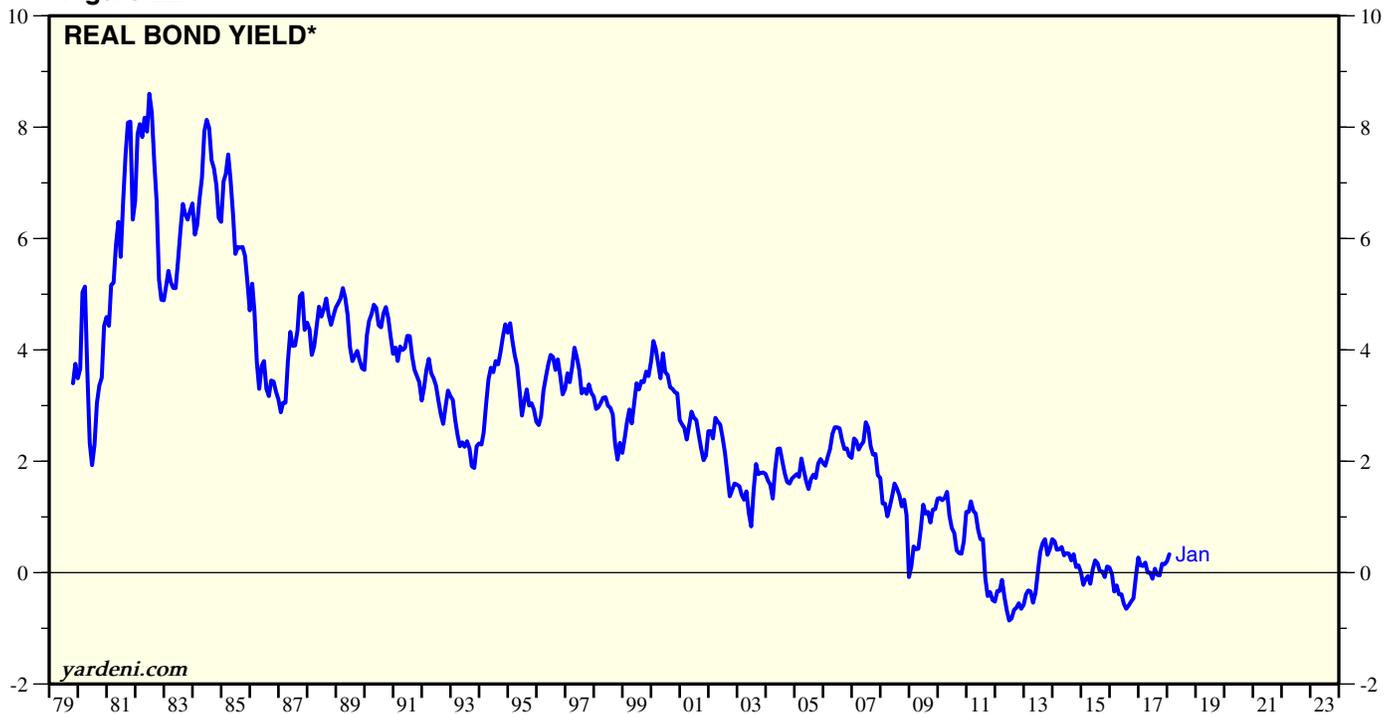
* US Treasury 10-year bond yield minus median forecast of year-over-year CPI inflation rate over the next 10 years using Philadelphia Fed Survey of
Professional Forecasters data (monthly series interpolated from quarterly data starting as two quarters per year during Q4-1979 until Q4-1991 when
the data continue with four quarters a year).
Source: Federal Reserve Board, US Treasury, and Federal Reserve Bank of Philadelphia.

Predicting Bonds

Figure 23.
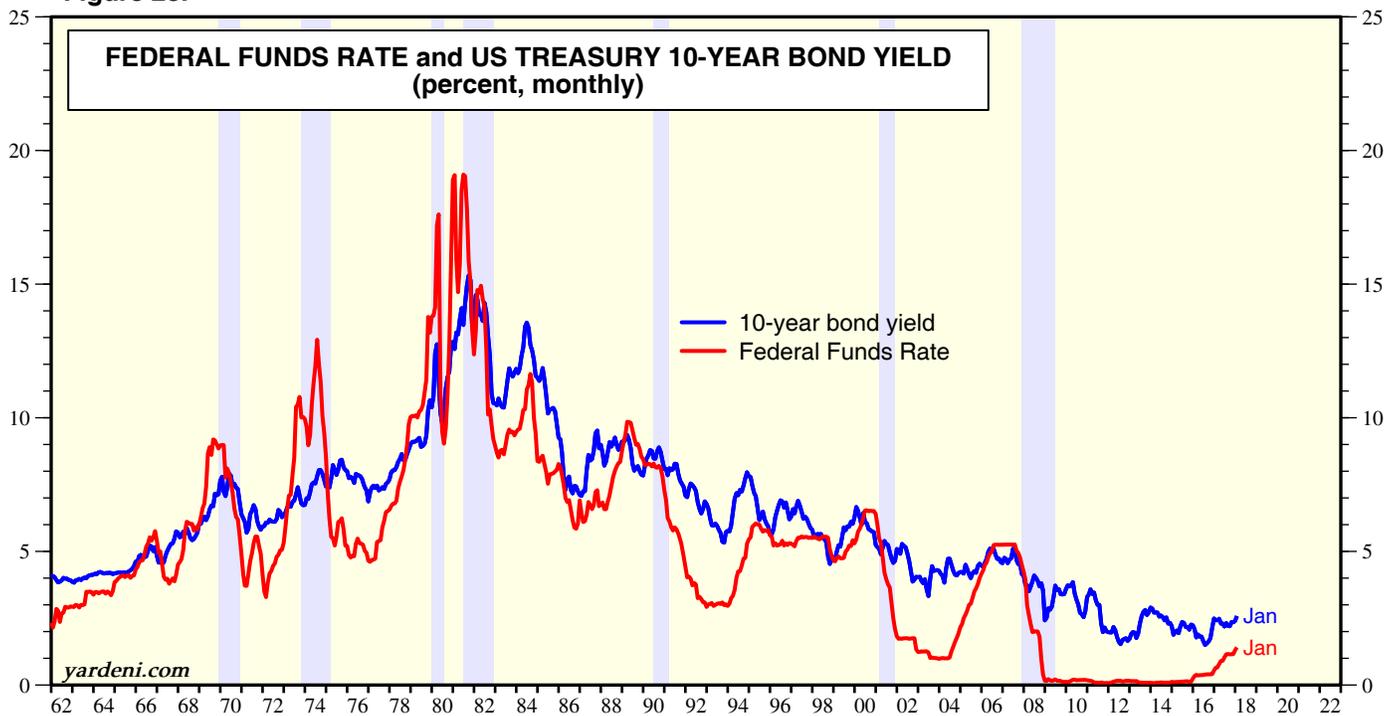
FEDERAL FUNDS RATE and US TREASURY 10-YEAR BOND YIELD
(percent, monthly)

10-year bond yield
Federal Funds Rate

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Federal Reserve Board.

Figure 24.

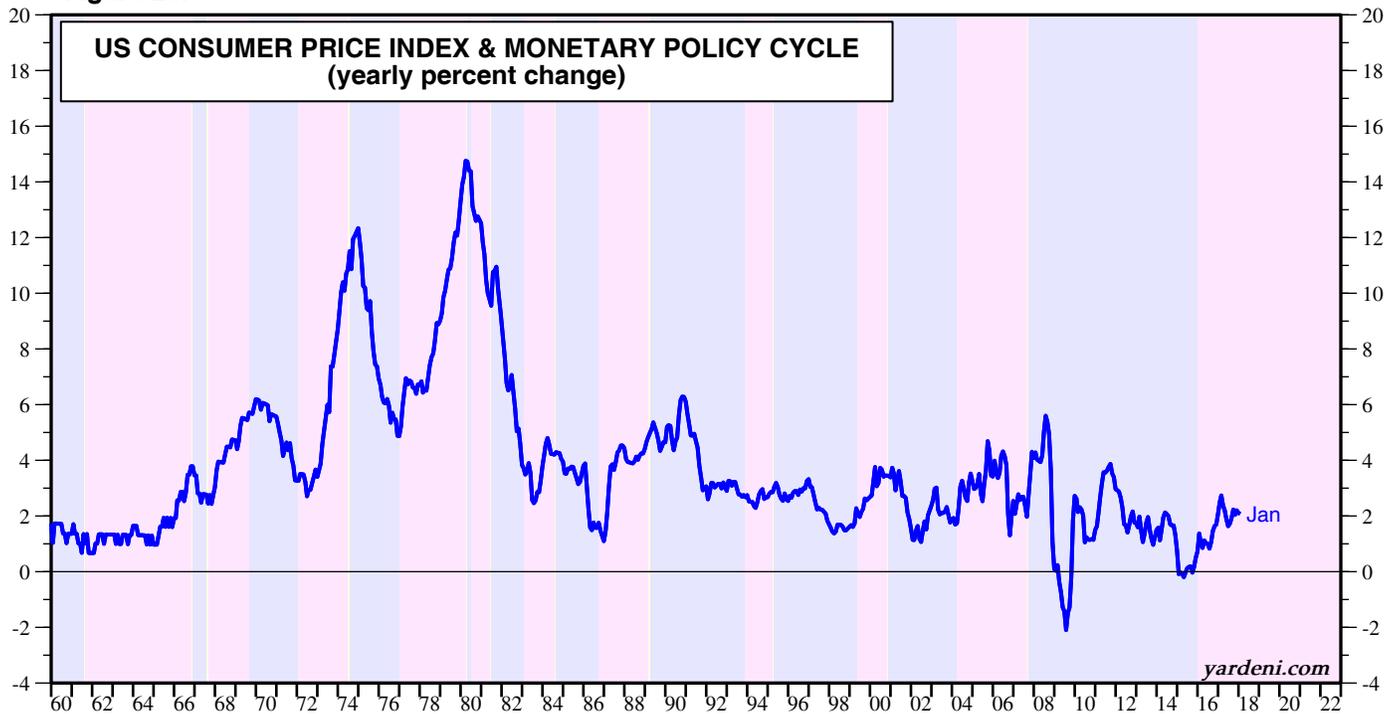
US YIELD CURVE & THE BUSINESS CYCLE*
(basis points, monthly)

* US Treasury 10-year bond yield minus federal funds rate.
Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Federal Reserve Board.

Predicting Bonds

Figure 25.

US CONSUMER PRICE INDEX & MONETARY POLICY CYCLE
(yearly percent change)

Note: Blue shaded areas denote periods of monetary easing between cyclical peaks and troughs in the federal funds rate. Red shaded areas denote monetary tightening periods.
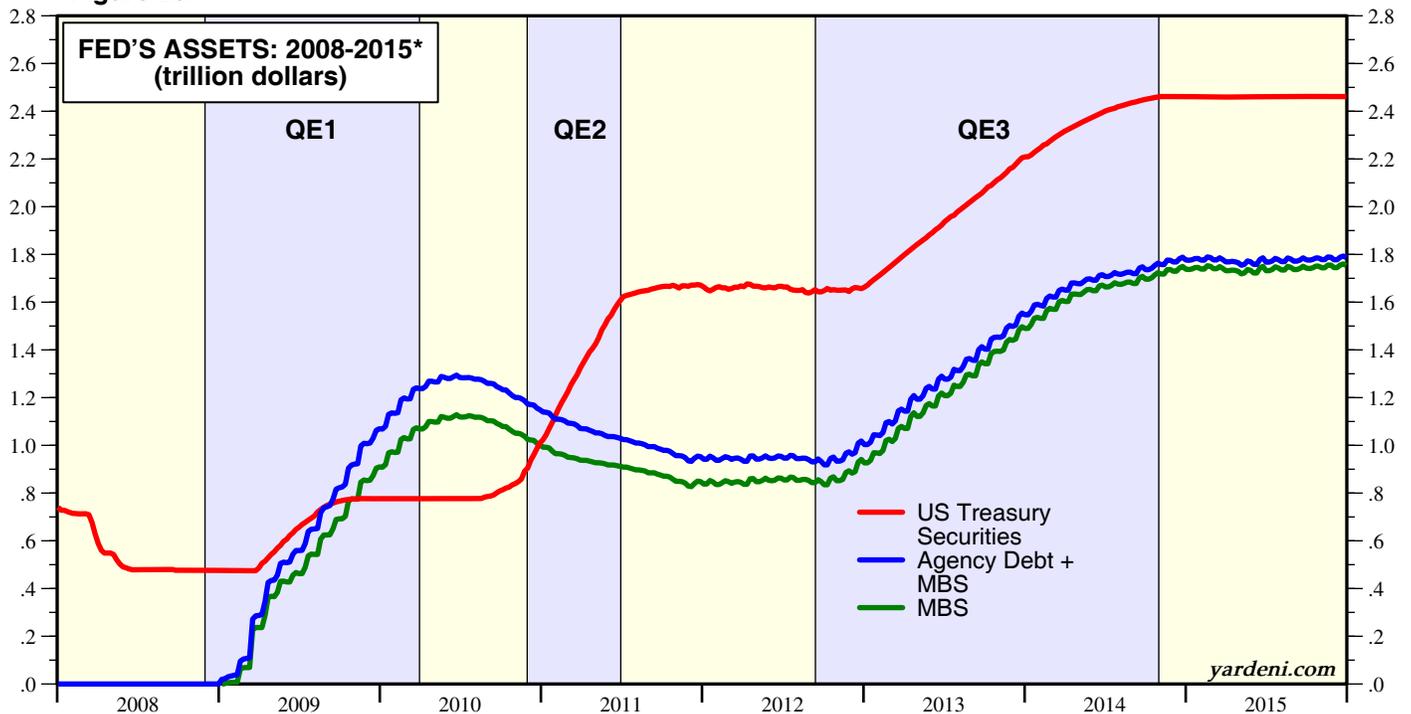Source: Bureau of Labor Statistics.

Figure 26.

US YIELD CURVE* & MONETARY POLICY CYCLE
(basis points)
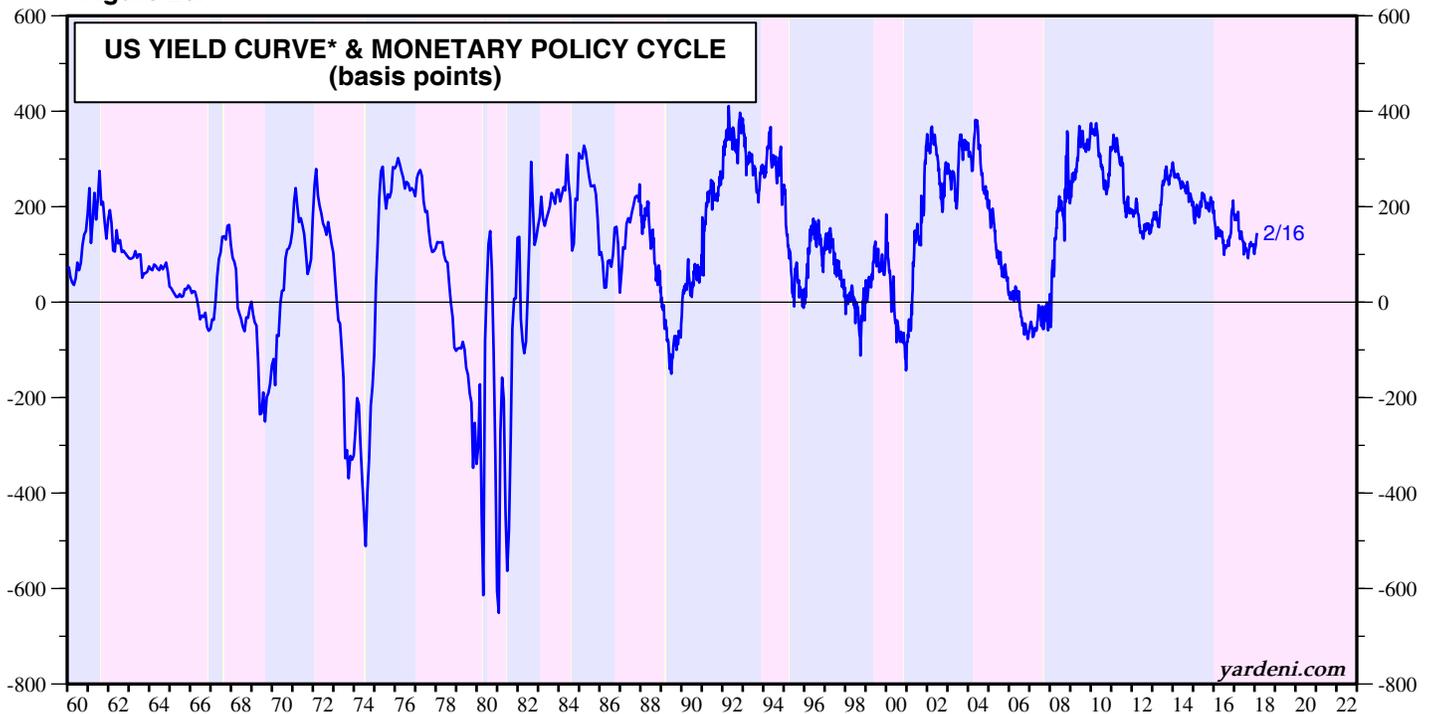
* US Treasury 10-year bond yield less federal funds rate. Monthly through 1987, then weekly.
Note: Blue shaded areas denote periods of monetary easing between cyclical peaks and troughs in the federal funds rate. Red shaded areas denote monetary tightening periods.
Source: Federal Reserve Board.
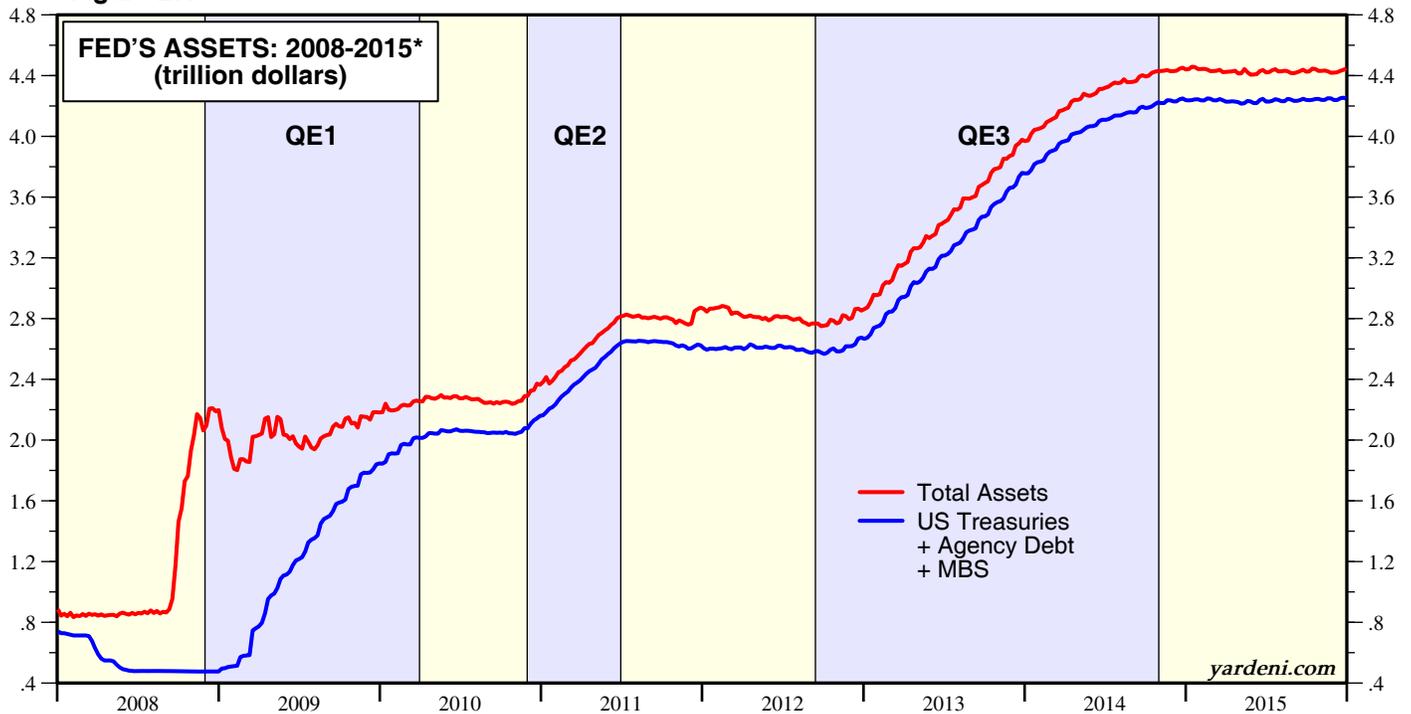
Yardeni Research, Inc.
www.yardeni.com

Predicting Bonds

Figure 27.

* Average of daily figures for weeks ending Wednesday.
Note: QE1 (11/25/08) = Fed starts buying $1.24tn in mortgage securities. QE1 expanded (3/16/2009) = Fed starts buying $300bn in Treasuries.
QE2 (11/3/10) = Fed starts buying $600bn in Treasuries. QE3 (9/13/12) = Fed starts buying $40bn/month in mortgage securities (open ended).
QE3 expanded (12/12/12) = Fed starts buying $45bn/month in Treasuries.
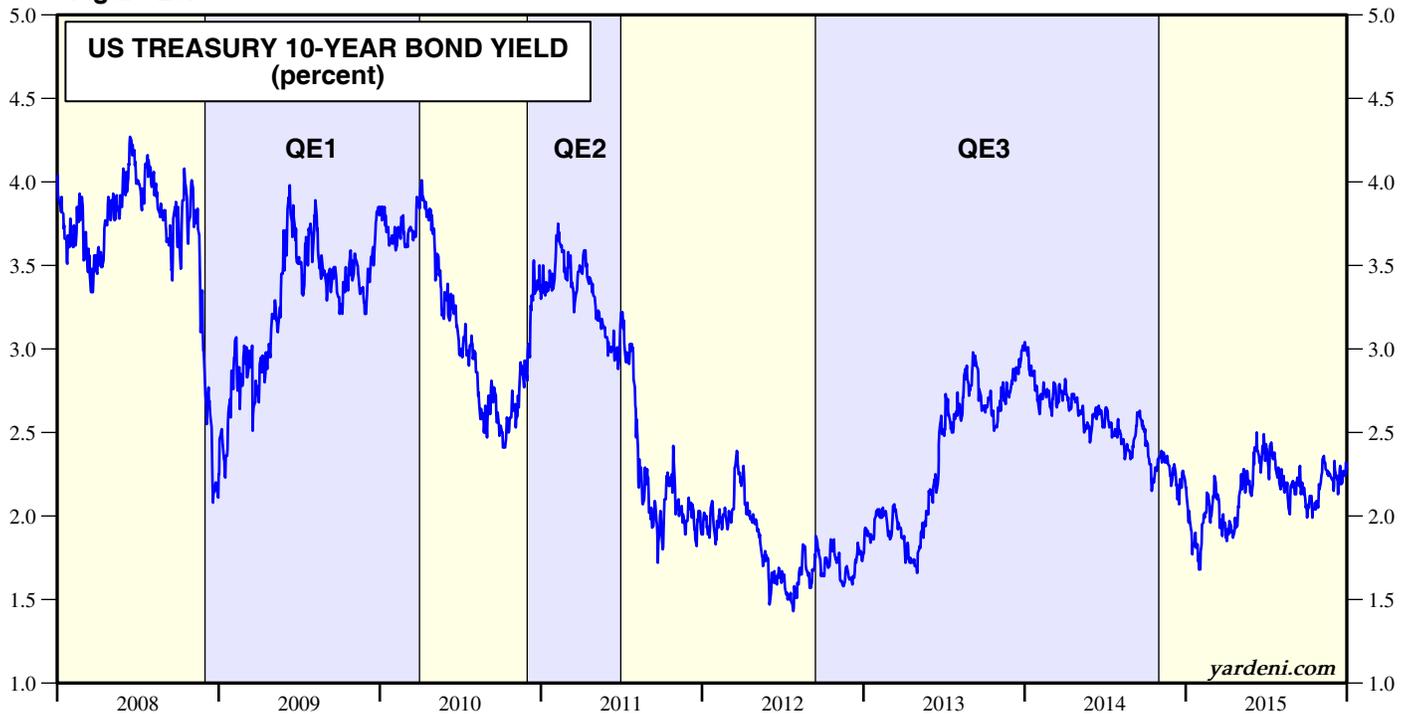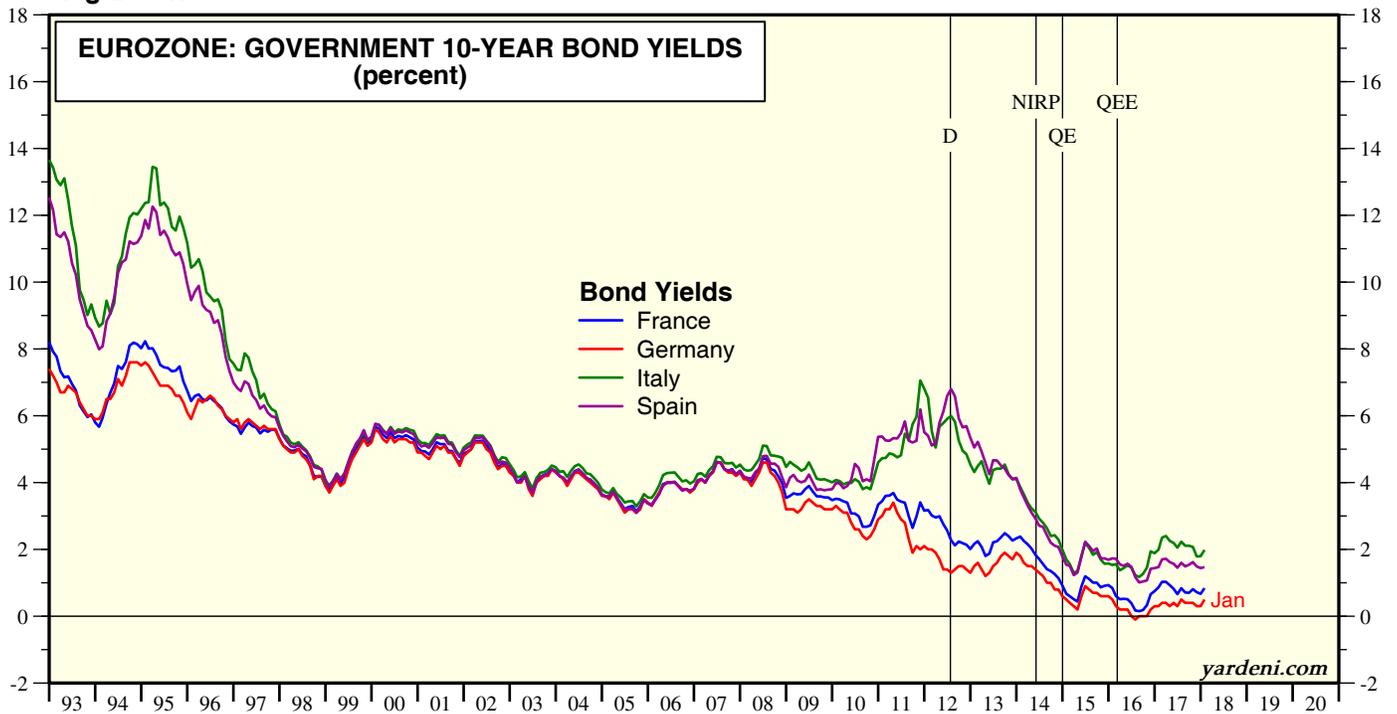Source: Federal Reserve Board.

Figure 28.

* Average of daily figures for weeks ending Wednesday.
Note: QE1 (11/25/08) = Fed starts buying $1.24tn in mortgage securities. QE1 expanded (3/16/2009) = Fed starts buying $300bn in Treasuries.
QE2 (11/3/10) = Fed starts buying $600bn in Treasuries. QE3 (9/13/12) = Fed starts buying $40bn/month in mortgage securities (open ended).
QE3 expanded (12/12/12) = Fed starts buying $45bn/month in Treasuries.
Source: Federal Reserve Board.

Yardeni Research, Inc.
www.yardeni.com

Predicting Bonds

Figure 29.

US TREASURY 10-YEAR BOND YIELD (percent)

Note: QE1 (11/25/08) = Fed starts buying $1.24tn in mortgage securities. QE1 expanded (3/16/2009) = Fed starts buying $300bn in Treasuries.
QE2 (11/3/10) = Fed starts buying $600bn in Treasuries. QE3 (9/13/12) = Fed starts buying $40bn/month in mortgage securities (open ended).
QE3 expanded (12/12/12) = Fed starts buying $45bn/month in Treasuries.
Source: Federal Reserve Board.

Figure 30.

S&P 500 INDEX

S&P 500 Index

US Treasuries + Agency Debt + MBS (trillion dollars)

Note: QE1 (11/25/08) = Fed starts buying $1.24tn in mortgage securities. QE1 expanded (3/16/2009) = Fed starts buying $300bn in Treasuries.
QE2 (11/3/10) = Fed starts buying $600bn in Treasuries. QE3 (9/13/12) = Fed starts buying $40bn/month in mortgage securities (open ended).
QE3 expanded (12/12/12) = Fed starts buying $45bn/month in Treasuries.
Source: Standard & Poor's.

Predicting Bonds

Figure 31.

EUROZONE: GOVERNMENT 10-YEAR BOND YIELDS
(percent)

Bond Yields
- France
- Germany
- Italy
- Spain

Note: D (7/26/12) = ECB President Mario Draghi pledged to do "whatever it takes" to defend the euro. NIRP (6/5/2014) = negative interest-rate policy. QE (1/22/15) = quantitative easing. QEE (3/10/16) = expansion and extension of QE with corporate bond purchases started 6/1/16.
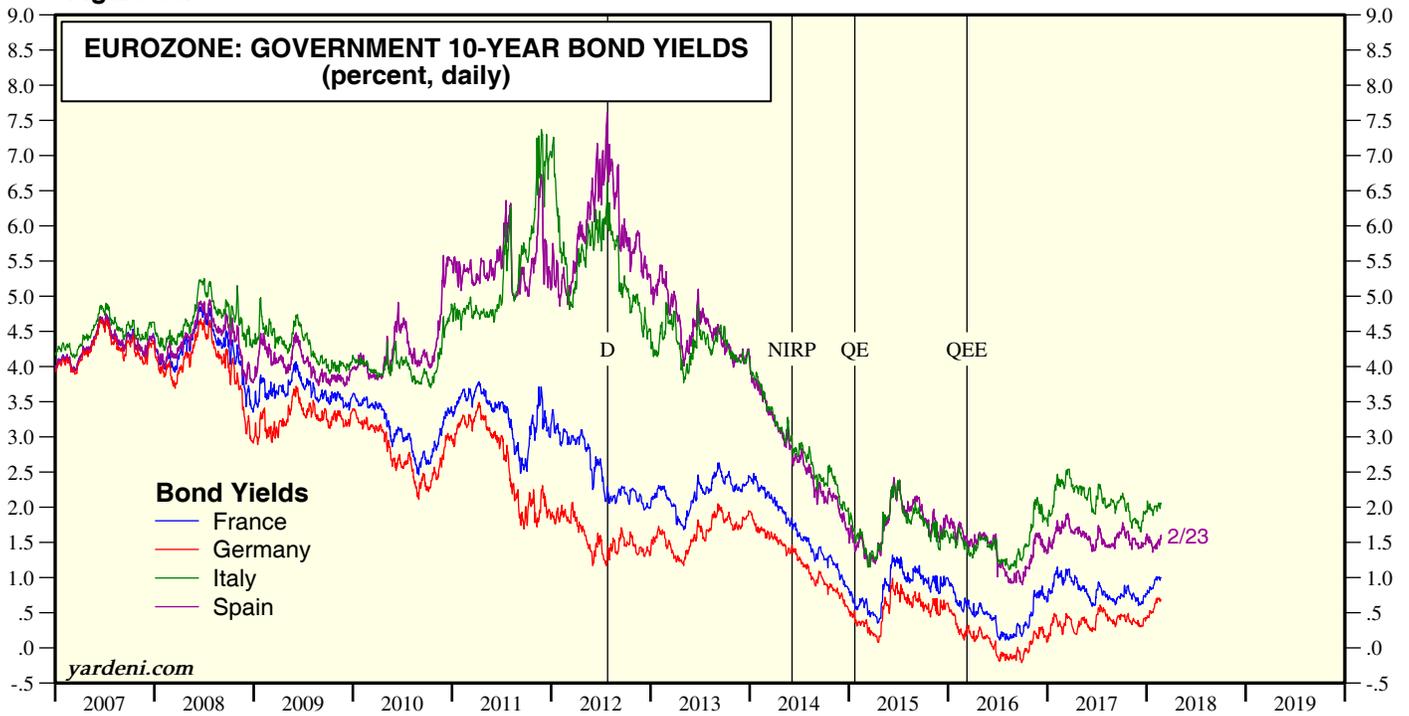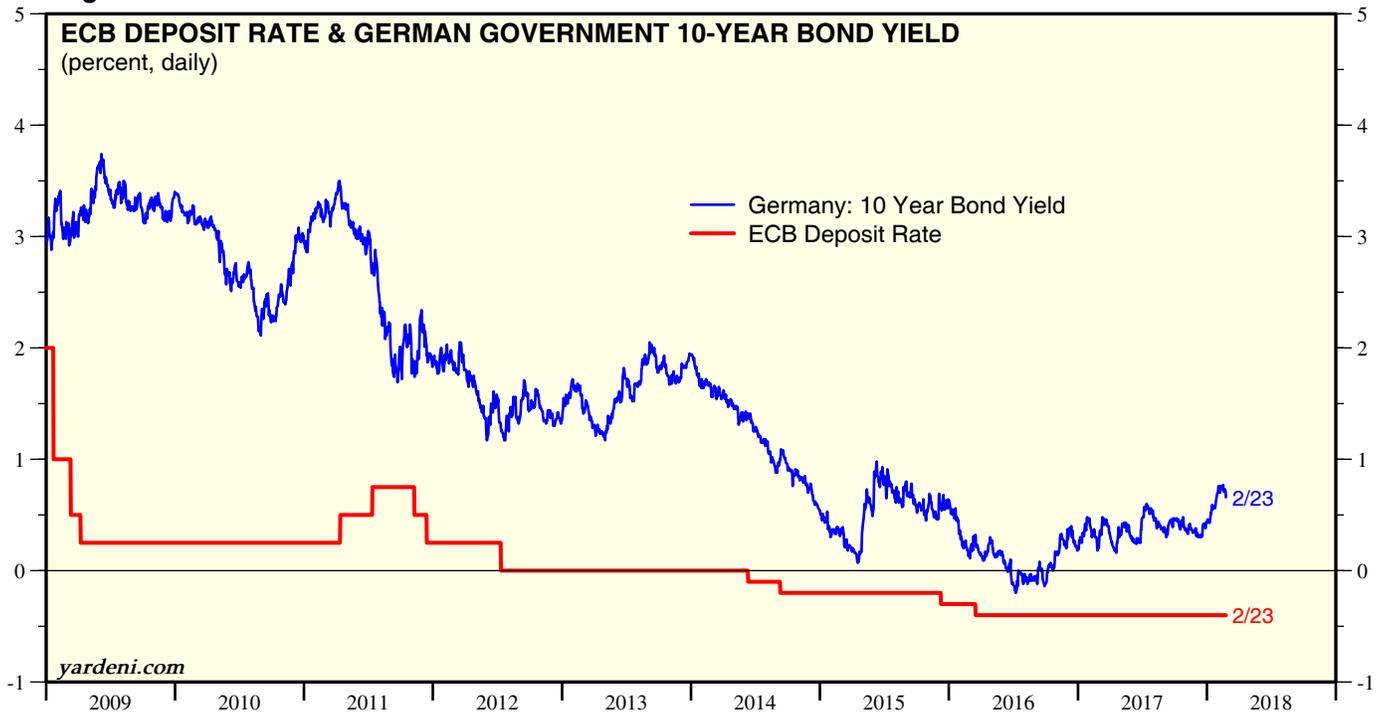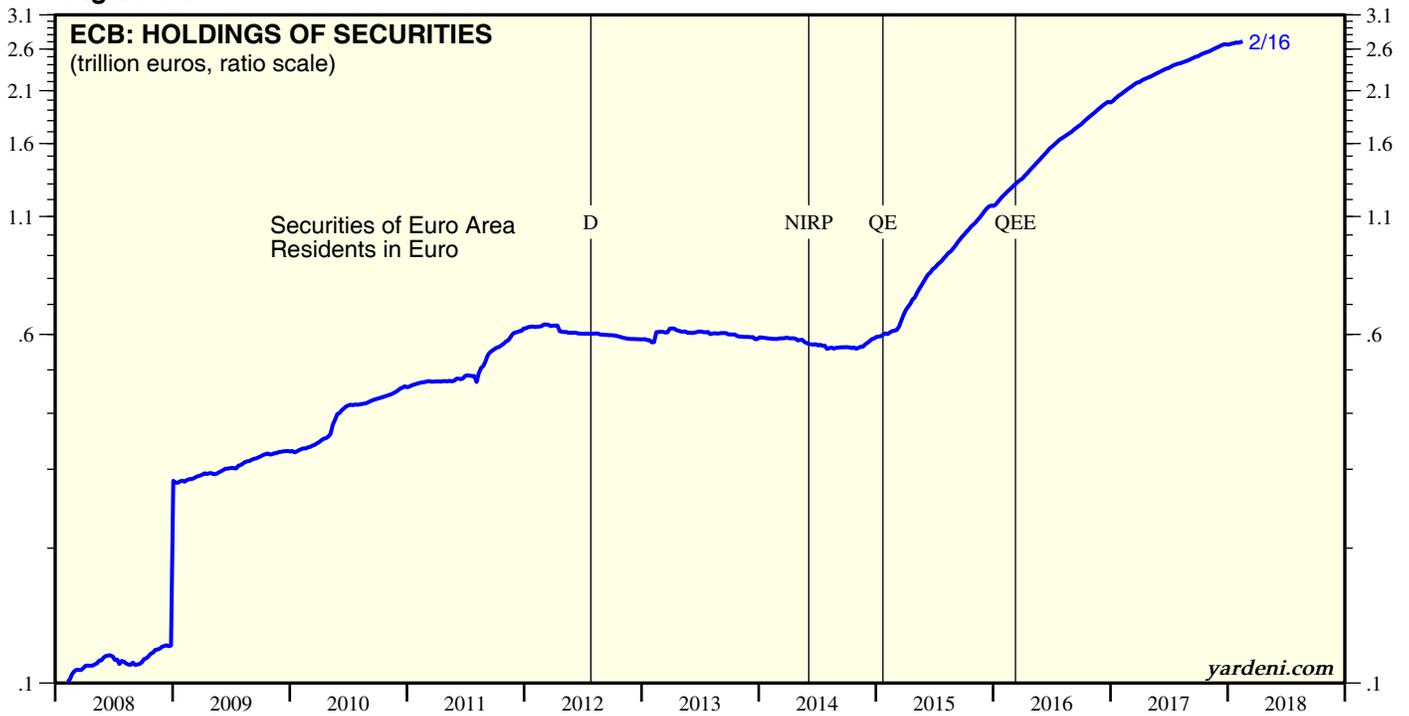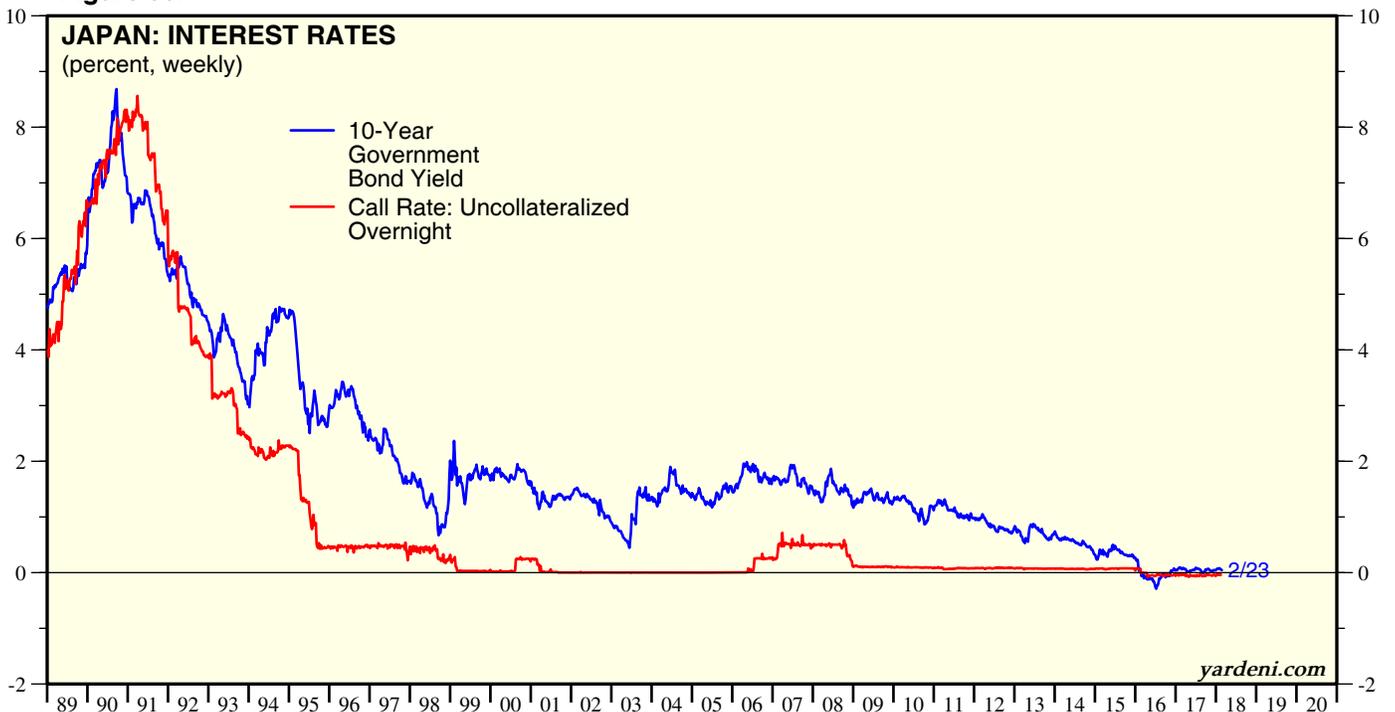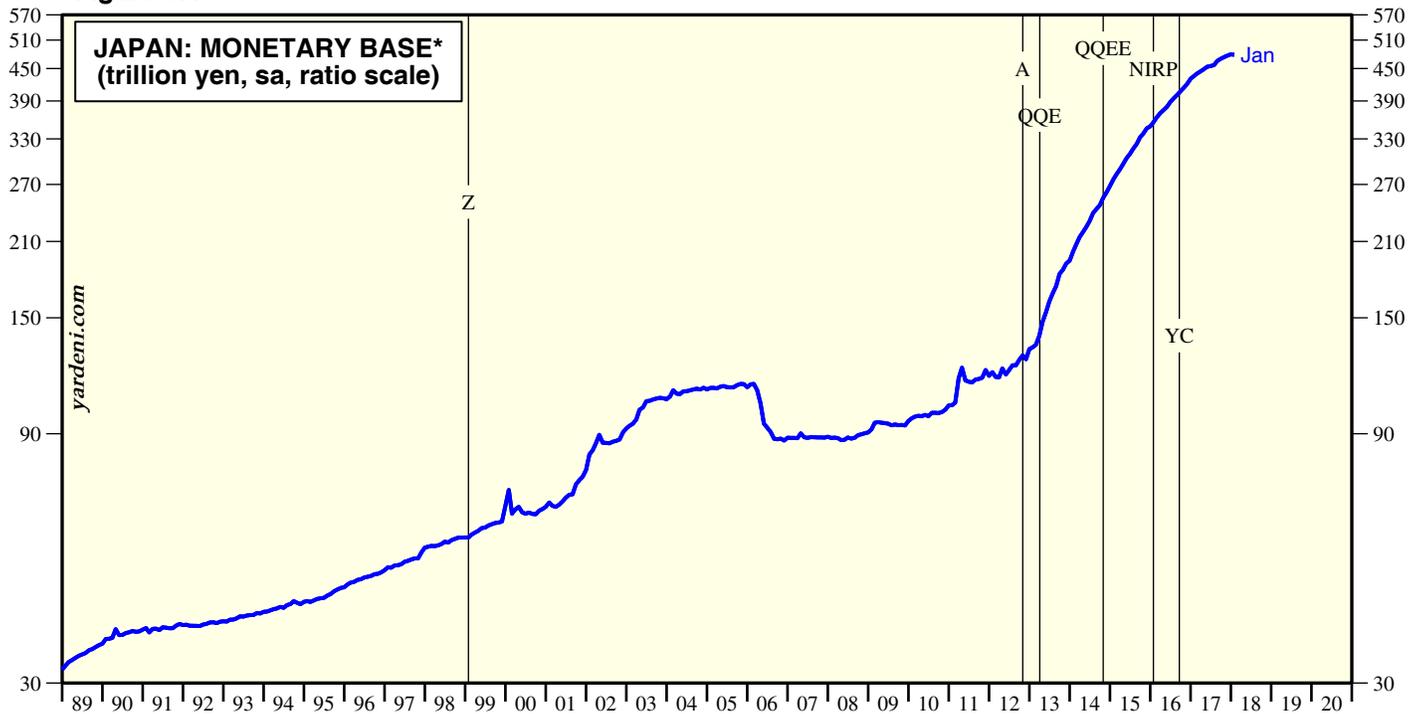Source: Financial Times.

Figure 32.

GREECE: GOVERNMENT 10-YEAR BOND YIELD
(percent, daily)

Source: Financial Times.

Predicting Bonds

Figure 33.

EUROZONE: GOVERNMENT 10-YEAR BOND YIELDS
(percent, daily)

Bond Yields
- France
- Germany
- Italy
- Spain

yardeni.com

Note: D (7/26/12) = ECB President Mario Draghi pledged to do "whatever it takes" to defend the euro. NIRP (6/5/2014) = negative interest-rate policy. QE (1/22/15) = quantitative easing. QEE (3/10/16) = expansion and extension of QE with corporate bond purchases started 6/1/16.
Source: Financial Times.

Figure 34.

ECB DEPOSIT RATE & GERMAN GOVERNMENT 10-YEAR BOND YIELD
(percent, daily)

- Germany: 10 Year Bond Yield
- ECB Deposit Rate

yardeni.com

Source: European Central Bank and Haver Analytics.

Predicting Bonds

Figure 35.

ECB: HOLDINGS OF SECURITIES
(trillion euros, ratio scale)

Securities of Euro Area
Residents in Euro

D   NIRP   QE   QEE

2/16

yardeni.com

Note: D (7/26/12) = ECB President Mario Draghi pledged to do "whatever it takes" to defend the euro. NIRP (6/5/2014) = negative interest-rate policy.
QE (1/22/15) = quantitative easing. QEE (3/10/16) = expansion and extension of QE with corporate bond purchases started 6/1/16.
Source: European Central Bank.

Figure 36.

JAPAN: INTEREST RATES
(percent, weekly)

—— 10-Year
Government
Bond Yield
—— Call Rate: Uncollateralized
Overnight

2/23

yardeni.com

Source: Bank of Japan.

Predicting Bonds

Figure 37.

JAPAN: MONETARY BASE* (trillion yen, sa, ratio scale)

*   Adjusted for change in reserve requirements.
    Note: Z = Zero Interest Rate Policy. A = Markets start to anticipate Abenomics. QQE (4/4/13) = Quantitative and Qualitative Easing. QQEE (10/31/14) = QQE expanded and extended version. NIRP (1/29/16) = Negative interest rate policy. YC (9/21/16) = Yield curve targeting.
    Source: Bank of Japan.

Figure 38.

JAPAN: US$ / 100YEN (daily)
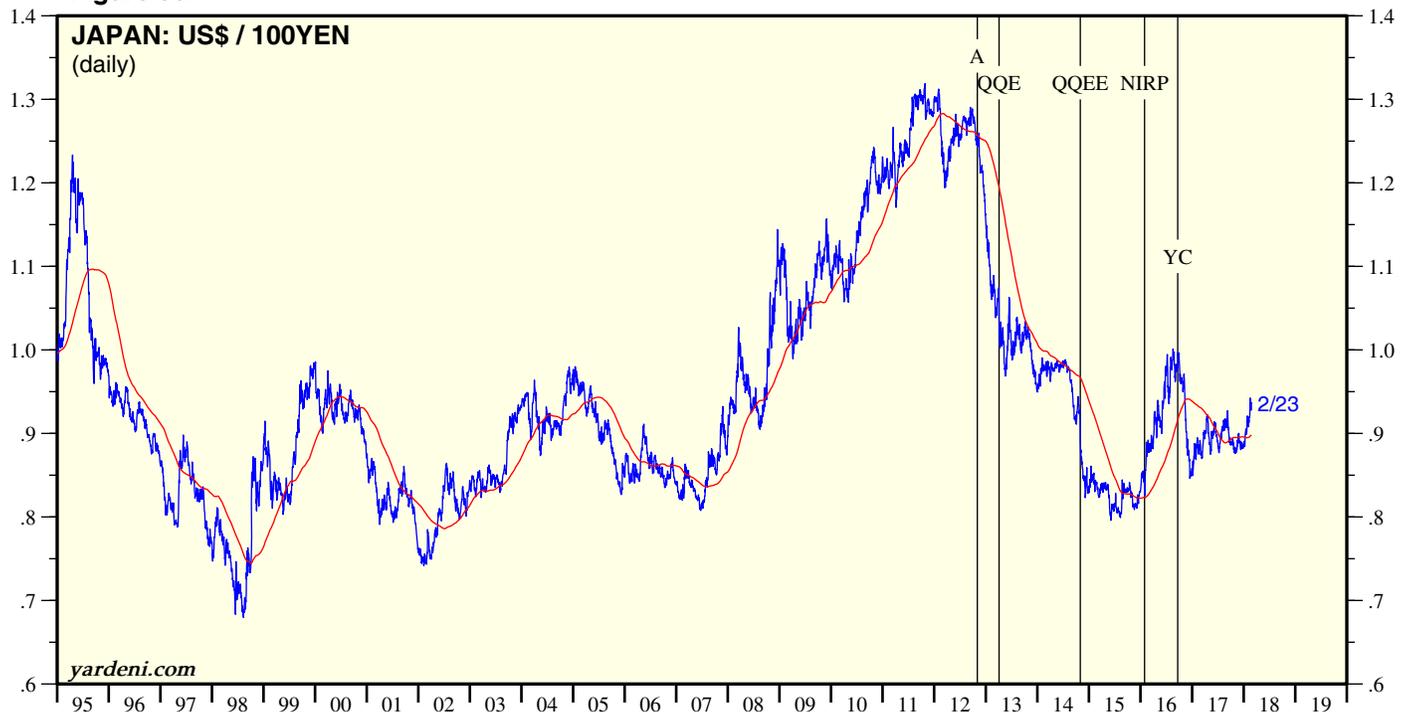
— 200-day moving average
Note: A = Markets start to anticipate Abenomics. QQE is Quantitative and Qualitative Easing. QQEE is the expanded and extended version of QQE. NIRP = negative interest rates. YC = Yield curve targeting.
Source: Haver Analytics.

Predicting Bonds
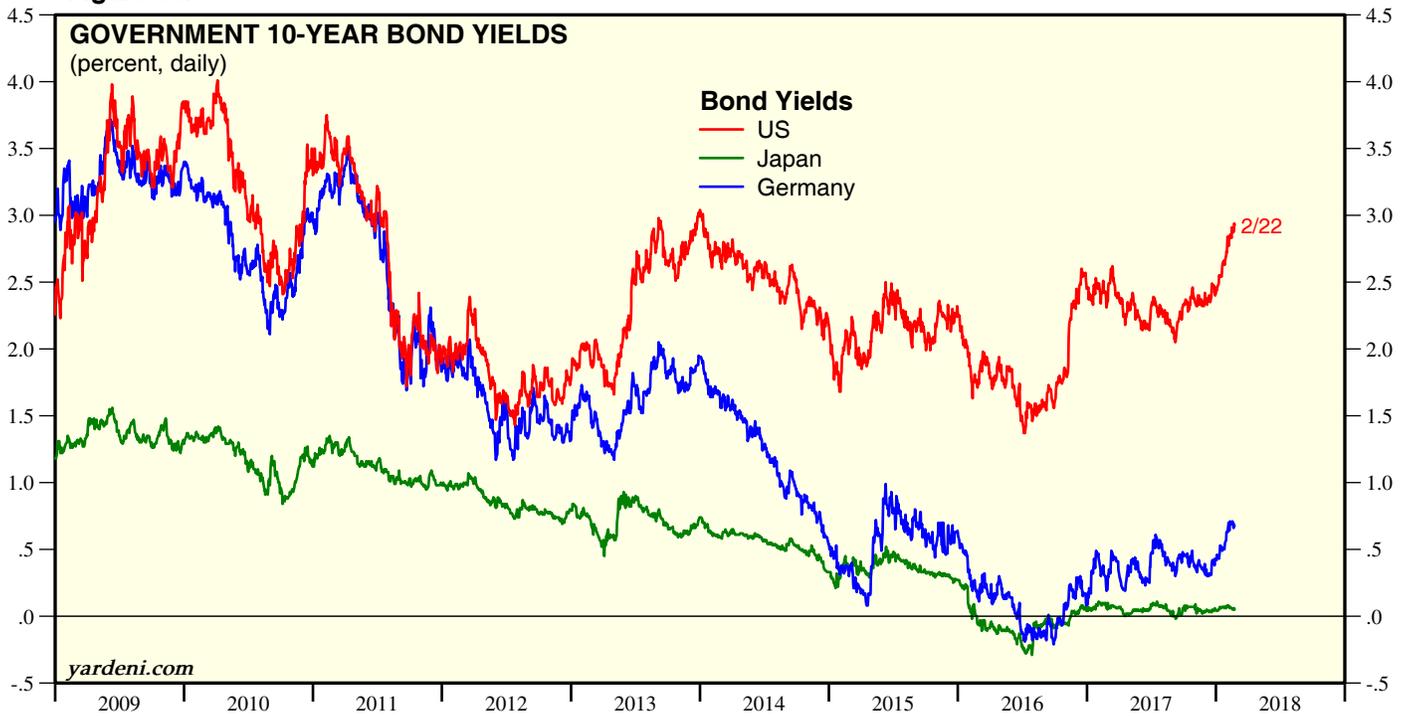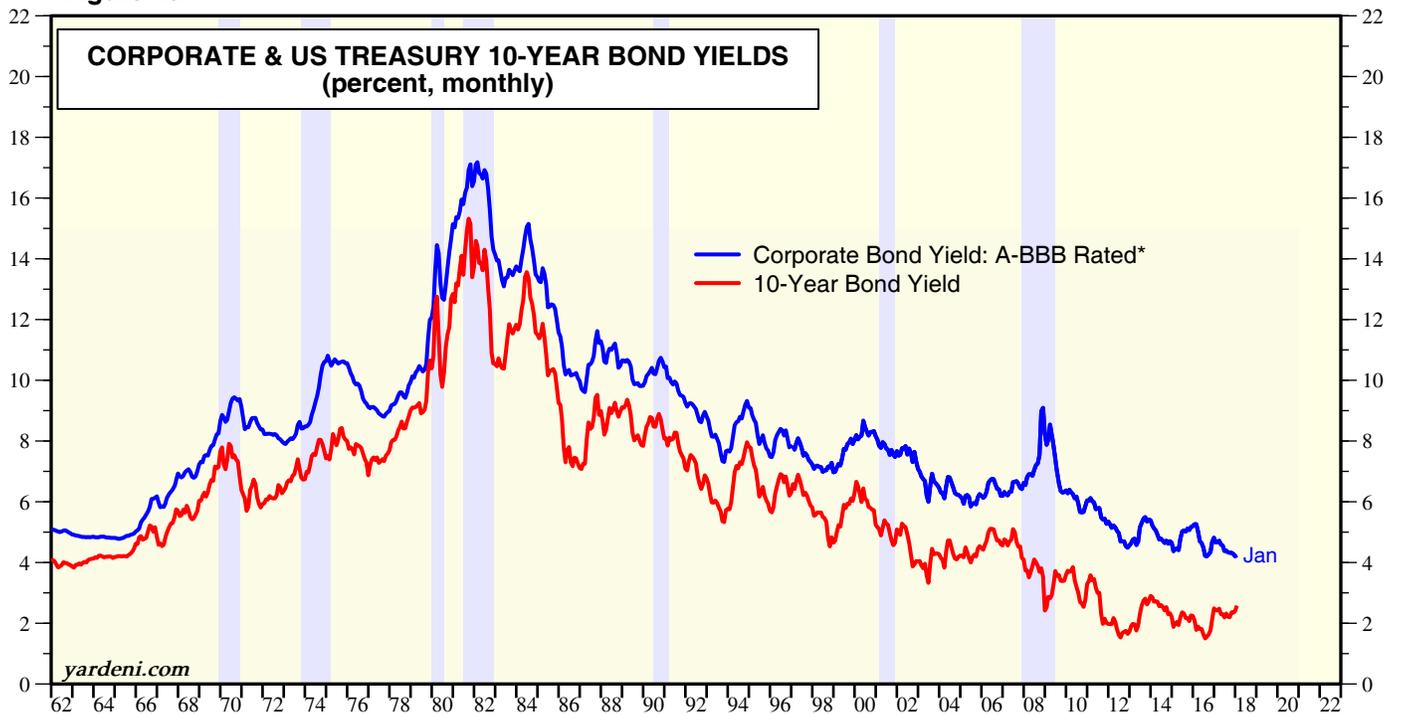
GOVERNMENT 10-YEAR BOND YIELDS
(percent, daily)

Bond Yields
US
Japan
Germany

2/22

Source: Haver Analytics.

CORPORATE & US TREASURY 10-YEAR BOND YIELDS
(percent, monthly)

Corporate Bond Yield: A-BBB Rated*
10-Year Bond Yield

Jan

* Moody's seasoned Baa corporate bond yield from 1962 to 1996, then Bank of America Merrill Lynch A-BBB corporate bond yield
Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Federal Reserve Board.

Predicting Bonds

Figure 41.

YIELD SPREAD CORPORATE* & US TREASURY 10-YEAR BONDS
(basis points, monthly)

*   Moody's seasoned Baa corporate bond yield from 1962 to 1996, then Bank of America Merrill Lynch A-BBB corporate bond yield.
    Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
    Source: Federal Reserve Board.

Figure 42.

S&P 500 VIX & HIGH YIELD CORPORATE BOND SPREAD

S&P 500 VIX

High-Yield
Corporate Spread*
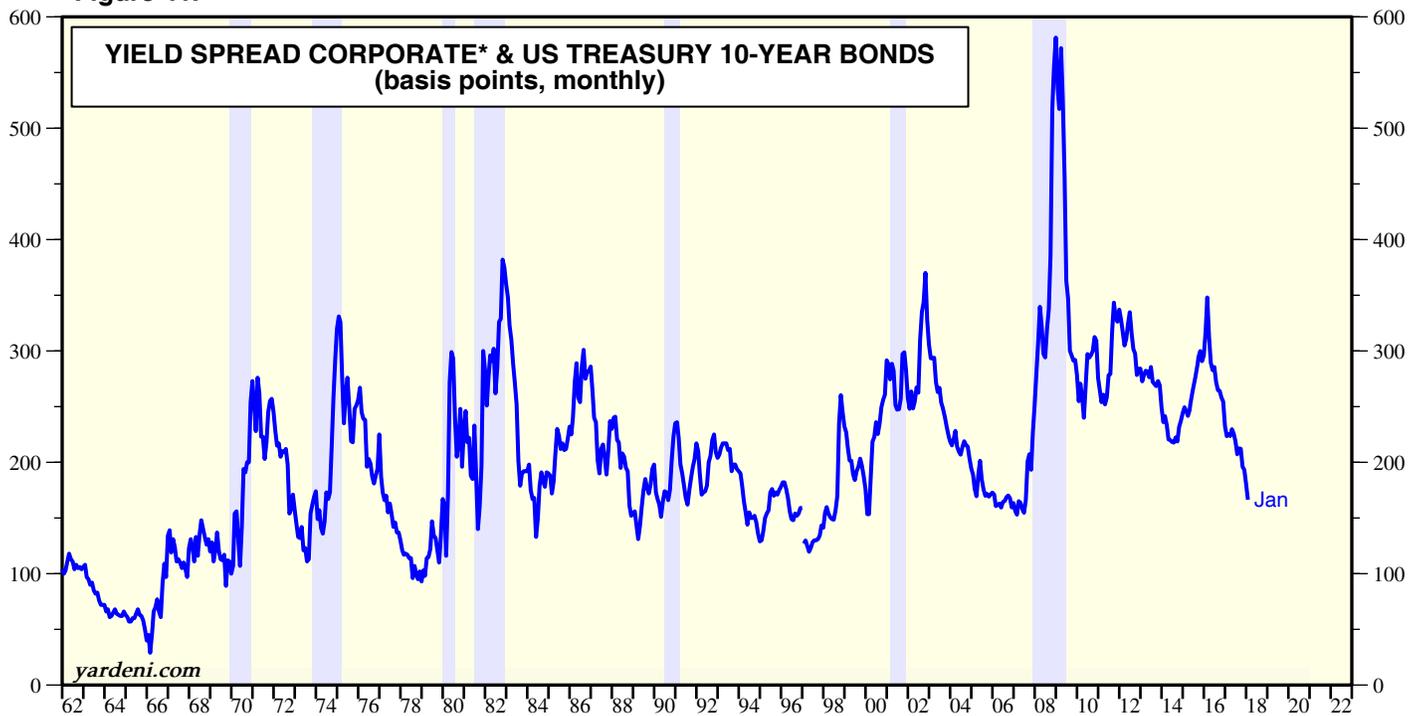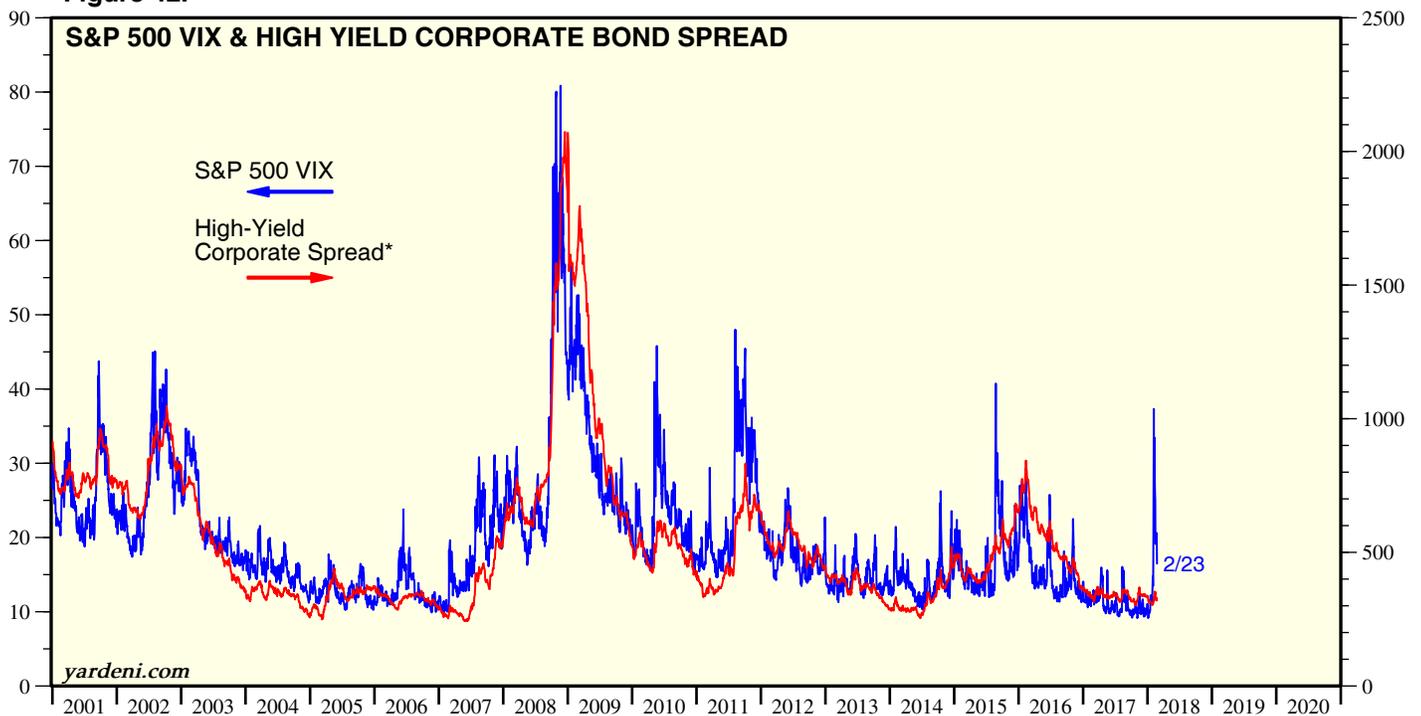
*   US high-yield corporate bond yield less US Treasury 10-year bond yield (basis points).
    Source: Chicago Board Options Exchange, Bank of America Merrill Lynch, and Federal Reserve Board.

Predicting Bonds

Figure 43.

ECRI WEEKLY LEADING INDEX & HIGH YIELD CORPORATE SPREAD
(basis points, inverted scale)

High-Yield
Corporate Spread*

ECRI Weekly Leading Index
(1992=100)

yardeni.com
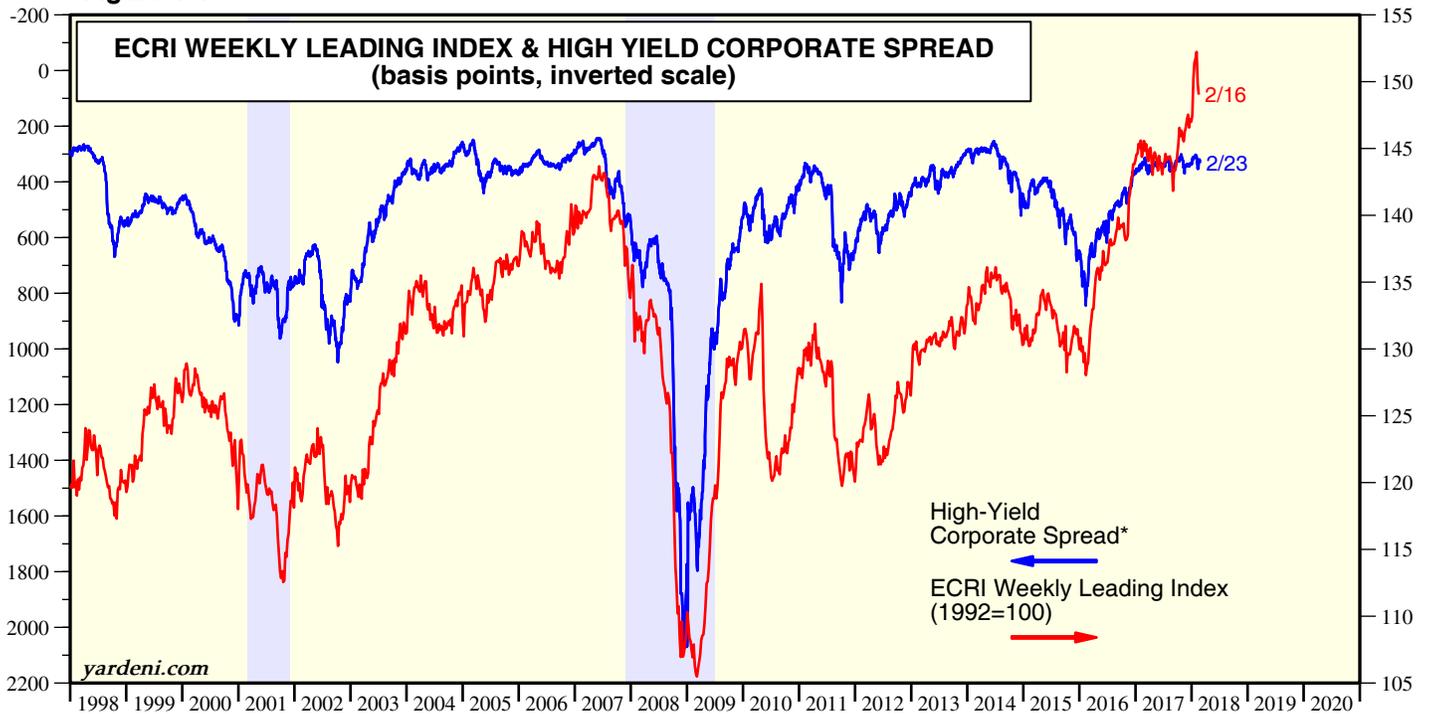
* High yield corporate less US Treasury 10-year bond yield.
Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Merrill Lynch, Federal Reserve Board, and Economic Cycle Research Institute (ECRI).

Figure 44.
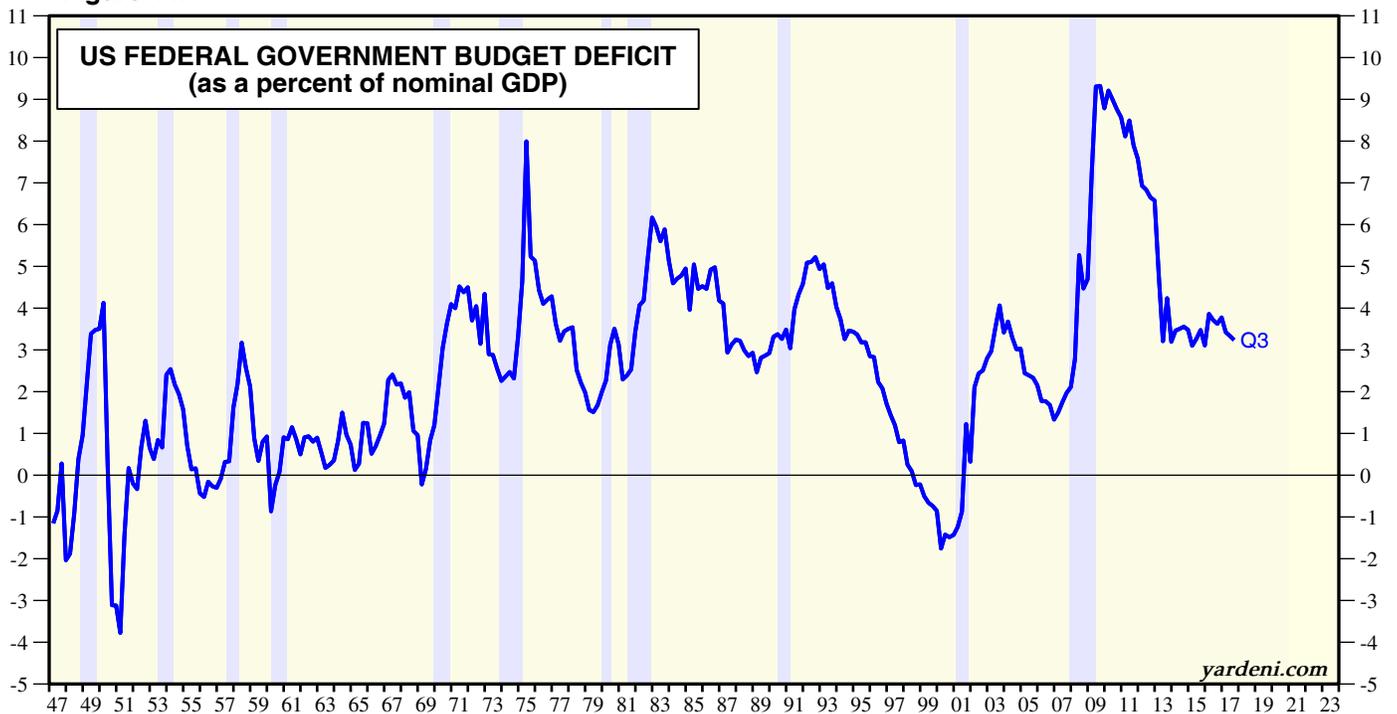
US FEDERAL GOVERNMENT BUDGET DEFICIT
(as a percent of nominal GDP)

yardeni.com

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Bureau of Economic Analysis.

Predicting Bonds

Figure 45.
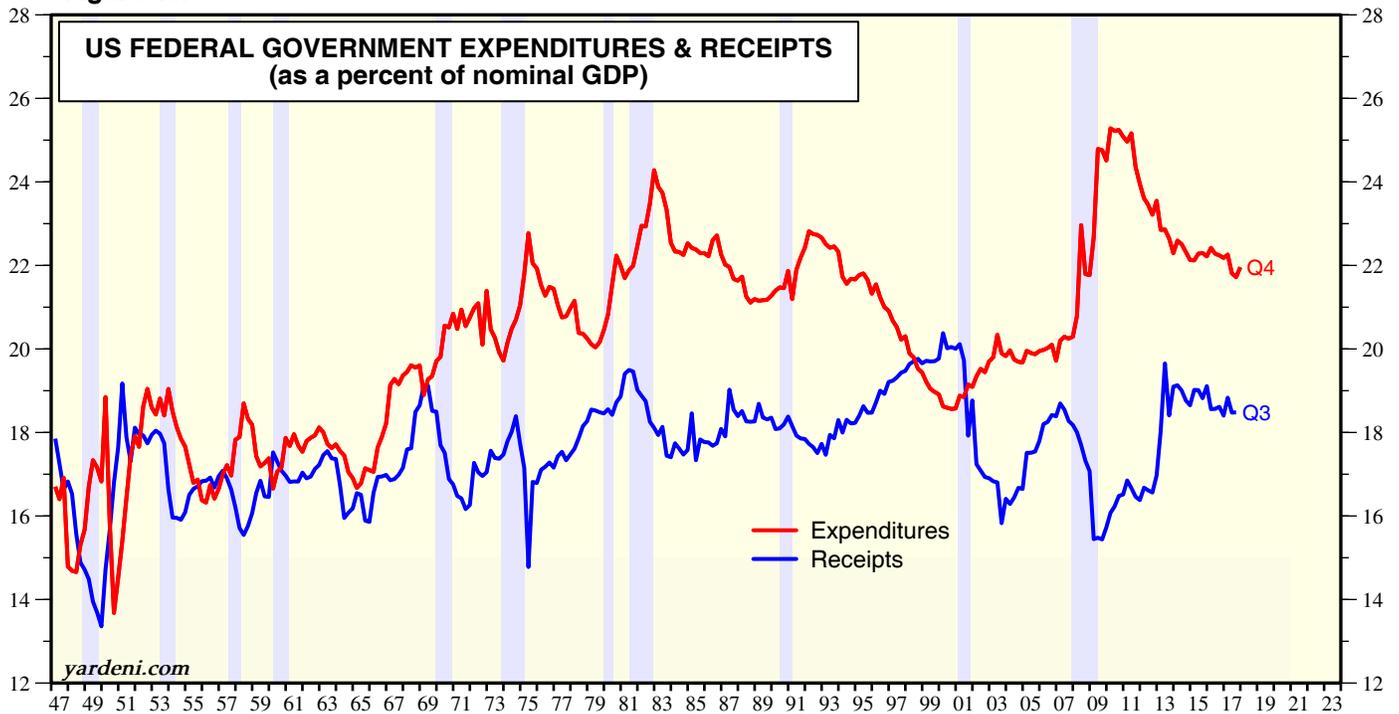
US FEDERAL GOVERNMENT EXPENDITURES & RECEIPTS
(as a percent of nominal GDP)

— Expenditures
— Receipts

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Bureau of Economic Analysis.

Figure 46.

US AGENCY & GSE-BACKED BONDS: NET PURCHASES BY REST OF WORLD
(billion dollars, 4-quarter sum)

■ US Agency & GSE-Backed Securities

Source: Federal Reserve Board Financial Accounts of the United States.

Predicting Bonds

Figure 47.

US TREASURY BONDS: NET PURCHASES BY REST OF WORLD
(billion dollars, 4-quarter sum)

US Treasury Securities

Source: Federal Reserve Board Financial Accounts of the United States.

Figure 48.

US DEBT
(trillion dollars)

US Debt
Total (nsa)
Nonfinancial (sa)
Financial (sa)

Source: Federal Reserve Board Financial Accounts of the United States.

Yardeni Research, Inc.
www.yardeni.com

Predicting Bonds

Figure 49.

US DEBT
(as a percent of nominal GDP)

Debt/GDP
— Total
— Nonfinancial
— Financial

Q3

yardeni.com

Source: Federal Reserve Board Financial Accounts of the United States.

Figure 50.

US DEBT OF NONFINANCIAL DOMESTIC SECTORS
(trillion dollars, nsa)

Nonfinancial Debt
— Total*
— Total Less Treasury
— Treasury

Q3

yardeni.com

* Includes mortgage, consumer, business, and US Treasury debt.
Source: Federal Reserve Board Financial Accounts of the United States.

Predicting Bonds

Figure 51.

US DEBT OF NONFINANCIAL DOMESTIC SECTORS
(as a percent of nominal GDP)

Nonfinancial Debt/GDP
- Total*
- Total Less Treasury
- Treasury

Q3

yardeni.com
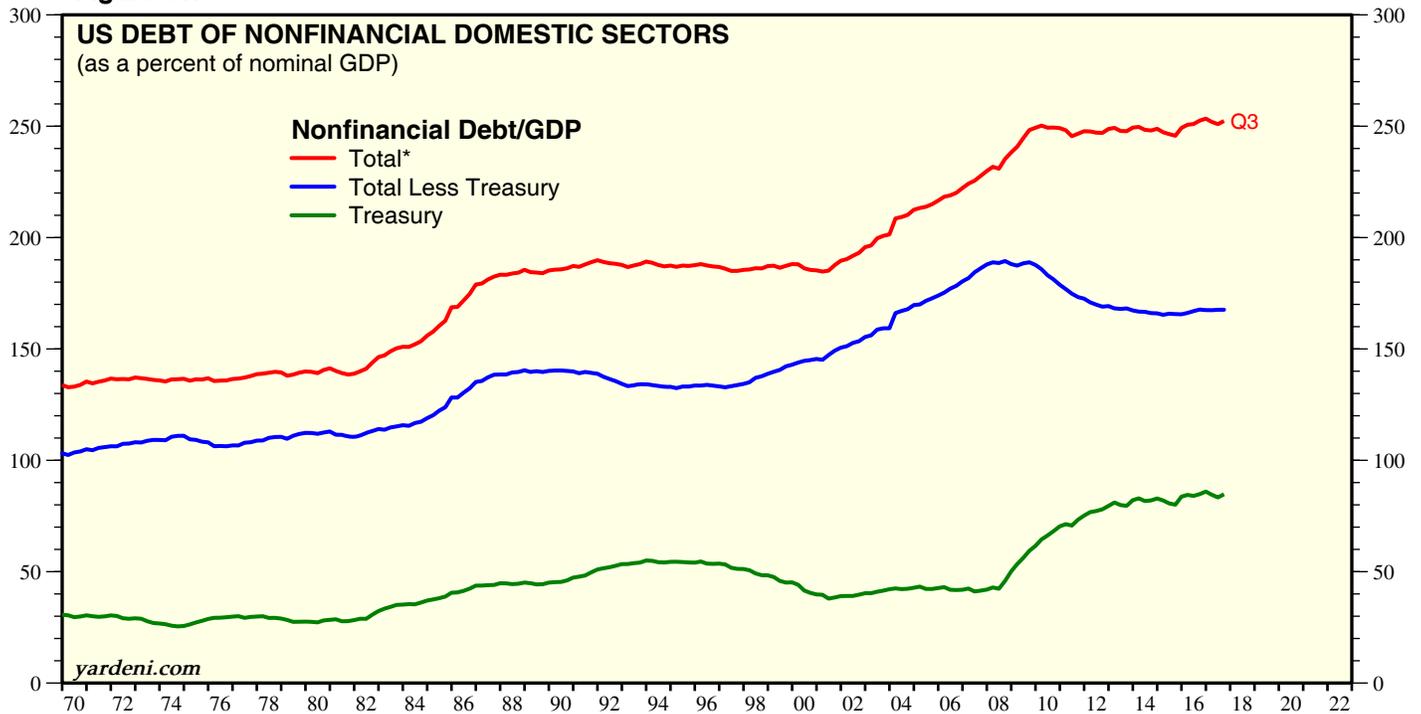
*   Includes mortgage, consumer, business, and government debt.
   Source: Federal Reserve Board Financial Accounts of the United States.

Figure 52.

US TOTAL HOUSEHOLD DEBT BALANCE
(trillion dollars)

Q4

yardeni.com
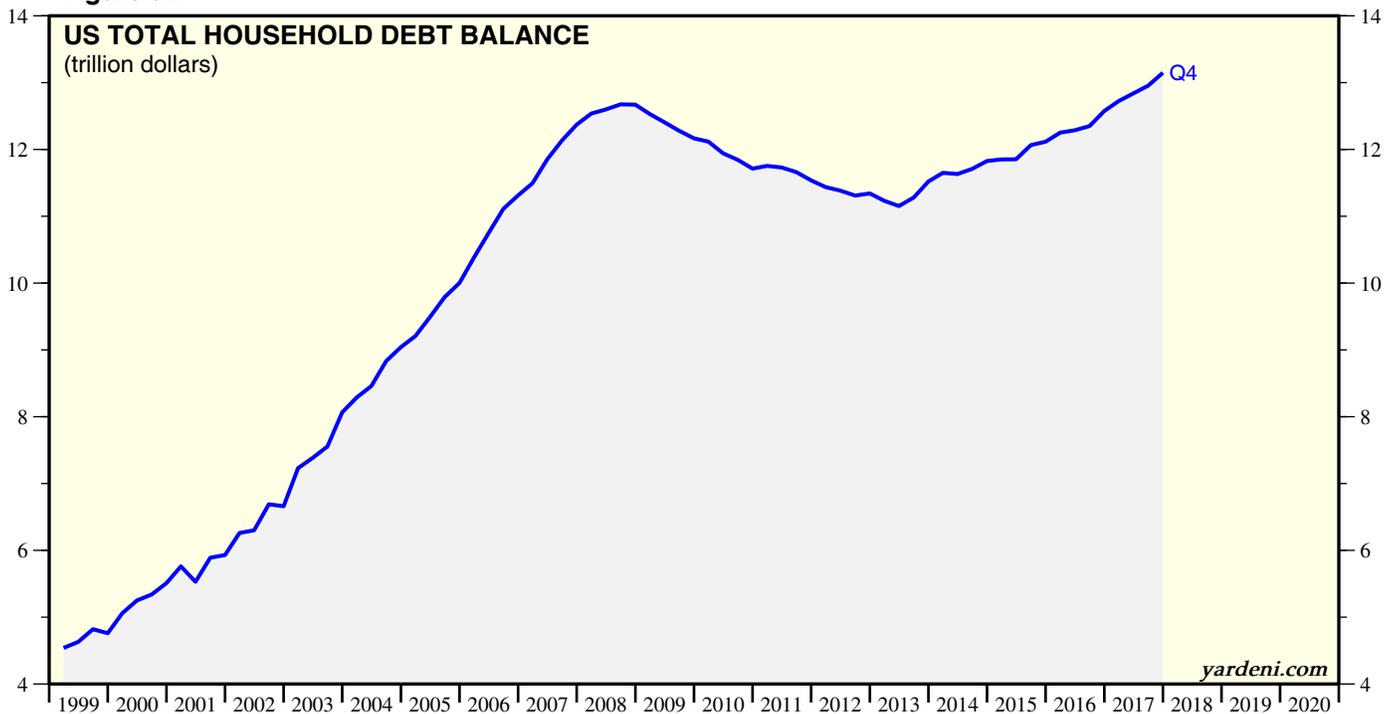
Source: New York Fed Credit Panel.

Predicting Bonds

Figure 53.

US HOUSEHOLD DEBT SERVICE RATIO*
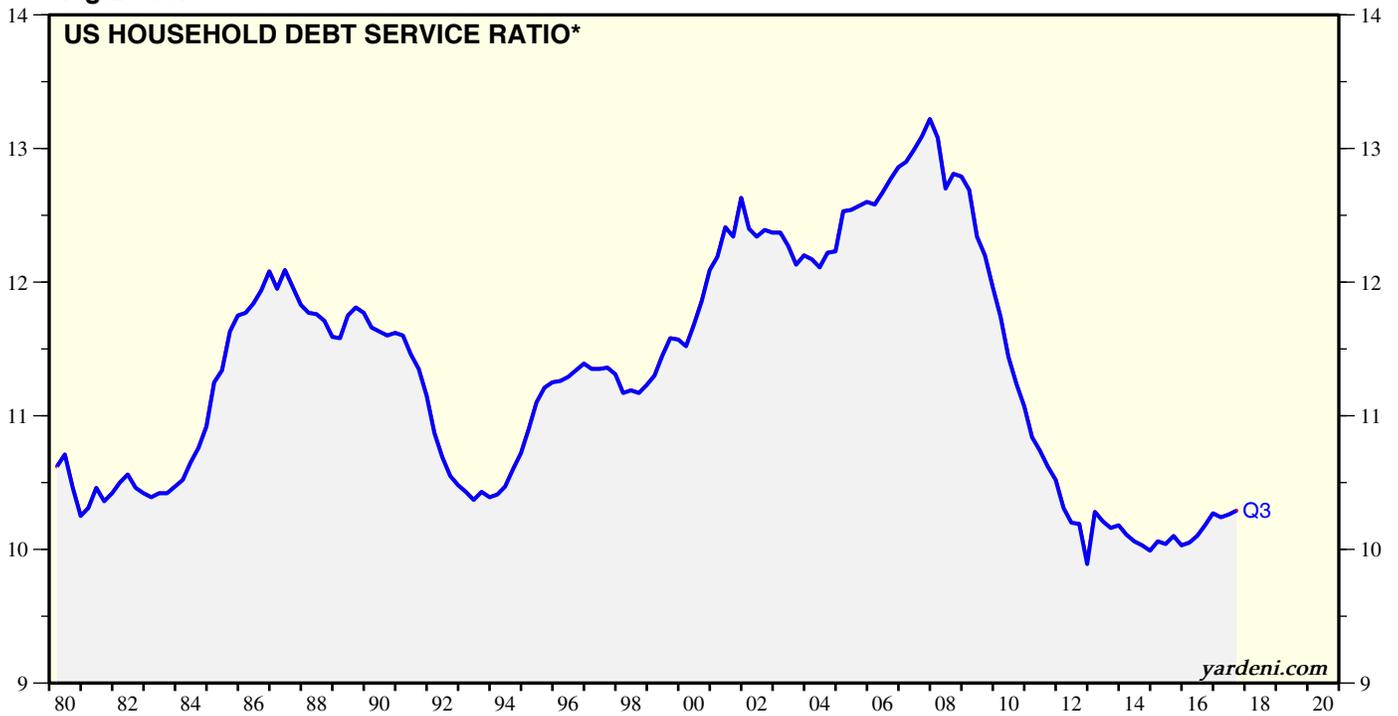
* Ratio of debt service payments to disposable personal income.
Source: Federal Reserve Board.

Yardeni Research, Inc.
www.yardeni.com