CHARTBOOK

DECEMBER 2018

TELEMUS®

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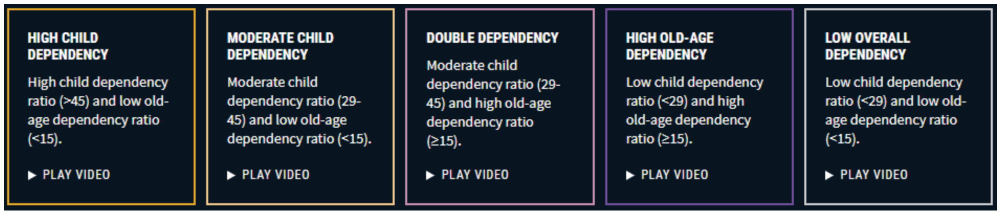
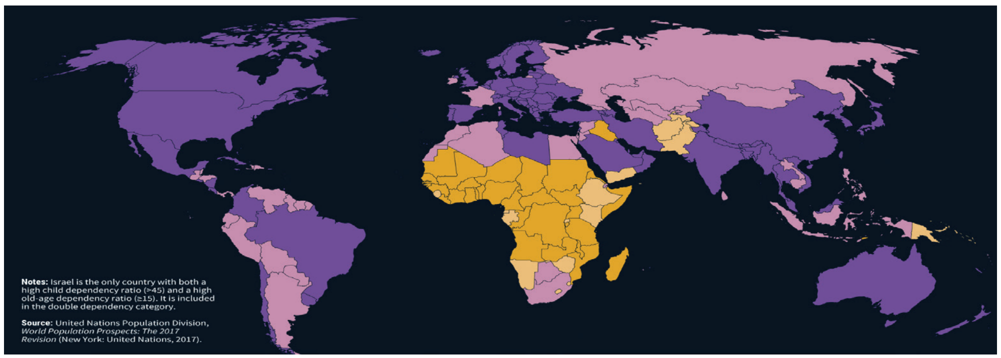
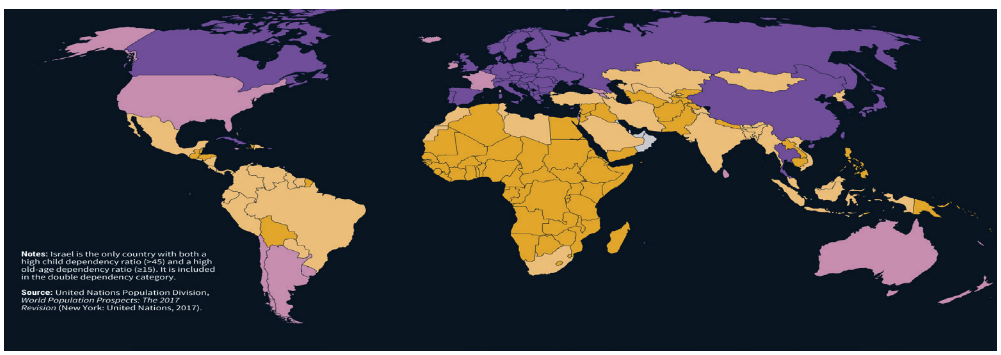
GLOBAL DEMOGRAPHICS CONTINUE TO IMPACT GROWTH



2050 GLOBAL DEMOGRAPHICS



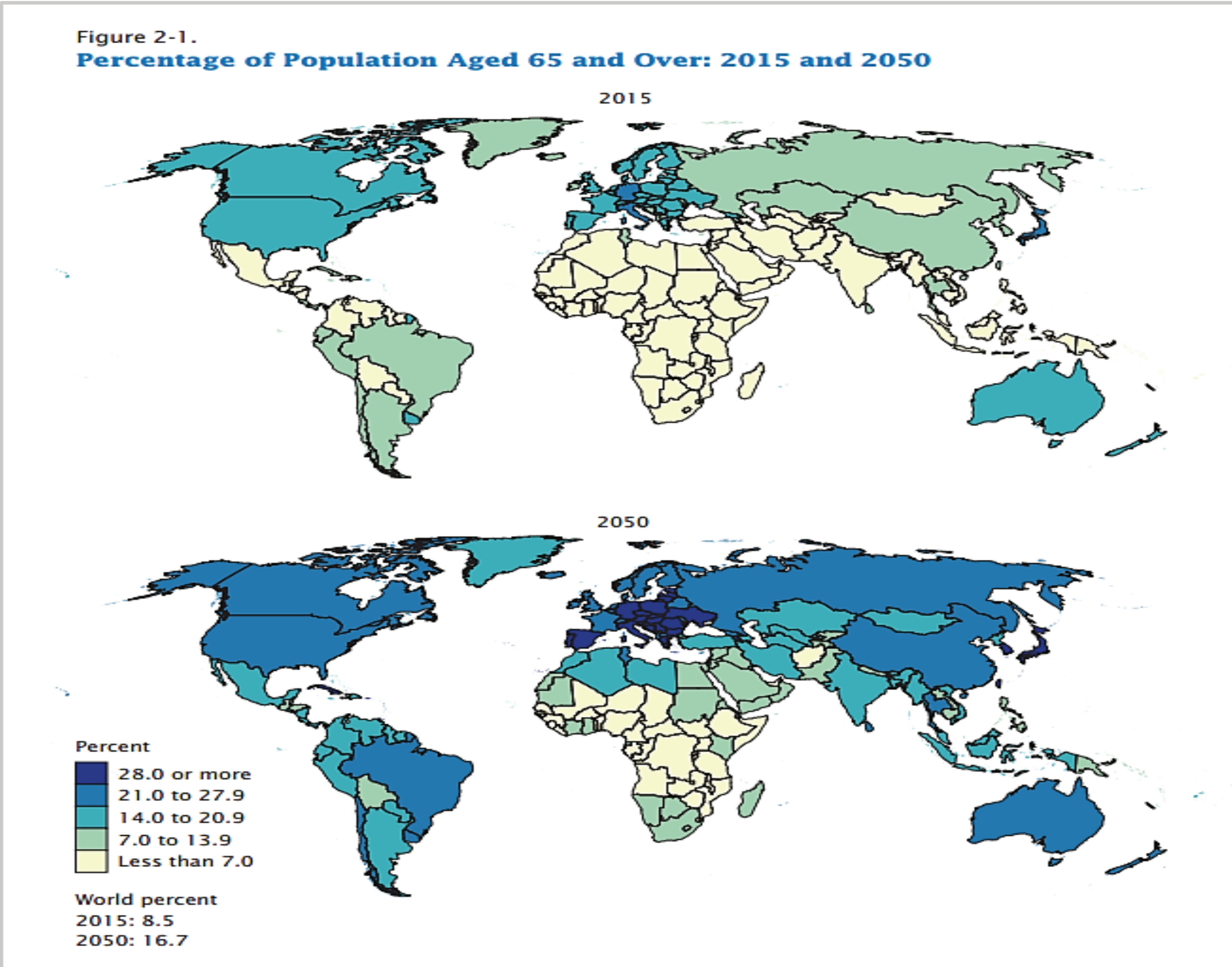
2018 GLOBAL DEMOGRAPHICS



Source: World Pop Data, United Nations 2017

The aging of the developed world, and increasingly, the developing world, will continue to moderate global growth.

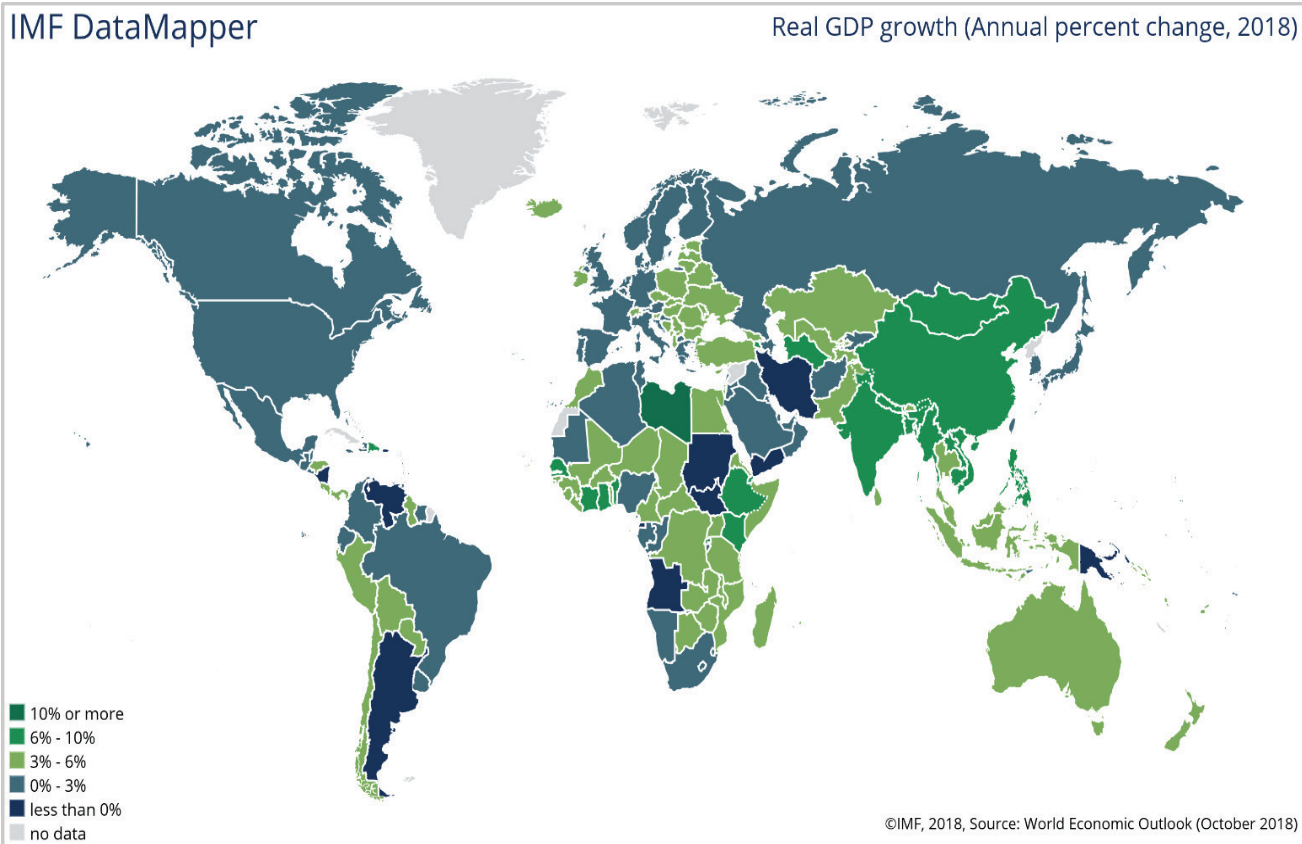
GLOBAL GROWTH IMPACTED BY AGING WORLD



Source: An Aging World: 2015 International Population, March 2016

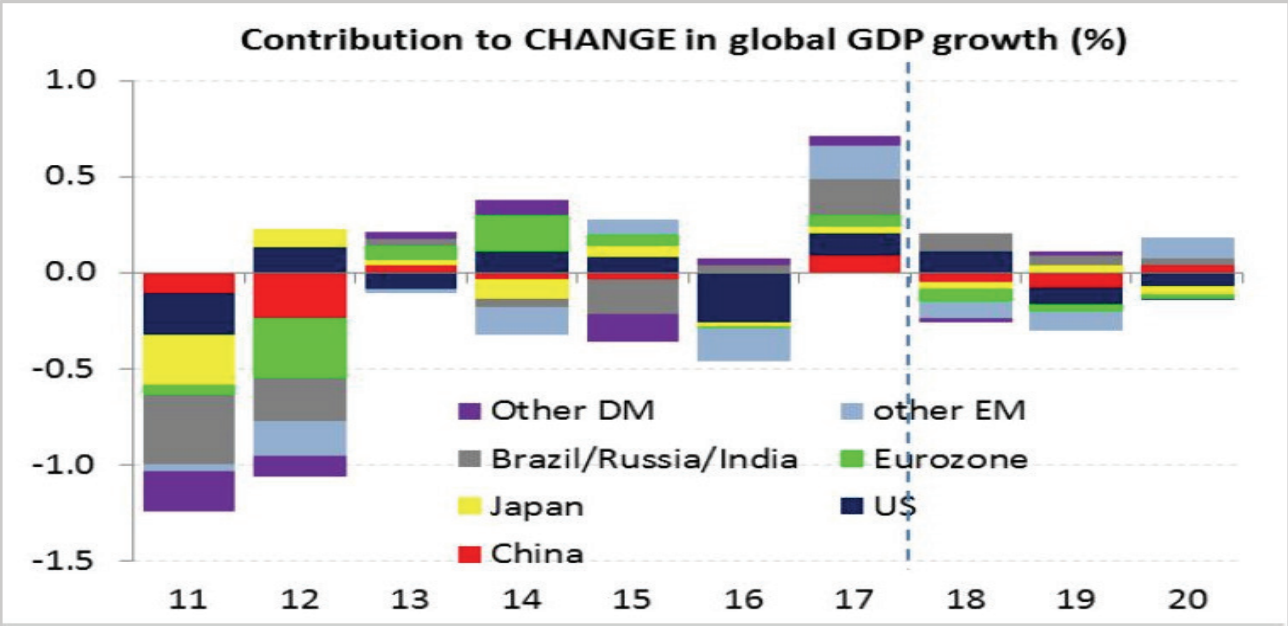
Again, the aging of the world population has a lot to do with modest economic growth.

NOT SURPRISINGLY, GDP GROWTH FOLLOWS YOUTH



The Developed World is and will continue to grow more slowly. GDP growth is highly correlated to a young population.

GROWTH WILL SLOW VIRTUALLY EVERYWHERE



Source: UBS, Haver

Only emerging economies are expected to sustain world growth.

THE STOCK MARKET IS HIGHLY CORRELATED TO QE

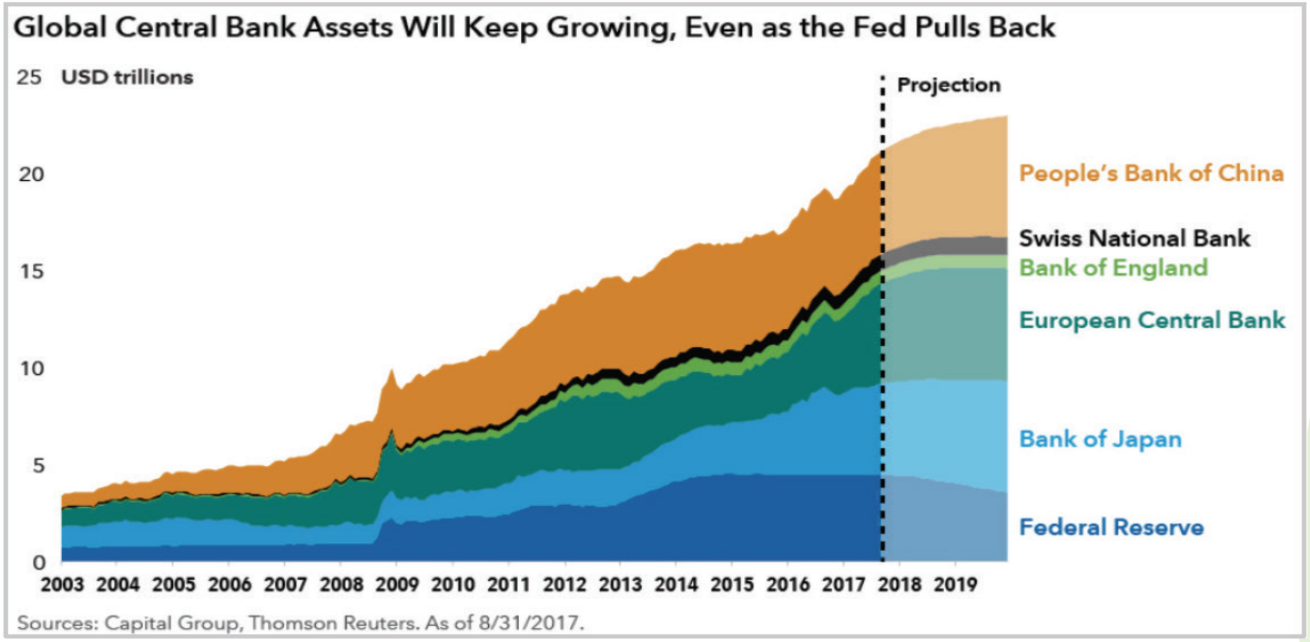
Figure 4.

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, Standard & Poor's and Haver Analytics.

Source: Yardeni Research | Through March 2018

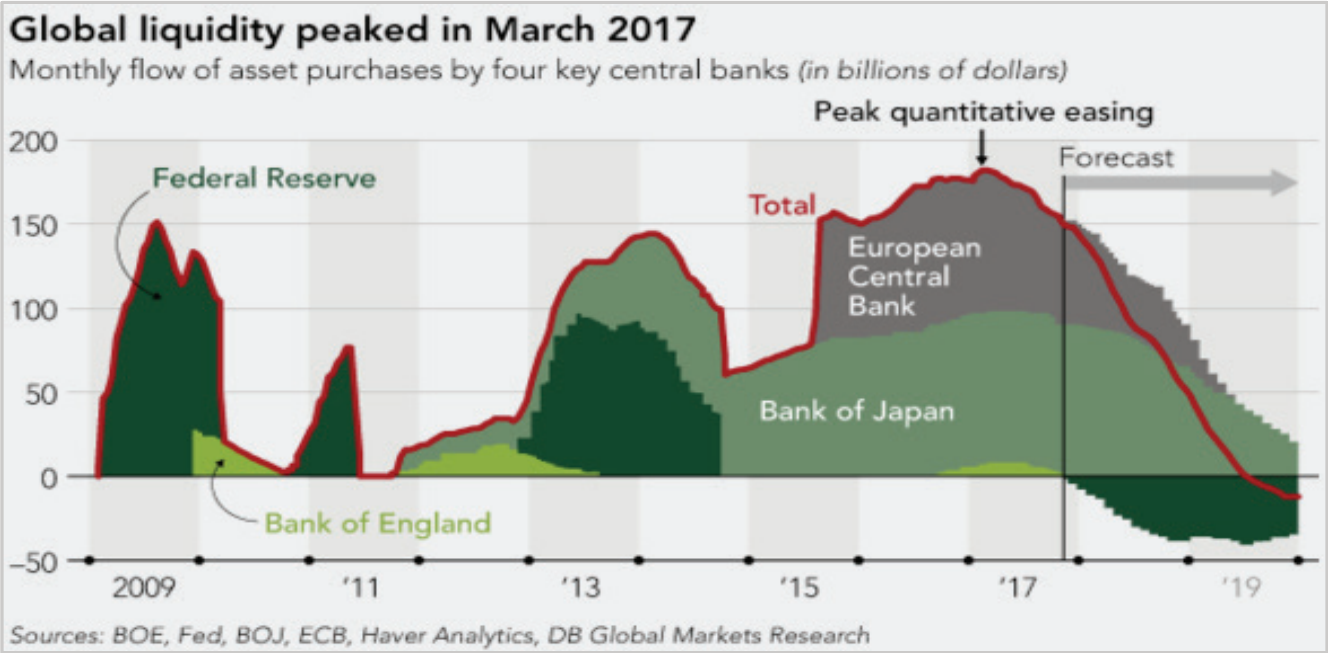
What happens when, as now, QE is ending and QT begins?

GLOBAL CENTRAL BANKS ASSETS KEEP GROWING

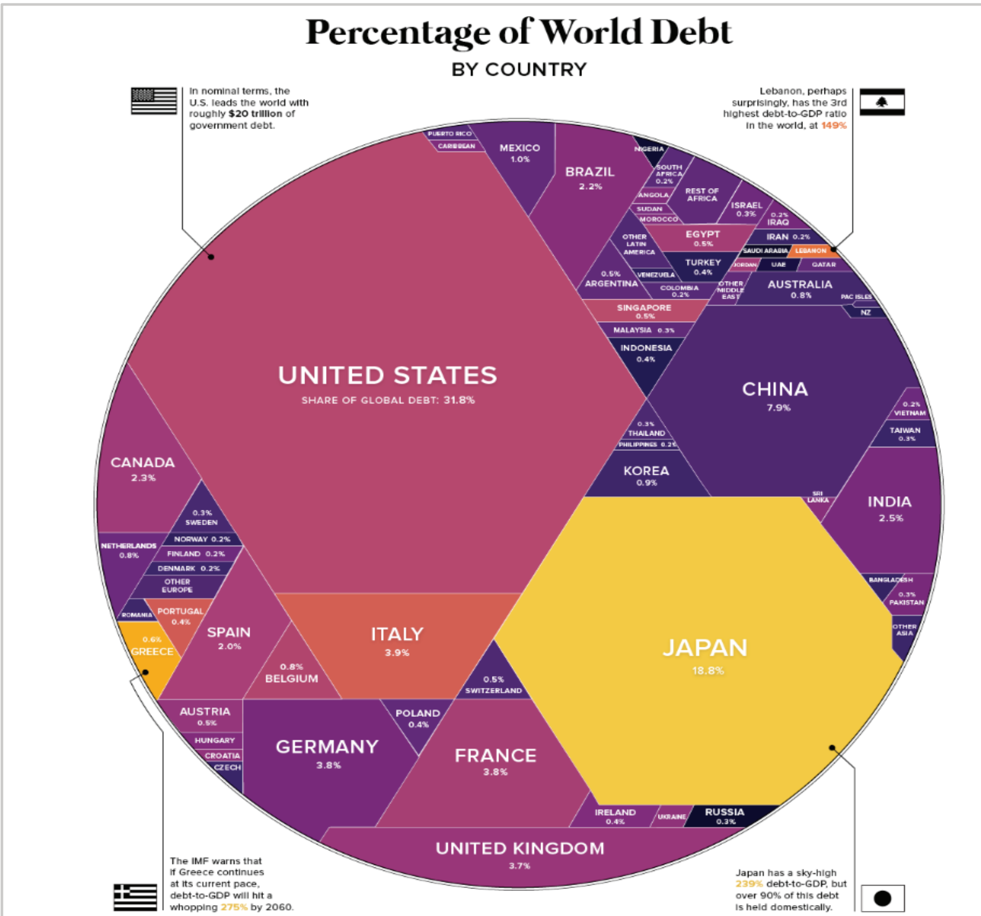


Look to the right of the dotted line for trajectory.

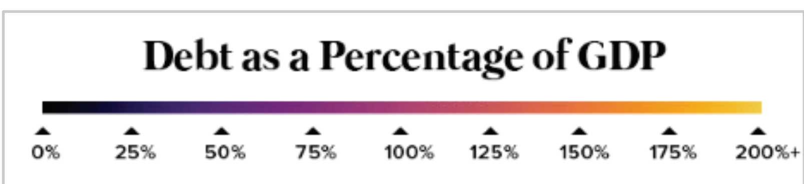
GLOBAL LIQUIDITY



The rate of growth of QE is dropping sharply.

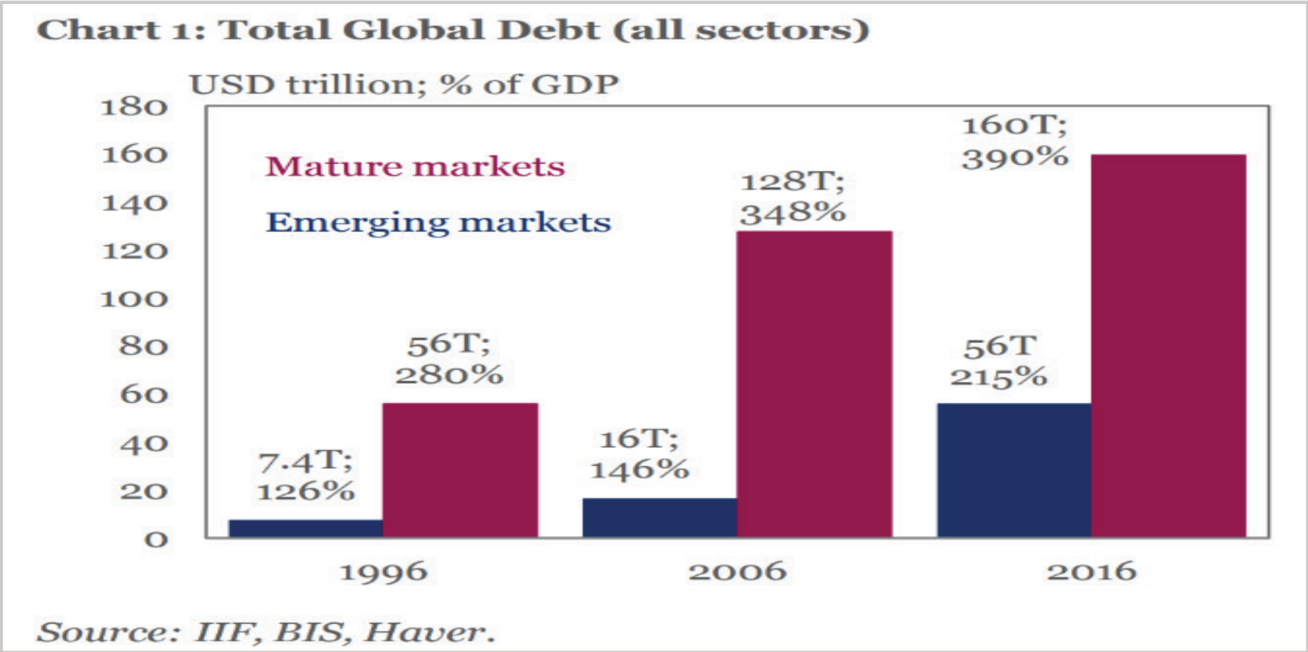


Source: Visual Capitalist



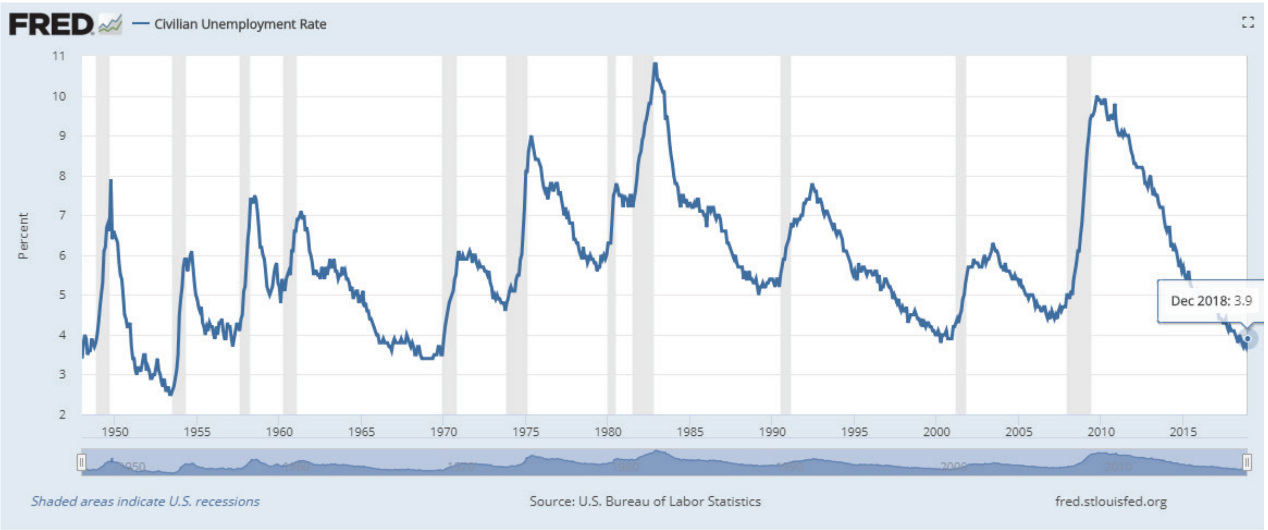
Debt as a percent of GDP has burgeoned; sowing the seeds of a future crisis.

TOTAL GLOBAL DEBT



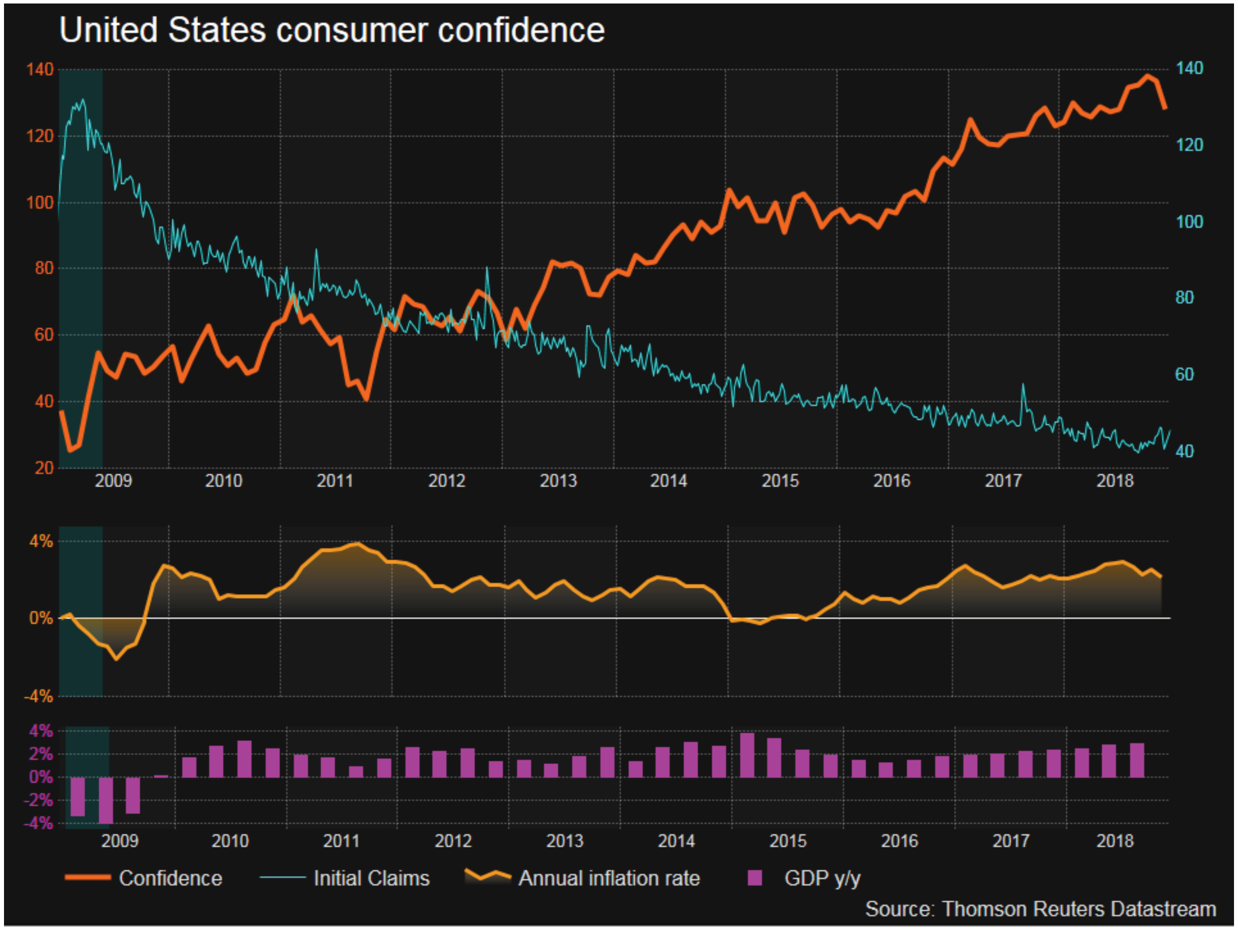
Mature economies have the biggest debt problem.

U.S. UNEMPLOYMENT IS LOW



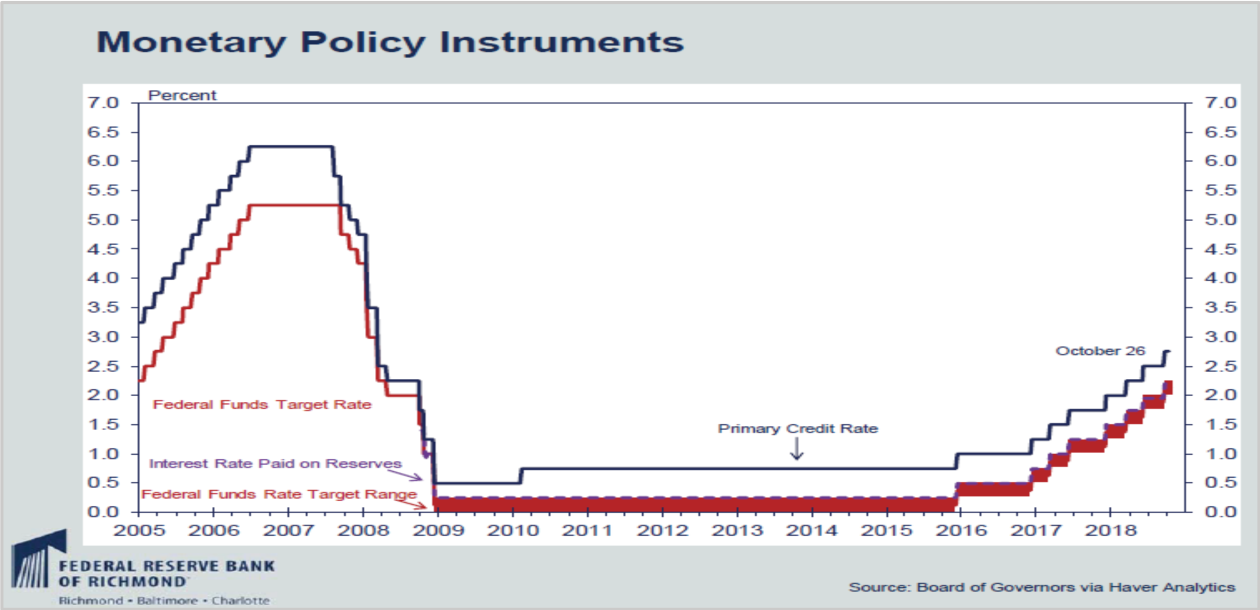
It is unlikely that the unemployment rate will get better.

THE U.S. IS STILL ENJOYING A BENIGN ENVIRONMENT



Initial claims for unemployment are very low, GDP is growing moderately and inflation is tame leading to off the charts consumer confidence. This is likely as good as it will get.

SHORT RATES HAVE BEEN RISING SINCE 2016



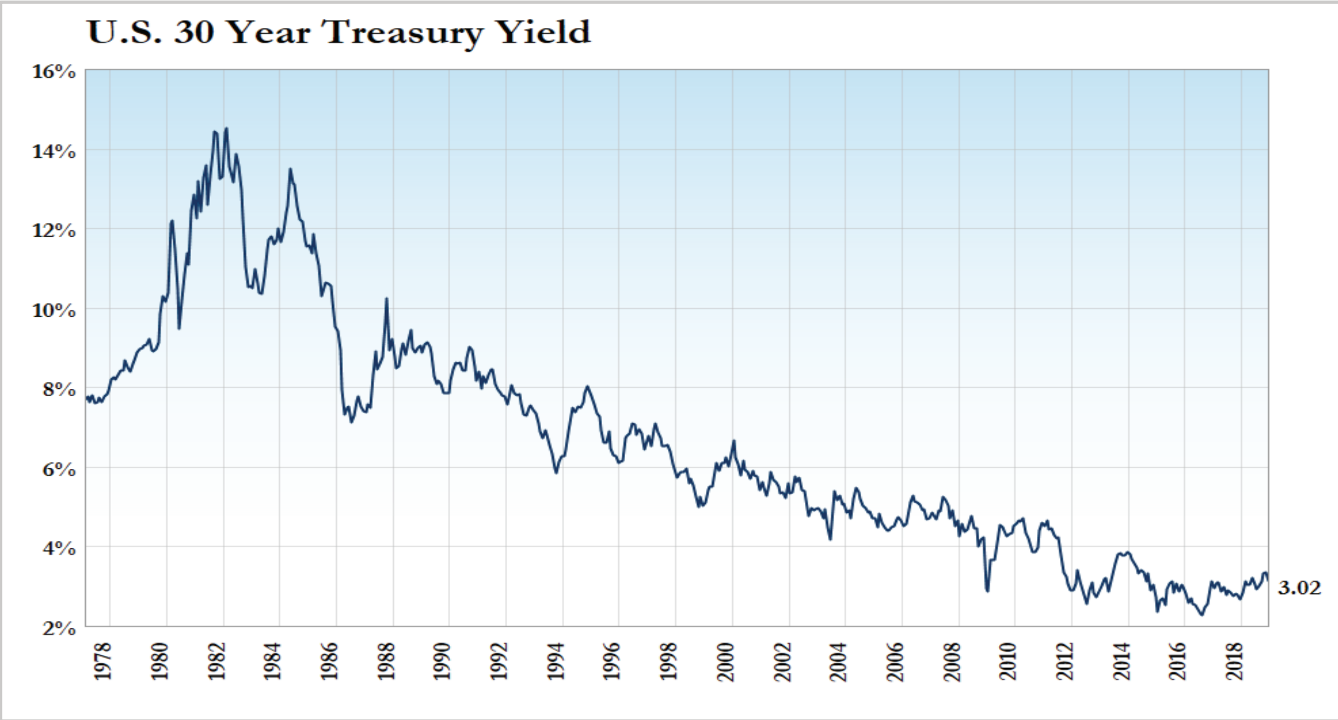
Rate moves have been slow by historical standards to preserve the economic equilibrium achieved post-crisis.

U.S. 30 YEAR TREASURY YIELD

Source: Eikon, through December 31, 2018

Long rates pierced historical high but fell back sharply.

U.S. 30 YEAR TREASURY YIELD



Source: Eikon, through December 31, 2018

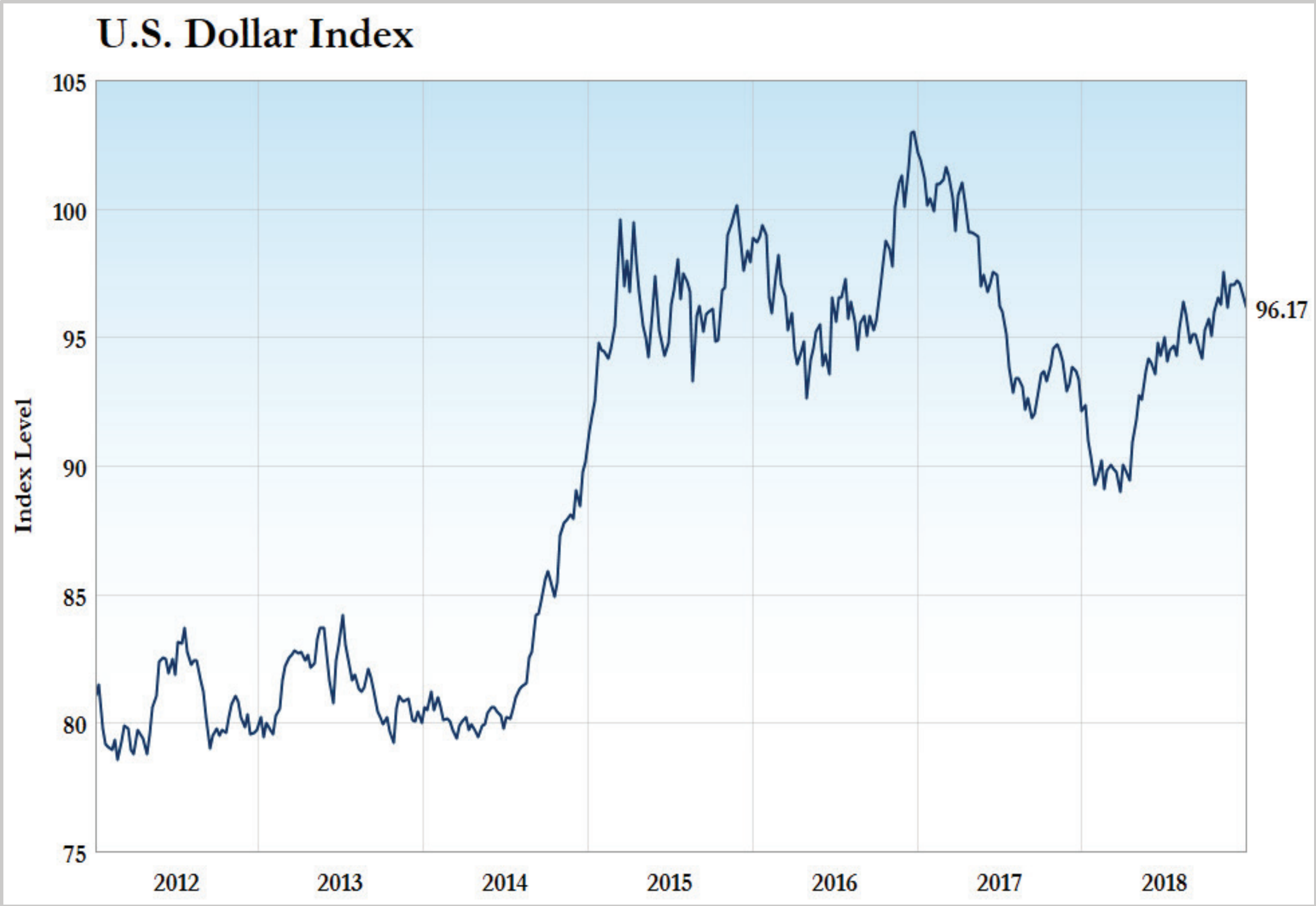
A reversal of the 37-year downward trend is not imminent.

GOLD PRICE

Source: Eikon, through December 31, 2018

Should inflation or interest rates rise due to a glut of debt, metals and commodities might once again shine.

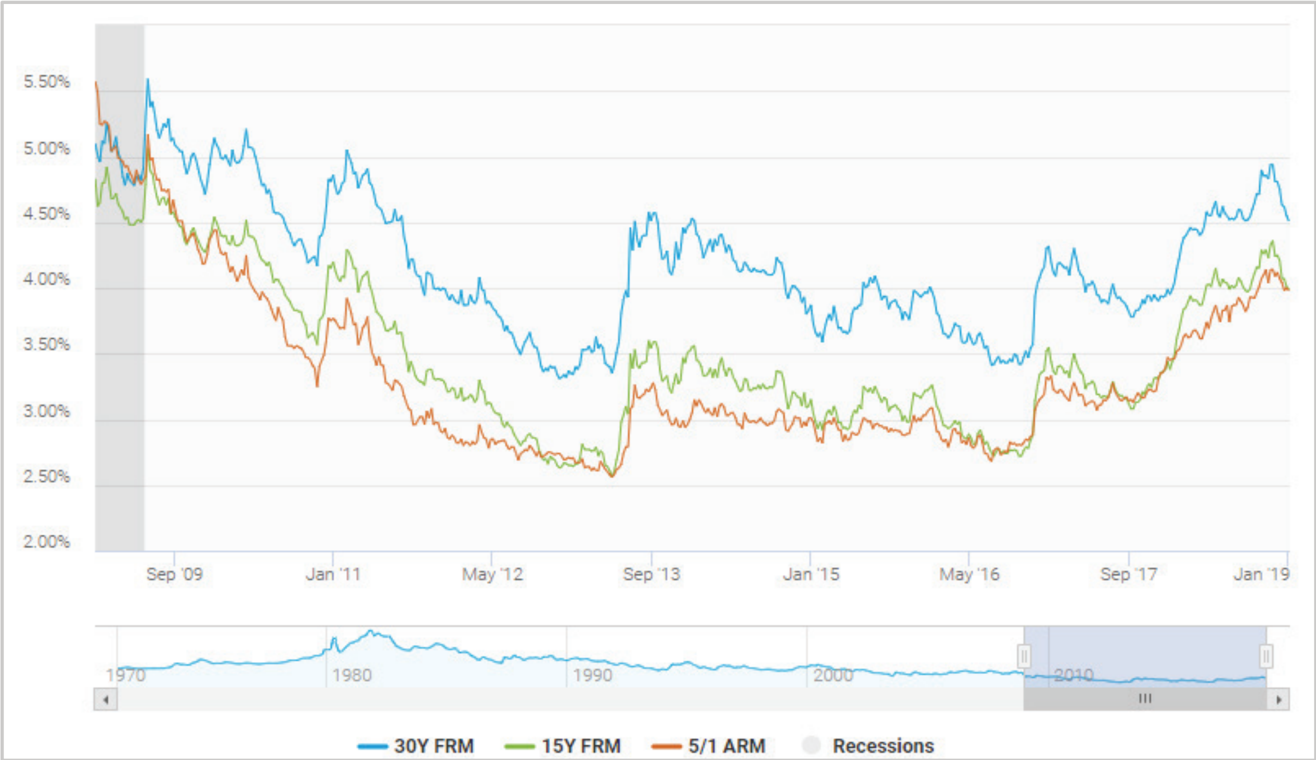
U.S. DOLLAR INDEX



Source: Eikon, through December 31, 2018

It is likely that the dollar's rally will slow likely making commodities and international investments more attractive.

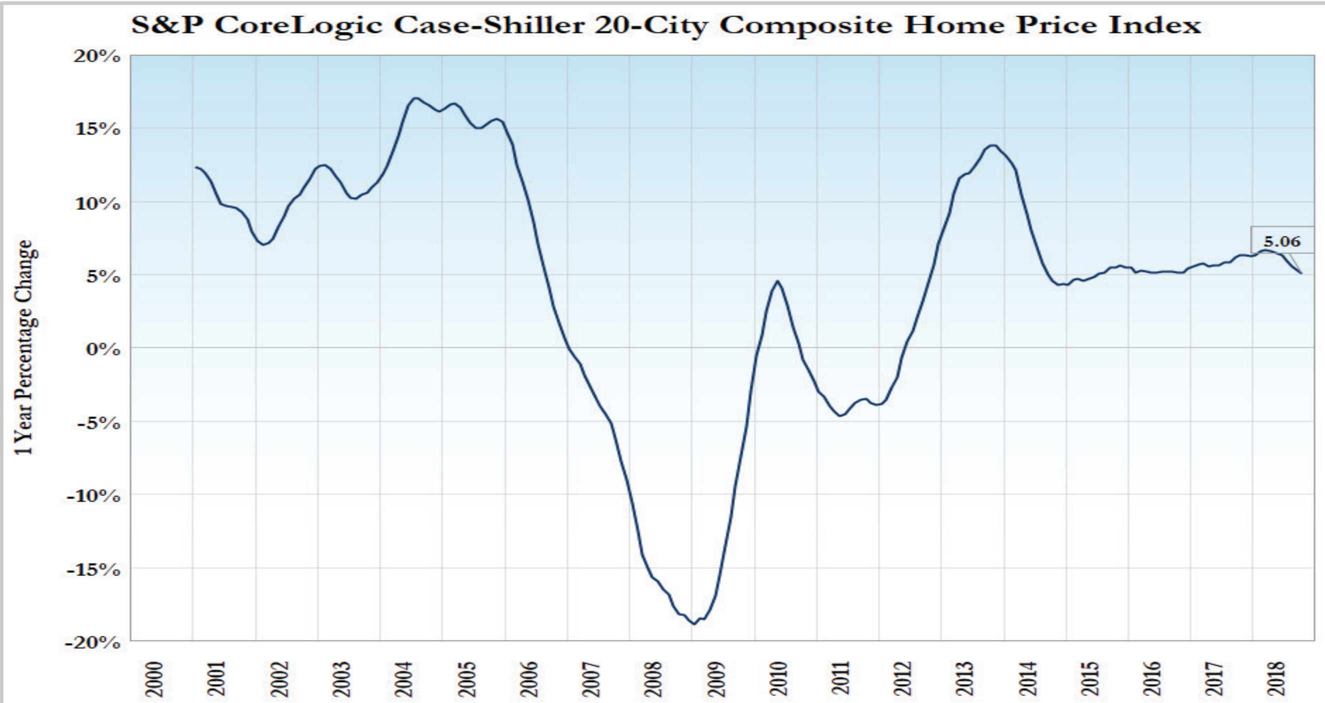
MORTGAGE RATES



Source: Freddie Mac, through Jan 3, 2019

The recent drop in mortgage rates may goose the housing market a bit.

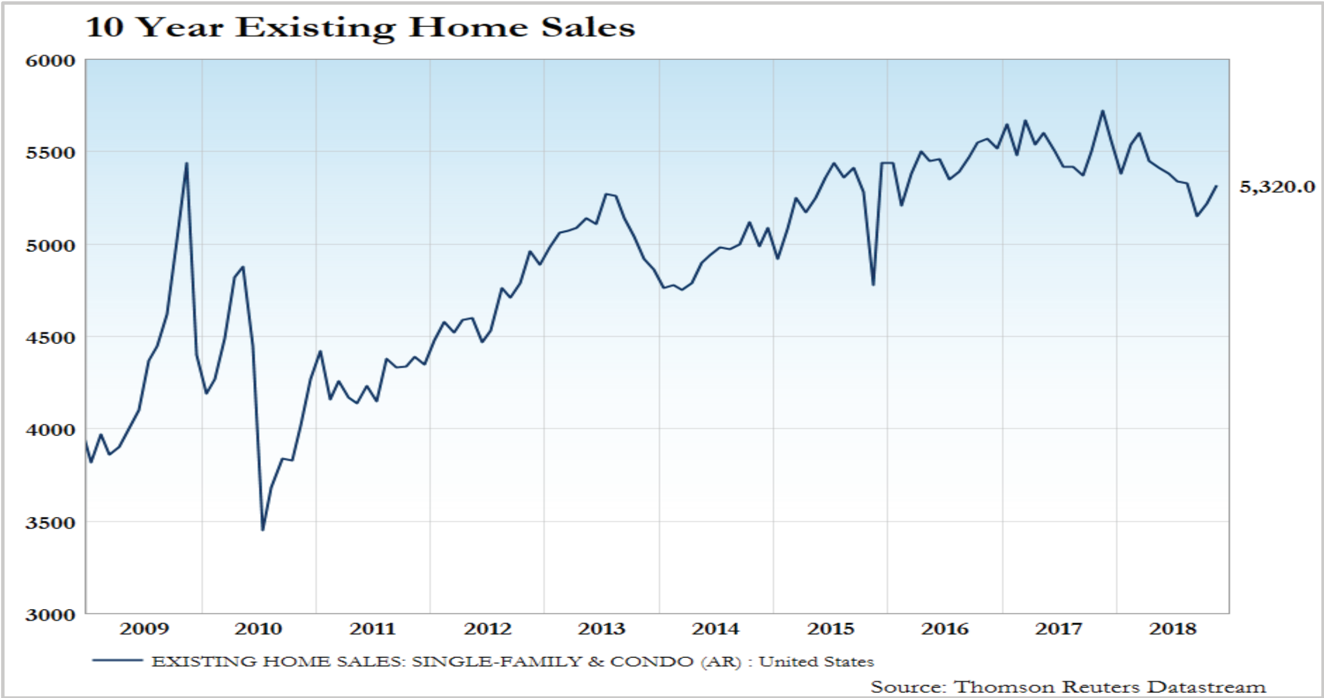
S&P CORELOGIC CASE-SHILLER 20-CITY COMPOSITE HOME PRICE INDEX



Source: Eikon, through October 31, 2018

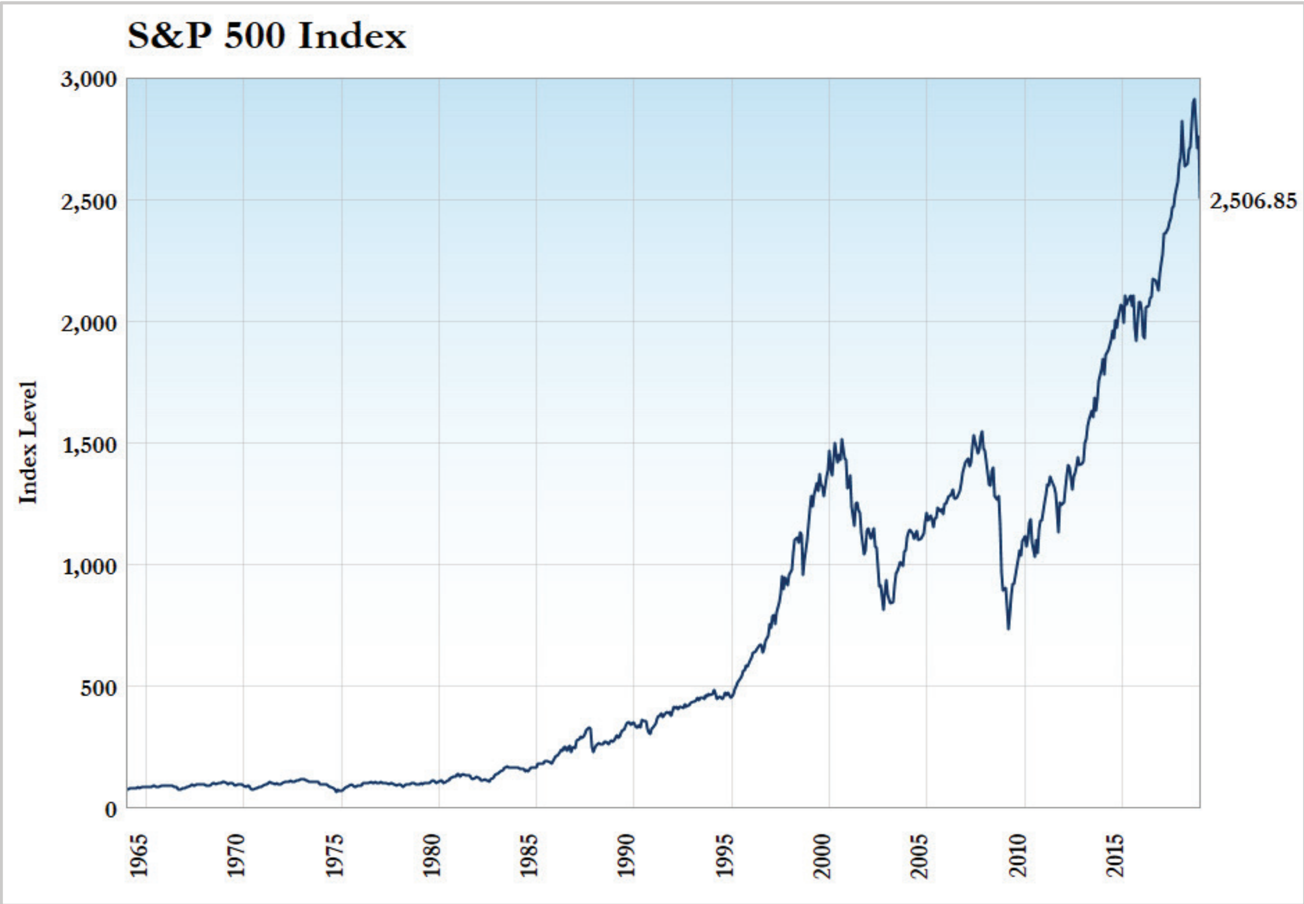
Will the slight dip in pricing correct with lower mortgage rates?

EXISTING HOME SALES



Source: Eikon, through November 30, 2018

Will the reduction in mortgage rates kickstart existing home sales?



Source: Eikon through December 31, 2018

Is this a rally that needs to correct or just catch-up for 10 years of "dead time"?

TWENTY YEAR VIEW OF ASSET CLASS RETURNS

Annual Returns of Key Indices (1999-2018) Ranked in Order of Performance (Best to Worst)

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Small Cap Growth 43.09%	Real Estate 31.04%	Small Cap Value 14.03%	Cmdty 23.86%	Small Cap Growth 48.53%	Real Estate 33.16%	Cmdty 17.54%	Real Estate 43.72%	Large Cap Growth 11.81%	Fixed Income 5.24%
Large Cap Growth 28.25%	Cmdty 24.21%	Real Estate 12.35%	Fixed Income 10.26%	Small Cap Value 46.02%	Small Cap Value 22.25%	Real Estate 13.82%	Small Cap Value 23.48%	Cmdty 11.09%	Small Cap Value -28.92%
Int'l 26.96%	Small Cap Value 22.83%	Fixed Income 8.44%	Real Estate 3.58%	Int'l 39.17%	Int'l 20.69%	Int'l 13.50%	Int'l 23.47%	Int'l 8.62%	Cmdty -36.61%
Large Cap Core 21.04%	Fixed Income 11.63%	Small Cap Growth -9.23%	Small Cap Value -11.43%	Real Estate 36.18%	Large Cap Value 15.71%	Large Cap Value 7.10%	Large Cap Value 22.24%	Small Cap Growth 7.05%	Large Cap Value -36.85%
Cmdty 18.60%	Large Cap Value 6.08%	Large Cap Value -11.71%	Int'l -15.94%	Large Cap Value 31.77%	Small Cap Growth 14.31%	Large Cap Growth 5.26%	Large Cap Core 15.77%	Fixed Income 6.97%	Large Cap Core -37.03%
Large Cap Value 12.72%	Large Cap Core -9.11%	Large Cap Core -11.88%	Large Cap Value -20.85%	Large Cap Core 28.67%	Large Cap Core 10.88%	Large Cap Core 4.88%	Small Cap Growth 13.35%	Large Cap Core 5.48%	Large Cap Growth -38.44%
Fixed Income -0.82%	Int'l -14.17%	Large Cap Growth -12.73%	Large Cap Core -22.10%	Large Cap Growth 25.65%	Cmdty 7.64%	Small Cap Value 4.71%	Large Cap Growth 9.07%	Large Cap Value -0.17%	Small Cap Growth -38.54%
Small Cap Value -1.49%	Large Cap Growth -22.08%	Int'l -21.44%	Large Cap Growth -23.59%	Cmdty 22.66%	Large Cap Growth 6.13%	Small Cap Growth 4.15%	Fixed Income 4.33%	Real Estate -4.65%	Int'l -43.38%
Real Estate -2.58%	Small Cap Growth -22.43%	Cmdty -22.32%	Small Cap Growth -30.26%	Fixed Income 4.11%	Fixed Income 4.33%	Fixed Income 2.43%	Cmdty -2.71%	Small Cap Value -9.78%	Real Estate -48.90%

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Real Estate 41.25%	Small Cap Growth 29.09%	Fixed Income 7.84%	Real Estate 29.85%	Small Cap Growth 43.30%	Real Estate 14.73%	Large Cap Growth 5.67%	Small Cap Value 31.74%	Large Cap Growth 30.21%	Fixed Income 1.68%
Large Cap Growth 37.21%	Small Cap Value 24.50%	Large Cap Growth 2.64%	Small Cap Value 18.05%	Small Cap Value 34.52%	Large Cap Core 13.69%	Large Cap Core 1.38%	Large Cap Value 17.34%	Int'l 25.03%	Large Cap Growth -1.52%
Small Cap Growth 24.47%	Real Estate 20.03%	Large Cap Core 2.11%	Large Cap Value 17.51%	Large Cap Growth 33.48%	Large Cap Value 13.45%	Fixed Income 0.55%	Large Cap Core 11.96%	Small Cap Growth 22.17%	Large Cap Core -4.38%
Int'l 27.75%	Large Cap Growth 16.71%	Large Cap Value 0.39%	Large Cap Core 16.00%	Large Cap Value 32.53%	Large Cap Growth 13.05%	Real Estate -0.41%	Cmdty 11.77%	Large Cap Core 21.83%	Real Estate -5.50%
Large Cap Core 26.50%	Cmdty 16.67%	Small Cap Growth -2.91%	Large Cap Growth 15.26%	Large Cap Core 32.39%	Fixed Income 5.97%	Int'l -0.81%	Small Cap Growth 11.31%	Real Estate 15.01%	Large Cap Value -8.27%
Small Cap Value 20.58%	Large Cap Value 15.51%	Small Cap Value -5.50%	Small Cap Growth 14.59%	Int'l 22.78%	Small Cap Growth 5.60%	Small Cap Growth -1.38%	Large Cap Growth 7.07%	Large Cap Value 13.66%	Small Cap Growth -9.31%
Large Cap Value 19.69%	Large Cap Core 15.06%	Real Estate -8.14%	Int'l 13.55%	Real Estate 2.23%	Small Cap Value 4.22%	Large Cap Value -3.83%	Real Estate 4.62%	Small Cap Value 7.84%	Cmdty -11.25%
Cmdty 18.72%	Fixed Income 6.54%	Cmdty -13.37%	Fixed Income 4.22%	Fixed Income -2.03%	Int'l -4.90%	Small Cap Value -7.48%	Fixed Income 2.65%	Fixed Income 3.54%	Small Cap Value -12.86%
Fixed Income 5.93%	Int'l 4.90%	Int'l -14.82%	Cmdty -1.14%	Cmdty -9.58%	Cmdty -17.04%	Cmdty -24.70%	Int'l 1.00%	Cmdty 1.70%	Int'l -13.79%

The Barclays US Aggregate Bond Index is an unmanaged market-weighted index that consists of U.S. Government and agency securities, mortgage-backed securities issued by the Government National Mortgage Association, the Federal Home Loan Mortgage Corporation, or the Federal National Mortgage Association, and investment-grade (rated BBB or better) corporate bonds, all of which will mature within 30 years.

The Russell 2000 Growth Index consists of small-cap companies that have higher price-to-book ratios and higher forecasted growth values.

The Russell 1000 Growth Index consists of large-cap companies that have higher price-to-book ratios and higher forecasted growth values.*

The Russell 2000 Value Index consists of small-cap companies that have lower price-to-book ratios and lower forecasted growth values.

The Russell 1000 Value Index consists of large-cap companies that have lower price-to-book ratios and lower forecasted growth values.*

The Morgan Stanley Capital International (MSCI) EAFE Index is an unmortgaged index that measures the total returns of developed foreign stock markets in Europe, Asia, and the Far East.

The S&P 500 Index is an unmanaged index that consists of the common stocks of 500 large-capitalization companies, within various industrial sectors, most of which are listed on the New York Stock Exchange.

The Bloomberg Commodity Index reflects the return of underlying futures prices of 22 physical commodities. (Cmdty)

The FTSE EPRA/NAREIT Global Real Estate Index is designed to represent general trends in eligible real estate equities worldwide.*

*As of 1/1/05, the Russell 1000 Growth and the Russell 1000 Value replaced the S&P/Barra Growth and the S&P/Barra Value, respectively. As of 1/1/06, the FTSE EPRA/NAREIT Index replaced the Wilshire U.S. REIT Index. Through 2004 on this chart, the S&P/Barra indices were used for Large Cap Growth and Large Cap Value. Through 2005 on this chart, the Wilshire U.S. REIT Index was used for Real Estate.

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