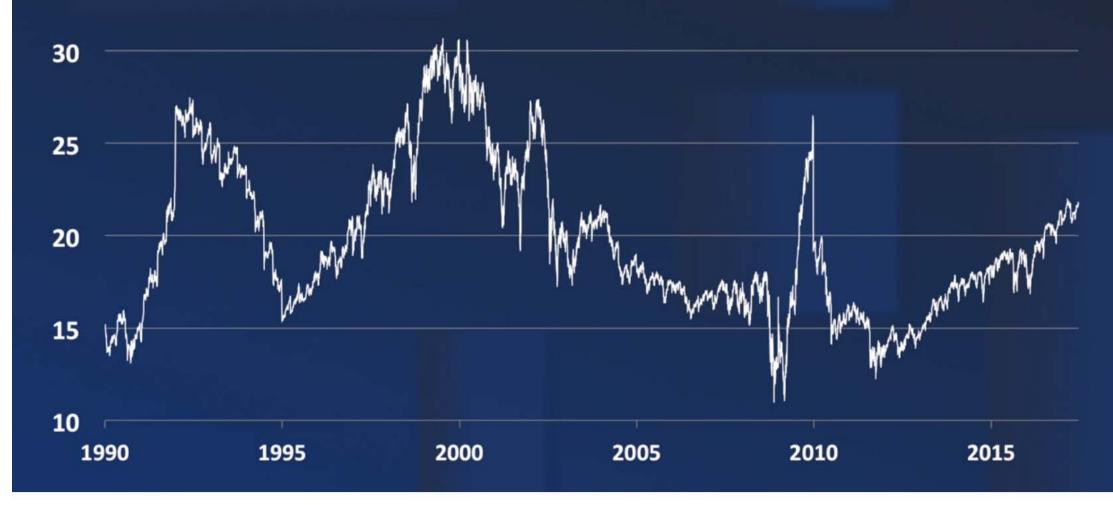
GETTING DEFENSIVE IN A FROTHY MARKET

David Toms

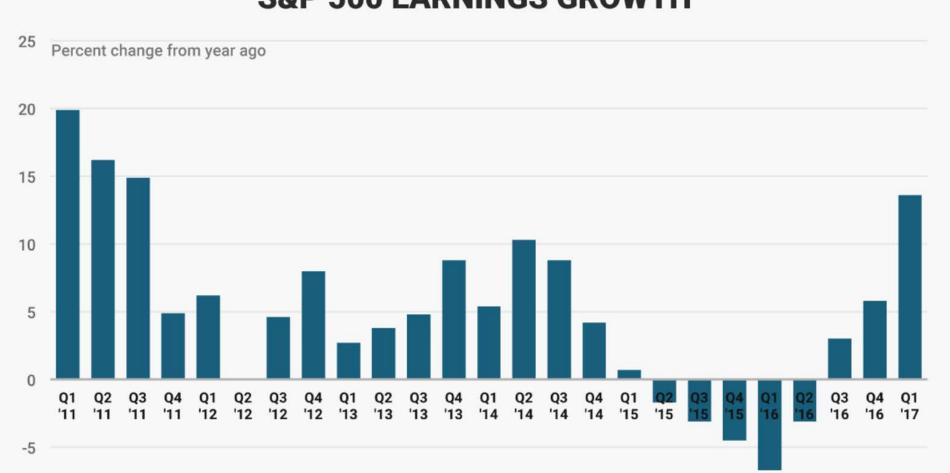
Agenda

- What is the state of the market? Let's take a vote......
- Assuming a market sell-off is near, what can we do to protect ourselves?
 - Conservative
 - Moderate
 - Aggressive
- Two interesting personal investments



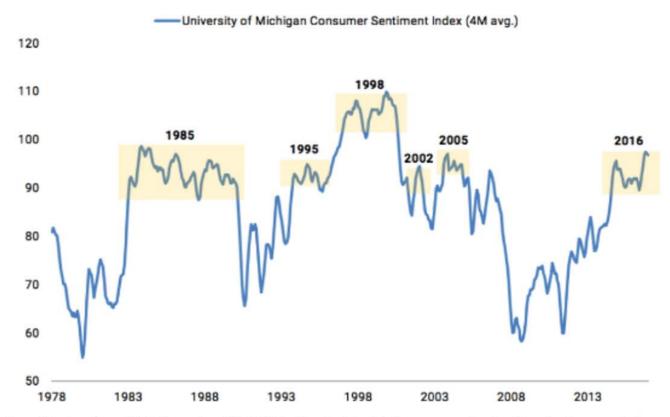


S&P 500 EARNINGS GROWTH



Consumer sentiment has been elevated for a prolonged period, something that's historically unlocked massive gains for stocks.

Exhibit 5: Elevated and Stable Consumer Sentiment Is Rare—Only Five Occurrences Since 1978 (dates on chart represent the year such an environment was entered)



Source: Bloomberg, Morgan Stanley Research as of May 2017. We define elevated and stable consumer sentiment as: 10-month rolling average is above 90 and year-over-year change is not greater than 10% and not less than -10% for 10 straight months (based on University of Michigan Consumer Sentiment Index).

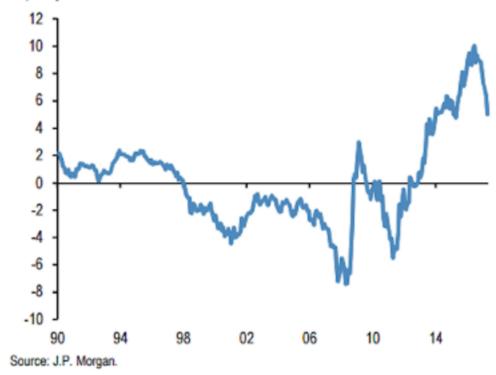
Markets worldwide are being propped up by robust cash holdings that are at their highest in almost three decades.

Underpinning gains in both stocks and bonds is \$5 trillion of capital that is sitting on the sidelines and serving as a reservoir for buying on weakness.

"This excess cash acts as a backstop for financial assets, both bonds and equities, because any correction is quickly reversed by investors deploying their excess cash to buy the dip," Nikolaos Panigirtzoglou, the managing director of global market strategy at JPMorgan, wrote in a client note.

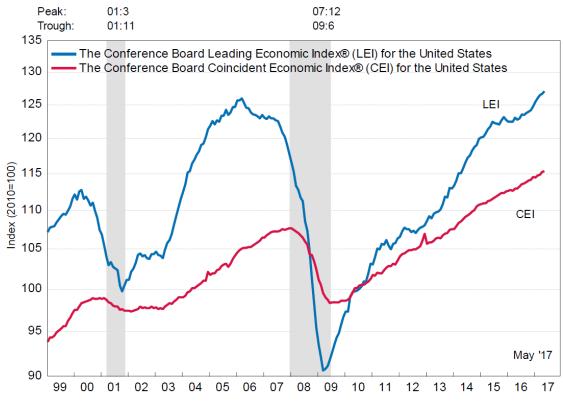
Figure 13: Actual global M2 money supply minus a medium-term money demand target in \$tr

For details about our global excess cash model, see previous Flows & Liquidity Mar 24th.



Leading Indicators Increasing

The Conference Board Leading Economic Index® (LEI) for the U.S. Increased in May



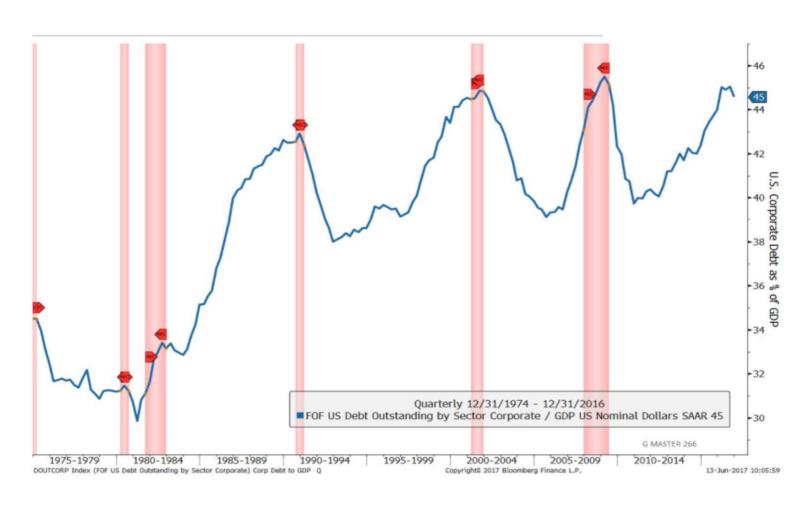
Latest LEI Trough March 2009, Latest CEI Trough June 2009

Shaded areas represent recessions as determined by the NBER Business Cycle Dating Committee.

Source: The Conference Board

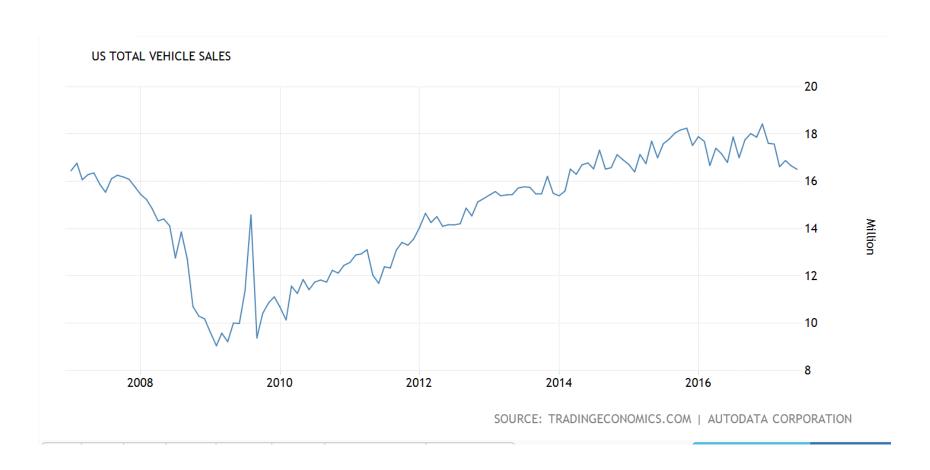
Source: Conference Board, June 22, 2017

Corporate Debt Rising as a Percentage of GDP

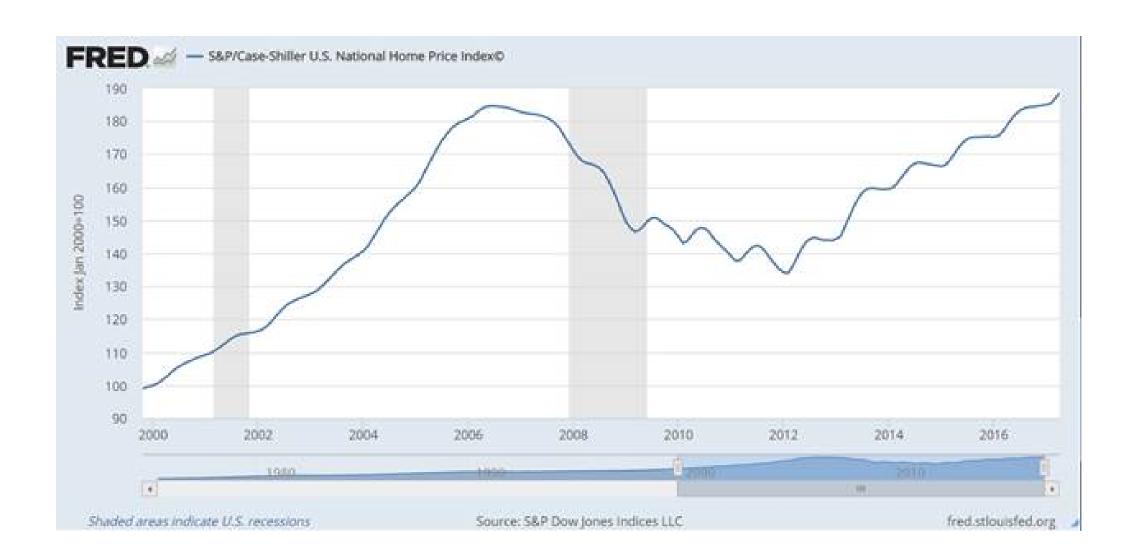


Source: DoubleLine Funds and JP Morgan

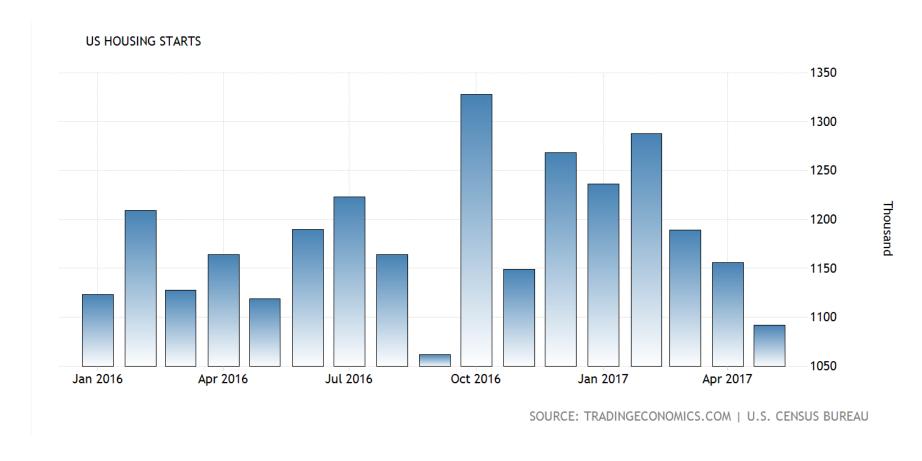
Auto sales are declining: Inventories are rising and layoffs are starting (Ford)



Housing Prices are steadily rising

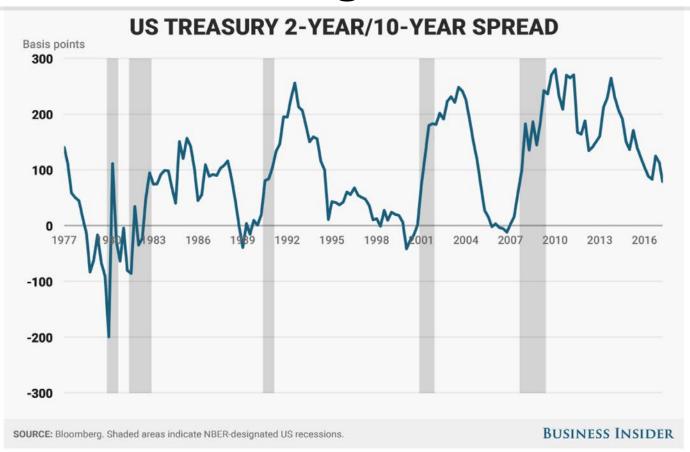


But: US Housing Starts are Declining



And Builder confidence is declining, while we have a shortage of housing.

Yield curve is flattening



- There is a strong correlation between yield curve inversions and recessions.
- Recession occurs 1-2 quarters after inversion
 - Source: NY Fed, July/Aug 2006

Fed Portfolio Sell-Off

What's the effect?

- Fed Portfolio bonds will mature or sell off at \$30B per month
 - Daily bond market volume = \$700B DAILY!! (that's 0.2%)
- Assuming \$3T will be disposed of, then the sell off will take 133 months, ie 11+ years.
- How will the market react?
 - My estimate: more smoke than fire

Let's take a poll

Is the Market

- Overvalued?
- Undervalued?
- Fairly valued?

My Net Assessment

- Market valuations are exuberant, but not irrational
- Economy shows some cracks, which should be monitored carefully
- Market selloffs will occur sometime in the future
- Should we time the market? You bet!
 - Not daily, but monthly or quarterly
 - You can see big market changes coming a long ways away
- There are actions we can take to get more defensive
 - Conservative
 - Moderate
 - Aggressive

ASSUME A MARKET SELLOFF IS IMMINENT - ACTIONS TO CONSIDER:

- Conservative actions:
 - Move toward cash, money market funds or CDs
 - Diversify your portfolio across many sectors
 - Look for Low Beta stocks are low volatility by definition
 - Beta = 1 means stock is perfectly correlated with S&P 500
 - Beta = 0 means no correlation
 - "Stress test" your portfolio: what is your average Beta? (Mine: 0.78)
 - Periodically rebalance your portfolio in anticipation of future market conditions and personal goals

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| | | | | | | | | | | | | | | | 2002 - | |
|-------------------|-----------------|-----------------|-----------------|------------------------|----------------|------------------|-----------------|-----------------|-------------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|
| 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | Ann. | Vol. |
| Comdty. | EM Equity | REITs | EM Equity | REITs | EM Equity | Fixed Income | EM Equity | REITs | REITs | REITs | Small Cap | REITs | REITs | Small Cap | REITs | EM Equity |
| 25.9% | 56.3% | 31.6% | 34.5% | 35.1% | 39.8% | 5.2% | 79.0% | 27.9% | 8.3% | 19.7% | 38.8% | 28.0% | 2.8% | 21.3% | 10.8% | 23.8% |
| Fixed | Small | EM | Comdty. | EM | Comdty. | Cash | High | Small | Fixed | High | Large | Large | Large | High | EM | REITs |
| Income 10.3% | Cap 47.3% | Equity 26.0% | 21.4% | Equity 32.6% | 16.2% | 1.8% | Yield 59.4% | Cap 26.9% | Income 7.8% | Yield 19.6% | Cap 32.4% | Cap 13.7% | Cap 1.4% | Yield 14.3% | Equity 9.8% | 22.6% |
| | DM | DM | | DM | DM | | | EM | | 19.0 % EM | DM | Fixed | | | | |
| High Yield | Equity | Equity | DM Equity | Equity | Equity | Asset Annoc. | DM Equity | Equity | High Yield | Equity | Equity | Income | Fixed Income | Large Cap | High Yield | Small Cap |
| 4.1% | 39.2% | 20.7% | 14.0% | 26.9% | 11.6% | -25.4% | 32.5% | 19.2% | 3.1% | 18.6% | 23.3% | 6.0% | 0.5% | 12.0% | 9.2% | 20.1% |
| REITs | REITs | Small | REITs | Small | Asset | High | REITs | Comdty. | Large | DM | Asset | Asset | Cash | Comdty. | Small | DM |
| 3.8% | 37.1% | Cap 18.3% | 12.2% | Cap 18.4% | AMOC. /7.1% | Yield - 26.9% | 28.0% | 16.8% | Cap 2.1% | Equity 17.9% | Alloc. 14.9% | Alloc. 5.2% | 0.0% | 11.8% | Cap 8.5% | Equity 19.2% |
| 3.0 /8 | | | | | Fixed | Small | Small | | 2.170 | Small | | Small | DM | EM | | 13.2 /6 |
| Cash | High Yield | High Yield | Asset Alloc. | Large Cap | Income | Cap | Cap | Large Cap | Cash | Cap | High Yield | Cap | Equity | Equity | Asset Alloc. | Comdty. |
| 1.7% | 32.4% | 13.2% | 8.1% | 15.8% | 7.0% | -33.8% | 27.2% | 15.1% | 0.1% | 16.3% | 7.3% | 4.9% | -0.4% | 11.6% | 6.9% | 19.0% |
| Asset | Large | Asset | Large | Asset | Large | Comdty. | Large | High | Asset | Large | REITs | Cash | Asset | REITs | Large | Large |
| Allos. | Cap 28.7% | Amoc. 12.8% | Cap 4.9% | A ™ c. 15.3% | Cap 5.5% | -35.6% | Cap 26.5% | Yield 14.8% | -0.7% | Cap / 16.0% | 2.9% | 0.0% | Alloc. -2.0% | 8.6% | Cap 6.7% | Cap 15.9% |
| EM | | | Small | | 3.578 | | \ | | | | 2.5 /6 | | | | DM | |
| Equity | Asset Alloc. | Large Cap | Cap | High Yield | Cash | Large Cap | Alset Alloc. | Asset Alloc. | Small Cap | Asset Alloc. | Cash | High Yield | High Yield | Asset Alloc. | Equity | High Yield |
| -6.0% | 26.3% | 10.9% | 4.6% | 13.7% | 4.8% | -37.0% | 25.0% | 13.3% | -4.2% | 12.2% | 0.0% | 0.0% | -2.7% | 8.3% | 5.8% | 11.7% |
| DM | Comdty. | Comdty. | High | Cash | High | REITs | Comdty. | DM | DM | Fixed | Fixed | EM | Small | Fixed | Fixe d | Asset |
| Equity - 15.7% | 23.9% | 9.1% | Yield 3.6% | 4.8% | Yield 3.2% | -37.7% | 18.9% | Equity 8.2% | Equity - 11.7% | Income 4.2% | Income -2.0% | Equity - 1.8% | Cap -4.4% | Income 2.6% | Income 4.6% | Alloc. 11.0% |
| | | | 3.0% | | | | | | - 11.7 % | 4.2% | | | | | 4.6% | |
| Small Cap | Fixed Income | Fixed Income | Cash | Fixed Income | Small Cap | DM Equity | Fixed Income | Fixed Income | Comdty. | Cash | EM Equity | DM Equity | EM Equity | DM Equity | Cash | Fixed Income |
| -20.5% | 4.1% | 4.3% | 3.0% | 4.3% | - 1.6% | -43.1% | 5.9% | 6.5% | - 13.3% | 0.1% | -2.3% | -4.5% | - 14.6% | 1.5% | 1.3% | 3.5% |
| Large | Cash | Cash | Fixed | Comdty. | REITs | EM | Cash | Cash | EM | Comdty. | Comdty. | Comdty. | Comdty. | Cash | Comdty. | Cash |
| Cap -22.1% | 1.0% | 1.2% | Income 2.4% | 2.1% | - 15.7% | Equity -53.2% | 0.1% | 0.1% | Equity - 18.2% | - 1.1% | -9.5% | - 17.0% | -24.7% | 0.3% | 1.2% | 0.8% |
| | | | | | | ell. Standar | | | | | | - 17.0 % | -24.1 /0 | 0.3 /6 | 1.2 /0 | 0.0 /6 |

Source: Barclays, Bloomberg, FactSet, MSCI, NAREIT, Russell, Standard & Poor's, J.P. Morgan Asset Management.

Large cap: S&P 500, Small cap: Russell 2000, EM Equity: MSCI EME, DM Equity: MSCI EAFE, Comdty: Bloomberg Commodity Index, High Yield:

Barclays Global HY Index, Fixed Income: Barclays Aggregate, REITs: NAREIT Equity REIT Index. The "Asset Allocation" portfolio assumes the following weights: 25% in the S&P 500, 10% in the Russell 2000, 15% in the MSCI EAFE, 5% in the MSCI EME, 25% in the Barclays Aggregate, 5% in the Barclays 1-3m Treasury, 5% in the Barclays Global High Yield Index, 5% in the Bloomberg Commodity Index and 5% in the NAREIT Equity REIT Index. Balanced portfolio assumes annual rebalancing. Annualized (Ann.) return and volatility (Vol.) represents period of 12/31/01 – 12/31/16. Please see disclosure page at end for index definitions. All data represents total return for stated period. Past performance is not indicative of future returns.

Guide to the Markets – U.S. Data are as of December 31, 2016.



Stress Test Your Portfolio

| Equity Sector | Beta | Even Distrib | oution Acros | s Sectors | De | oss Sectors | | | |
|----------------------|------|--------------|--------------|-----------|----|-------------|------------|----------|--|
| | | Investment | Allocation | Weighted | lı | nvestment | Allocation | Weighted | |
| | | | | Beta | | | | Beta | |
| Financials | 1.43 | \$ 100,000 | 10% | 0.14 | \$ | 30,000 | 3% | 0.04 | |
| Technology | 1.09 | \$ 100,000 | 10% | 0.11 | \$ | 30,000 | 3% | 0.03 | |
| Healthcare | 0.74 | \$ 100,000 | 10% | 0.07 | \$ | 205,000 | 21% | 0.15 | |
| Energy | 1.19 | \$ 100,000 | 10% | 0.12 | \$ | 30,000 | 3% | 0.04 | |
| Consumer disc | 1.11 | \$ 100,000 | 10% | 0.11 | \$ | 30,000 | 3% | 0.03 | |
| Consumer staple: | 0.58 | \$ 100,000 | 10% | 0.06 | \$ | 205,000 | 21% | 0.12 | |
| Telecom | 0.62 | \$ 100,000 | 10% | 0.06 | \$ | 205,000 | 21% | 0.13 | |
| Utilities | 0.46 | \$ 100,000 | 10% | 0.05 | \$ | 205,000 | 21% | 0.09 | |
| Real Estate | 1.31 | \$ 100,000 | 10% | 0.13 | \$ | 30,000 | 3% | 0.04 | |
| Materials | 1.28 | \$ 100,000 | 10% | 0.13 | \$ | 30,000 | 3% | 0.04 | |
| | | \$ 1,000,000 | | 0.98 | \$ | 1,000,000 | | 0.71 | |

Assume a market pullback, cont'd

- Moderately aggressive actions:
 - Buy dividend-producing stocks tend to be less volatile
 - Increase fixed income:
 - High grade Corporate Bonds short to intermediate term
 - Grade B or better Corporates maturing in 1-5 years, now yielding 3-4%
 - NOT high yield or junk bonds highly correlated to S&P 500
 - Buy stocks or ETFs that are relatively immune to economic forces
 - Health care
 - Consumer Staples
 - Utilities
 - Telecom
 - Buy Gold funds, stocks, ETFs

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|--|------------|-------------------------------|--------------------------------|--------------------------------|------------------------------|-------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------------|------------|
| | Financials | Technology | Health Care | Industrials | Energy | cons. Disch | Cons. Stap | Telecom | Utilities | RealEstate | Materials | 58P 500 Inde | |
| S&P weight Russell Growth weight Russell Value weight | 2.9% | 20.8% 31.4% 9.4% | 13.6% 16.1% 10.2% | 10.3% 11.1% 10.0% | 7.6% 0.6% 13.6% | 12.0% 20.8% 4.5% | 9.4% 9.5% 8.0% | 2.7% 1.3% 3.9% | 3.2% 0.0% 6.0% | 2.9% 2.7% 4.6% | 2.8% 3.6% 2.8% | 100.0% 100.0% 100.0% | Weight |
| 4Q 2016 | 21.1 | 1.2 | -4.0 | 7.2 | 7.3 | 2.3 | -2.0 | 4.8 | 0.1 | -4.4 | 4.7 | 3.8 | |
| 2016 | 22.8 | 13.8 | -2.7 | 18.9 | 27.4 | 6.0 | 5.4 | 23.5 | 16.3 | 3.4 | 16.7 | 12.0 | (%) |
| Since market peak (October 2007) | -2.8 | 115.4 | 127.5 | 76.6 | 17.5 | 151.9 | 138.4 | 56.4 | 70.4 | 51.0 | 42.7 | 74.8 | Return (%) |
| Since market low (March 2009) | 430.5 | 351.3 | 266.7 | 385.3 | 115.1 | 483.1 | 234.4 | 198.7 | 198.2 | 459.9 | 239.9 | 290.7 | |
| Beta to S&P 500 | 1.43 | 1.09 | 0.74 | 1.19 | 0.99 | 1.11 | 0.58 | 0.62 | 0.46 | 1.31 | 1.28 | 1.00 | B |
| Correl. to Treas. yields | 0.74 | 0.30 | 0.17 | 0.46 | 0.38 | 0.42 | -0.21 | -0.05 | -0.66 | -0.43 | 0.42 | 0.41 | Q |
| Forward P/E ratio | 14.0x | 16.4x | 14.3x | 17.8x | 33.4x | 18.1x | 19.3x | 14.0x | 17.1x | 17.5x | 17.2x | 16.9x | |
| 20-yr avg. | 13.1x | 22.4x | 18.8x | 17.5x | 17.6x | 19.4x | 20.0x | 17.8x | 14.4x | 15.6x | 16.5x | 17.2x | P/E |
| Trailing P/E ratio | 16.1x | 21.1x | 21.1x | 20.9x | 32.5x | 20.1x | 23.2x | 15.7x | 21.2x | 28.8x | 20.1x | 20.3x | <u> </u> |
| 20-yr avg. | 15.8x | 25.7x | 24.0x | 20.0x | 16.7x | 19.3x | 21.1x | 20.2x | 15.7x | 34.9x | 19.2x | 19.6x | |
| Dividend yield | 1.9% | 1.6% | 1.9% | 2.3% | 2.5% | 1.6% | 2.9% | 4.5% | 3.8% | 3.6% | 2.2% | 2.2% | Div |
| 20-yr avg. | 2.3% | 1.0% | 1.7% | 2.1% | 2.2% | 1.3% | 2.3% | 3.9% | 3.9% | 4.3% | 2.2% | 1.9% | |

Source: FactSet, Russell Investment Group, Standard & Poor's, J.P. Morgan Asset Management.

All calculations are cumulative total return, not annualized, including dividends for the stated period. Since market peak represents period 10/9/07 -12/31/16. Since market low represents period 3/9/09 - 12/31/16. Correlation to Treasury yields are trailing 2-year monthly correlations between S&P 500 sector price returns and 10-year Treasury yield movements. Forward P/E ratio is a bottom-up calculation based on the most recent S&P 500 Index price, divided by consensus estimates for earnings in the next 12 months (NTM), and is provided by FactSet Market Aggregates. Trailing P/E ratios are bottom-up values defined as month-end price divided by the last 12 months of available reported earnings. Historical data can change as new information becomes available. Note that P/E ratios for the S&P 500 may differ from estimates elsewhere in this book due to the use of a bottom-up calculation of constituent earnings (as described) rather than a top-down calculation. This methodology is used to allow proper comparison of sector level data to broad index level data. Dividend yield is calculated as the next 12-month consensus dividend divided by most recent price. Beta calculations are based on 10-years of monthly price returns for the S&P 500 and its sub-indices. Betas are calculated on a monthly frequency over the past 10 years. Past performance is not indicative of future returns. Guide to the Markets - U.S. Data are as of December 31, 2016.



SECTOR RANKINGS OVER 10 YEARS with Gold Breakout

| 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|----------------------------|-----------------------------|----------------------------|---------------------------|-----------------------------|----------------------------|----------------------------|----------------------------|---------------------------|---------------------------|
| Gold 31.59% | Bonds 19.91% | Non-US stocks 31.41% | Gold 27.74% | Bonds 16.04% | Real estate 20.14% | US stocks 32.05% | Real estate 27.15% | US Housing 5.42% | US stocks 11.96% |
| Cmdties 16.75% | Gold 3.41% | Gold 27.63% | Real estate 27.58% | Gold 11.65% | Non-US stocks 17.22% | Non-US stocks 22.62% | US stocks 13.52% | US stocks 3.66% | Cmdties 9.29% |
| Non-US stocks 10.97% | Cash 1.37% | Real estate 27.45% | Cmdties 17.44% | Corp Bonds 7.51% | US stocks 15.89% | US Housing 10.75% | Bonds 10.79% | Bonds 1.20% | Real estate 9.28% |
| Bonds 10.13% | Inflation -0.02% | US stocks 25.94% | US stocks 14.82% | Real estate 7.28% | Corp Bonds 10.37% | Real estate 3.21% | US Housing 4.54% | Real estate 1.08% | Gold 9.12% |
| US stocks 5.48% | Corp Bonds -6.82% | Cmdties 23.46% | Corp Bonds 9.52% | Inflation 3.06 | US Housing 6.48% | Inflation 1.51% | Corp Bonds 7.51% | Inflation 0.66% | Corp Bonds 5.96% |
| Corp Bonds 4.64% | US Housing -11.99% | Corp Bonds 19.76% | Bonds 8.47% | US stocks 2.10% | Gold 5.68% | Cash 0.06% | Inflation 0.67% | Non-US stocks 0.48% | US Housing 5.85% |
| Cash 4.36% | Cmdties -36.01% | Inflation 2.82% | Non-US stocks 7.52% | Cash 0.05% | Bonds 2.89% | Corp Bonds -1.46% | Cash 0.03% | Cash 0.04% | Inflation 2.09% |
| Inflation 4.11% | US stocks -36.55% | Cash 0.15% | Inflation 1.44% | US Housing -3.89% | Inflation 1.76% | Cmdties -3.60% | Gold -0.19% | Corp Bonds -0.35% | Non-US stocks 0.96% |
| US Housing -5.39% | Real estate -37.34% | US Housing -3.86% | Cash 0.14% | Cmdties -8.26% | Cash 0.09% | Bonds -8.95% | Non-US stocks -5.04% | Gold -10.01% | Bonds 0.69% |
| Real estate -17.83% | Non-US stocks -43.14% | Bonds -10.82% | US Housing -4.14% | Non-US stocks -12.18% | Cmdties -3.45% | Gold -27.79% | Cmdties -17.42% | Cmdties -21.91% | Cash 0.32% |
| | | | | | | | (6 | BullionV | ault 2017 |

Assume a market pullback, cont'd

- Aggressive actions
 - Buy Short/Long ETFs
 - Short the S&P 500
 - Short stocks, ETFs that are economically sensitive: Oil, Transportation,
 Commodities
 - Option investing
 - Selling covered calls or buying puts for insurance

Not my cup of tea – you better know what you're doing

Conclusion

- Keep an eye on critical economic indicators
- Get defensive when market signals are deteriorating
- When markets go south, they go down fast

Warren Buffet: "Be fearful when others are greedy;

Be greedy when others are fearful"

BTW, two of my favorite investments:

Annaly REIT (NLY)

Annaly Capital Management, Inc. (NLY)

NYSE - Nasdaq Real Time Price. Currency in USD

★ In watchlist

12.22 +0.15 (+1.20%) **12.21** 0.00 (-0.02%)

At close: 3:59PM EDT

After hours: 4:06PM EDT

| Summary | Conversations | Statistics Profile | Financials | Options | Hold | ers | Histo | orical D | ata | Analysts | | |
|----------------|---------------|--------------------|------------------------------|-----------|---------|-----|-------|-------------|------|---------------|-----------------------|---|
| Previous Close | 12.07 | Market Cap | 12.45B | 1D 5D | 1M | 6M | YTD | 1Y 5 | Y N | ∕lax ⊿ | ₽ ³ | F |
| Open | 12.07 | Beta | 0.46 | | | | | | | | | |
| Bid | 12.22 x 65800 | PE Ratio (TTM) | 4.57 | | | | | | | | | |
| Ask | 12.23 x 74200 | EPS (TTM) | 2.67 | | | | | | | | | |
| Day's Range | 12.06 - 12.25 | Earnings Date | Aug 1, 2017 - Aug 7, 2017 | | | | | | | | | |
| 52 Week Range | 9.83 - 12.73 | Dividend & Yield | 1.20 (9.94%) | .ih | 11-1-11 | | | | | - 4 | | |
| Volume | 6,863,277 | Ex-Dividend Date | 2017-06-28 | Aug 1, 12 | | | | Feb 1 | , 15 | | lulili. | |
| Avg. Volume | 7,595,262 | 1y Target Est | 10.84 | | | | | | | | | |

Why is Annaly Interesting?

- Very high dividend: 9.9%
- REIT portfolio primarily government-backed mortgage securities and derivatives, both residential and commercial
- Market cap \$11B; Enterprise value \$83B
- Young, experienced management team, with very large personal stakes
- Diversification is key to withstanding interest rate increases
- 56% Institutional ownership; 5% short
- Good track record of consistent dividends
- Analysts are bullish (7.8 out of 10)
- Real estate market is on the rise; and lending standards are tighter now

PLUG POWER (PLUG), INC

2.06 +0.03 (+1.23%)

As of -. Market open.

| Summary | Conversations | Statistics Profile | Financials | Optio | ns | Hol | ders | His | torica | ıl Data | ı A | nalysts | |
|----------------|-----------------|--------------------|------------------------------|-------|-------|-----|------|-----|--------|---------|------------|---------|-----------------------------------|
| Previous Close | 2.0300 | Market Cap | 460.31M | 1D | 5D | 1M | 6M | YTD | 1Y | 5Y | Max | | ⊌ [⊼] Full screen |
| Open | 2.0300 | Beta | 2.13 | | | | | | | | | | 3.00 |
| Bid | 2.05 x 23900 | PE Ratio (TTM) | -5.41 | | | | | | | | | 1 | 2.06 |
| Ask | 2.06 x 26400 | EPS (TTM) | -0.38 | | | | | | | | | | 1.27 |
| Day's Range | 2.0100 - 2.0700 | Earnings Date | Aug 2, 2017 - Aug 7, 2017 | | | | | | | | | | 1.27 |
| 52 Week Range | 0.8300 - 2.7000 | Dividend & Yield | N/A (N/A) | | | | | | | | | | 0.40 |
| Volume | 568,948 | Ex-Dividend Date | N/A | Jul 1 | 1, 16 | | | | | Jan 16, | 1 7 | Harra | |
| Avg. Volume | 8,822,630 | 1y Target Est | 2.84 | | | | | | | | | | |

Trade prices are not sourced from all markets

Why is PLUG interesting?

- Manufactures hydrogen fuel cells the anti-Tesla
- Fuel cells output electricity and water vapor from hydrogen fuel
- Leader in its field
- Fuel cell power packs used in forklifts
 - Automotive applications are brewing
- Amazon and Walmart have both taken large positions
- USPS has a pilot program; China is evaluating
- Toyota, Honda, Ford, GM, BMW also developing fuel cell solutions
- Toyota has deployed 15,000 fuel-cell cars, mostly in California
- Institutional investors: Black Rock, State Street, Vanguard, Invesco all have large positions.
- Today's price: \$2.06; Target price: \$2.84
- Biggest impediment: Hydrogen production and distribution