Michael Lebowitz and I have produced a number of charts that have generated a lot of questions, comments, and shares over the last year. We decided that each quarter we will begin producing a *"chart book"* of the *"most important charts"* from the last quarter for you to review. We have provided the links in most cases back to the original articles as well for further clarification and context if needed. We hope you find them useful and insightful.

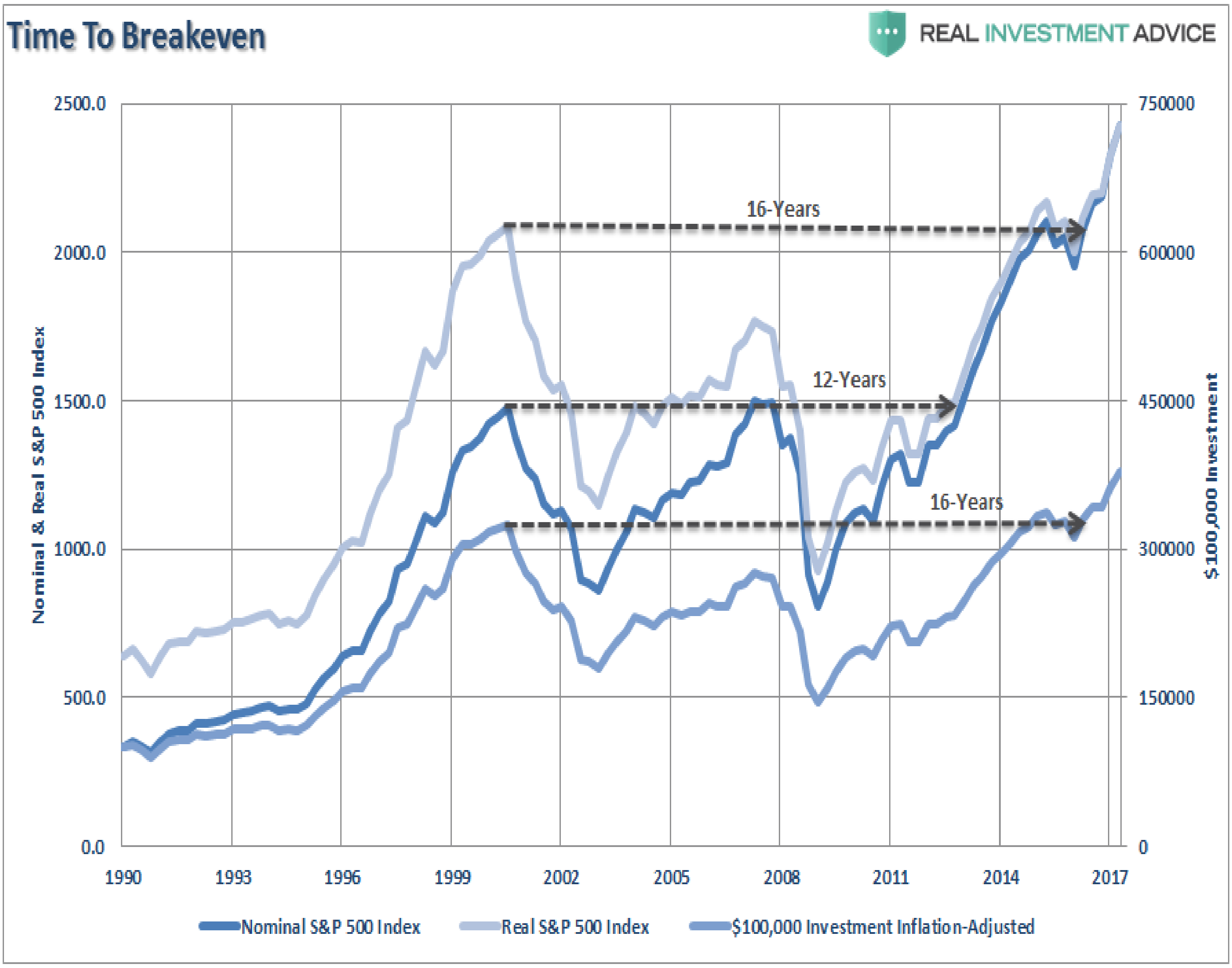
Time To Breakeven

While individuals are inundated with a plethora of opinions on why the index is moving up or down from one day to the next, a portfolio of dollars invested in the market is vastly different than the index itself. I have pointed out the•problems of benchmarking•previously stating:

1. *The index contains no cash*
2. *It has no life expectancy requirements ? but you do.*
3. *It does not have to compensate for distributions to meet living requirements ? but you do.*

4. *It requires you to take on excess risk (potential for loss) in order to obtain equivalent performance ? this is fine on the way up, but not on the way down.*
5. *It has no taxes, costs or other expenses associated with it ? but you do.*
6. *It has the ability to substitute at no penalty ? but you don?t.*
7. *It benefits from share buybacks ? but you don?t*.

Furthermore, it is also not representative what happens to real dollars invested in the financial markets which are impacted by changes in inflation.•The chart below compares the breakeven times for the nominal index versus an inflation-adjusted index and $100,000 investment into the index.



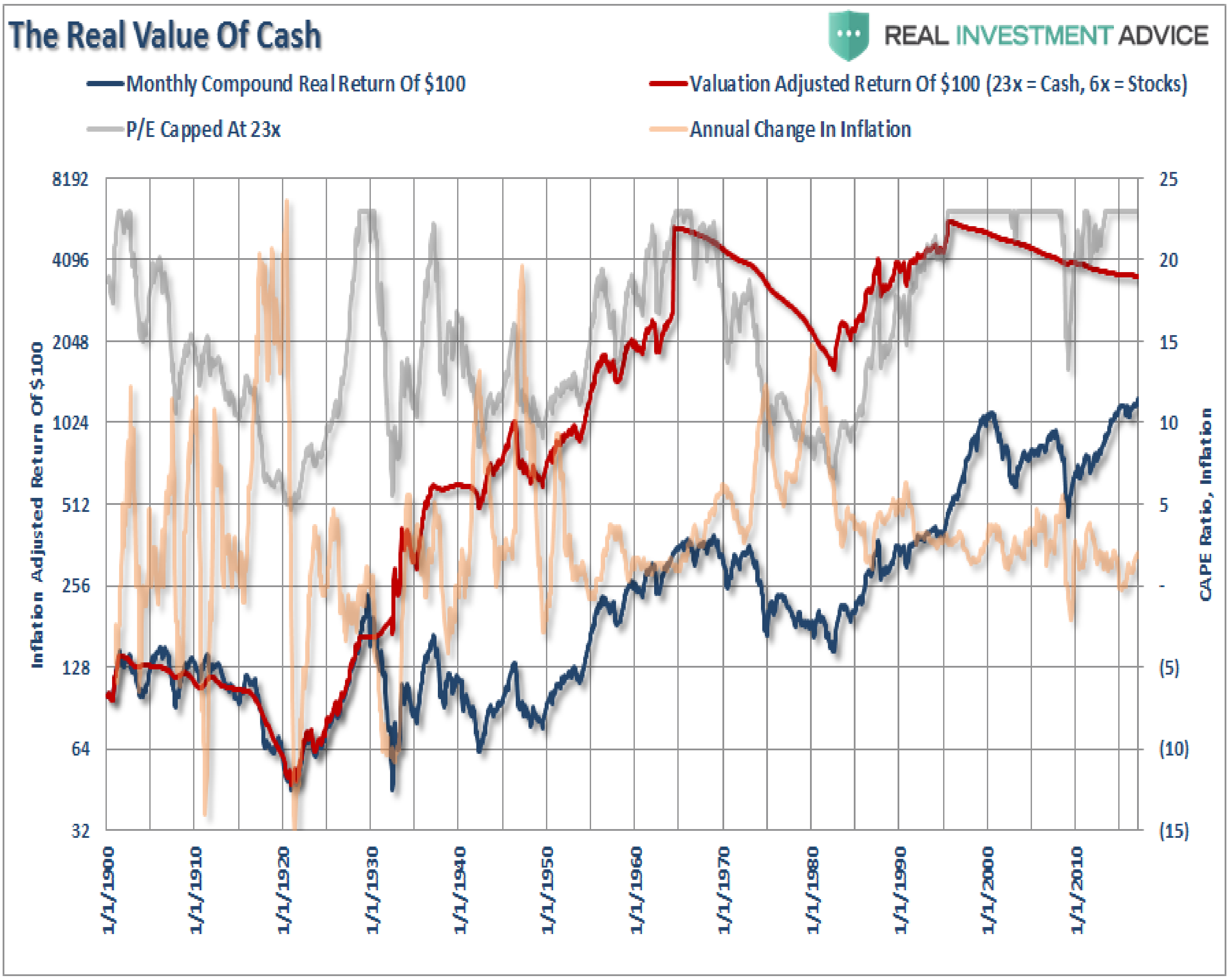
You will notice in the $100,000 portfolio that investors, once the impact of inflation is added, just got back to even after 16-years of their investment time horizon was lost. READ: [The Big Lie Of Market Indexes]

The Real Value Of Cash

As I discussed in the•[?Real Value Of Cash:?]•

> ***The chart below shows the inflation-adjusted return of $100 invested in the S&P 500***•*(capital appreciation only using data provided by Dr. Robert Shiller). The chart also shows Dr. Shiller?s CAPE ratio. However, I have capped the CAPE ratio at 23x earnings which has historically been the peak of secular bull markets in the past. Lastly,* ***•I calculated a simple cash/stock switching model which buys stocks at a CAPE***

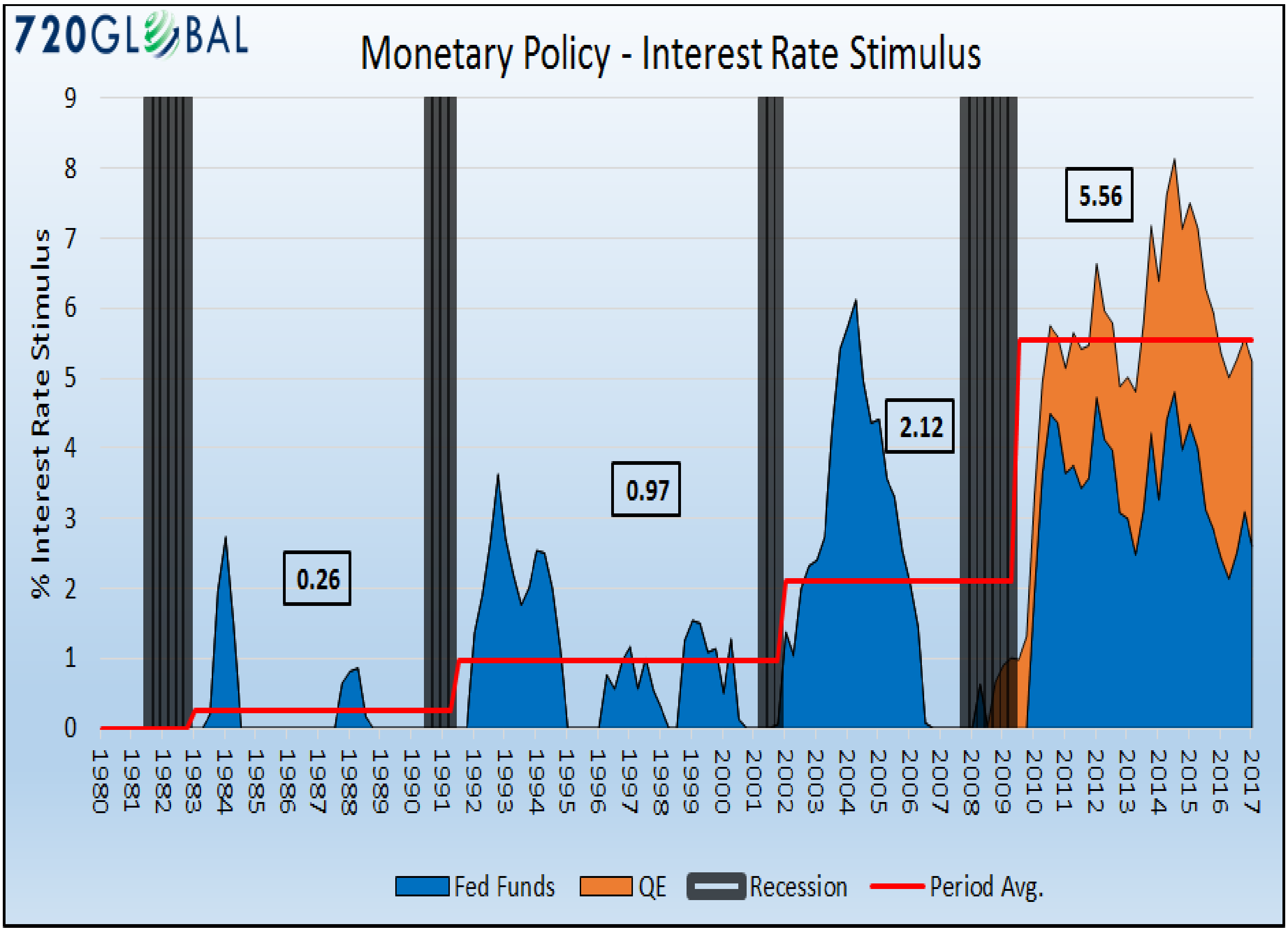
ratio of 6x or less and moves back to cash at a ratio of 23x. I have adjusted the value of holding cash for the annual inflation rate which is why during the sharp rise in inflation in the 1970?s there is a downward slope in the value of cash.
•However, while the value of cash is adjusted for purchasing power in terms of acquiring goods or services in the future, the impact of inflation on cash as an asset with respect to reinvestment may be different since asset prices are negatively impacted by spiking inflation. ***In such an event, cash gains purchasing power parity in the future if assets prices fall more than inflation rises.***



READ: [The 7-Myths Of Investing]

Monetary Policy

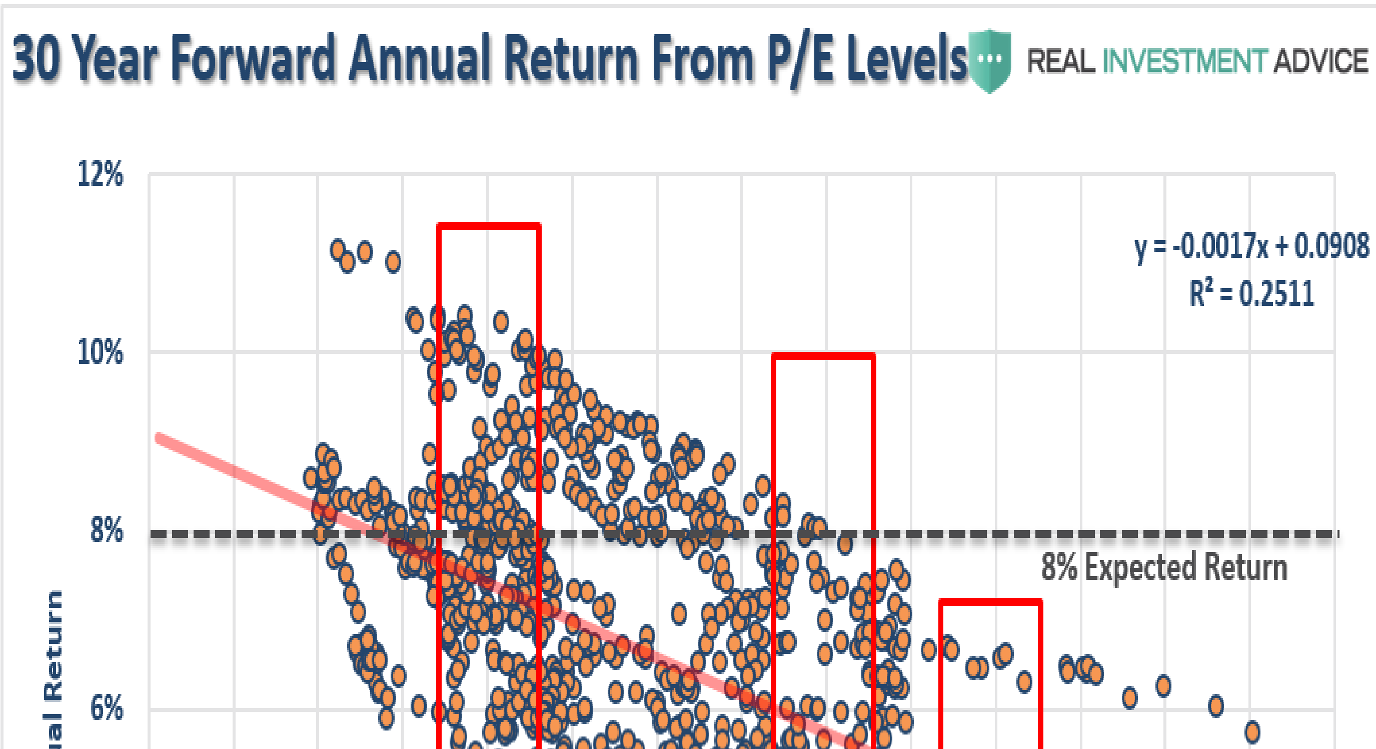
Federal Reserve (Fed) stimulus comes in two forms as shown above. First in the form of targeting the Fed Funds interest rate at a rate below the nominal rate of economic growth (blue). Second, it stems from the large-scale asset purchases *(Quantitative Easing -QE)* by the Fed (orange). **When these two metrics are quantified, it yields an estimate of the average amount of stimulus (red) applied during each post-recession period since 1980.** It has been almost ten years since the 2008 financial crisis and the Fed has applied on average the equivalent of 5.25% of interest rate stimulus to the economy, dwarfing that of prior periods.



Valuations Matter

Yes, [valuations matter, even for Millennials:](#)

> ?*Over any 30-year period the beginning valuation levels, the price you pay for your investments has a spectacular impact on future returns.*•*I have highlighted return levels at 7-12x earnings and 18-22x earnings. We will use the average of 10x and 20x earnings for our savings analysis.*?



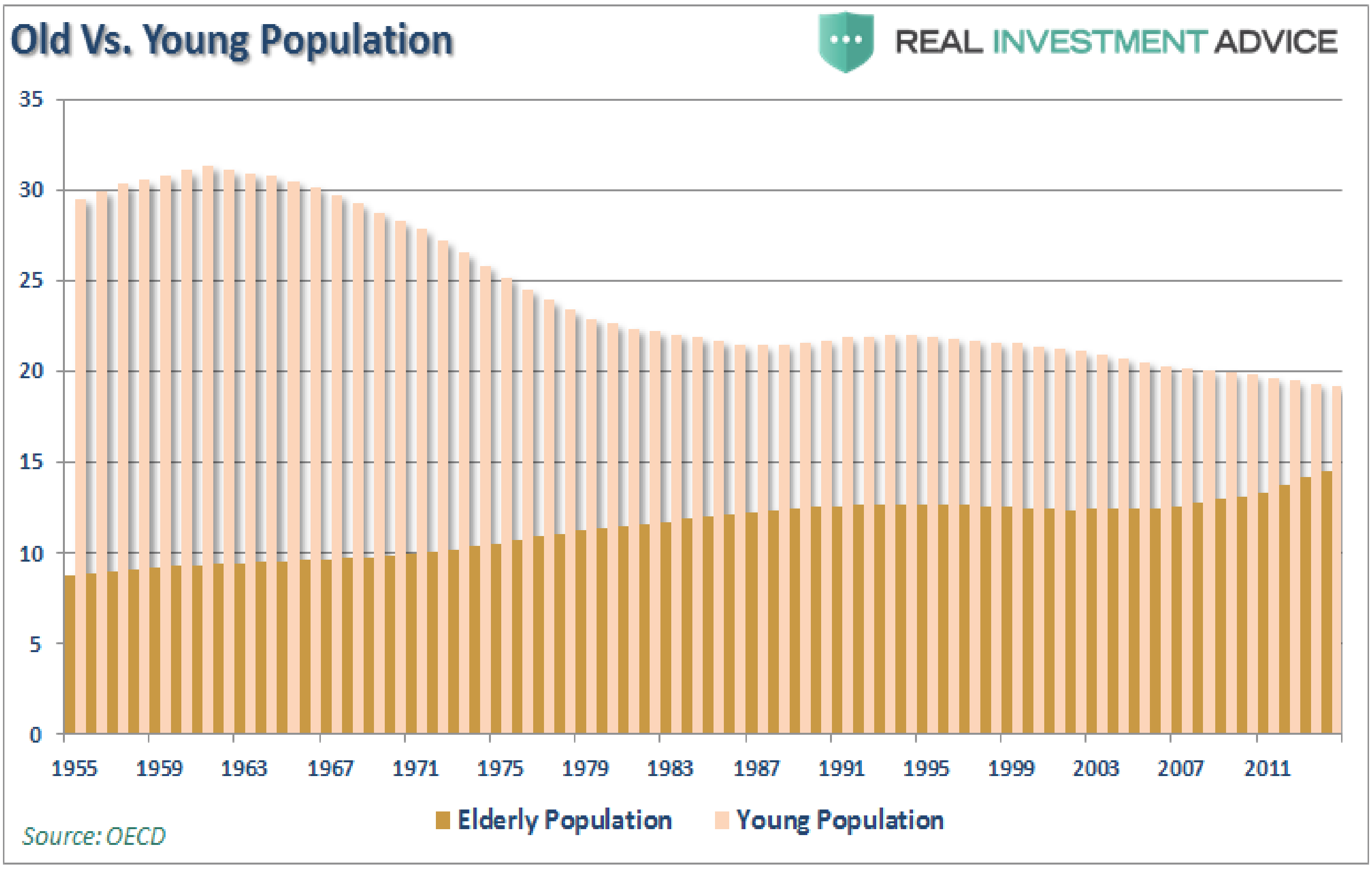
?As you will notice, 30-year forward returns are significantly higher on average when investing at 10x earnings as opposed to 20x earnings or where we are currently near 25x. The point to be made here is simple and was precisely summed up by Warren Buffett: ***?Price is what you pay. Value is what you get.??•***

READ: Visualizing 10-Reasons For Caution

Demographic Trends Are A Problem

With respect to the demographic problem, it is a ?one-two knock out punch? that will hit not only Social Security but also the country?s municipal and Federal pension systems. As• noted previously:

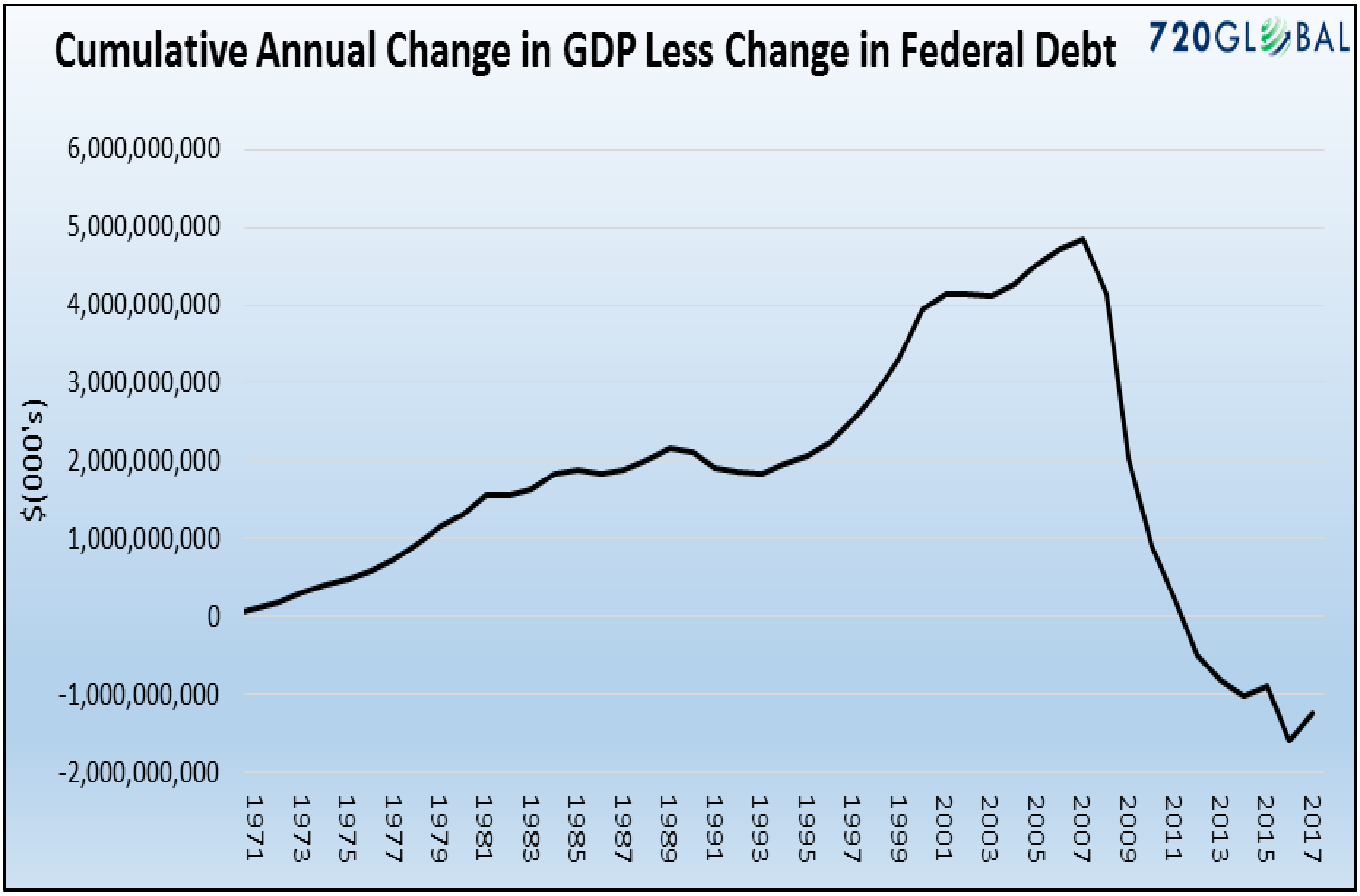
?One of the primary problems continues to be the decline in the ratio of workers per retiree as•retirees are living longer•(increasing the relative number of retirees),•and lower birth rates•(decreasing the relative number of workers.)• *However, this ?**support ratio?•**is not only declining in the U.S. but also in much of the developed world.•**This is due to two demographic factors: increased life expectancy coupled with a fixed retirement age, and a decrease in the fertility rate.?***



READ: The Insecurity Of Social Security

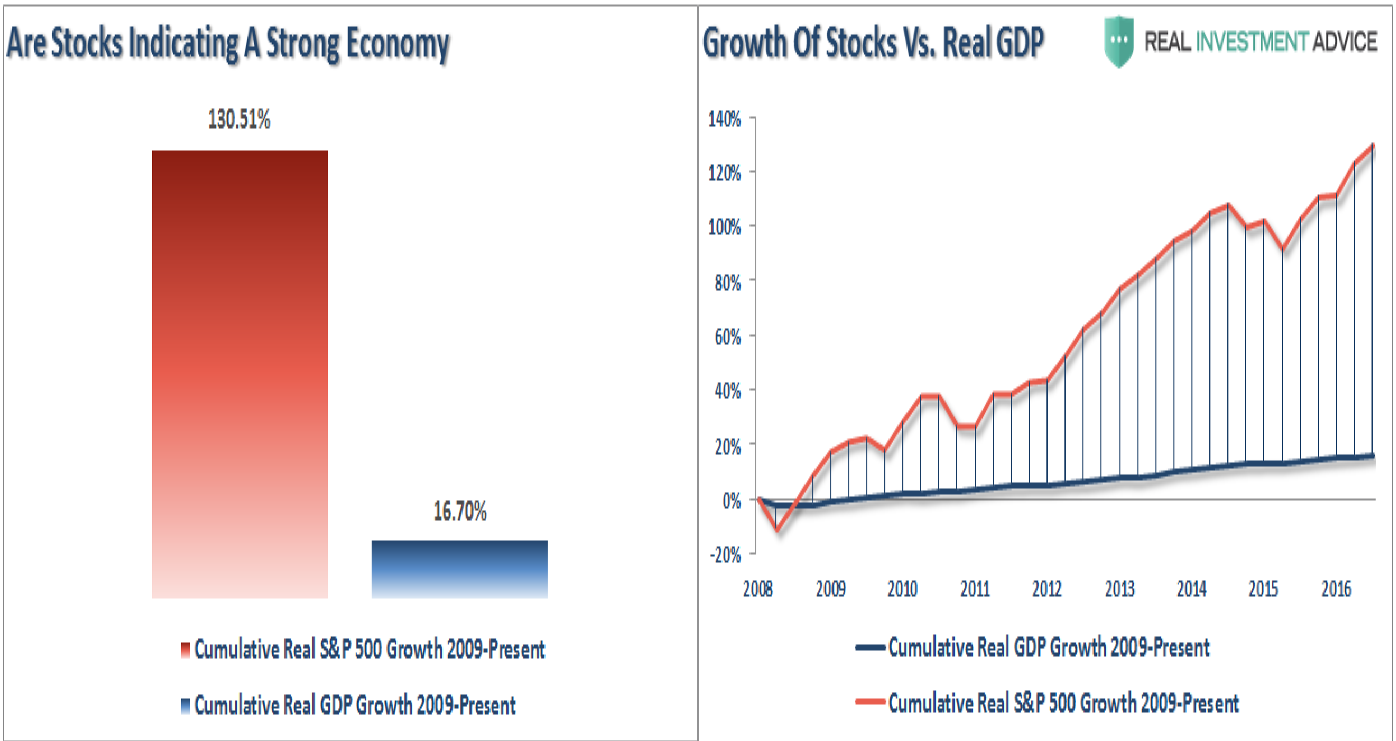
A Depression

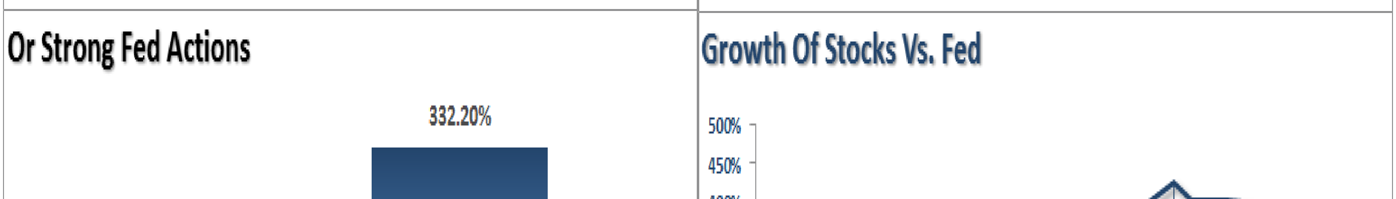
Since the financial crisis of 2008, the annual increase in Federal debt has dwarfed the annual growth in GDP. Without the enormous increase in government borrowing and accompanying spending, averaging approximately $1 trillion a year since 2008, GDP would have been negative for the last nine years. The post-crisis trend marks a sharp departure from the years prior - an unprecedented *"Great Depression."*



The Great Disconnect

Since Jan 1st of 2009, through the end of June, the stock market has risen by an astounding 130.51%. However, if we measure from the March 9, 2009 lows, the percentage gain explodes to more than 200%. **With such a large gain in the financial markets we should see a commensurate indication of economic growth ? right?**

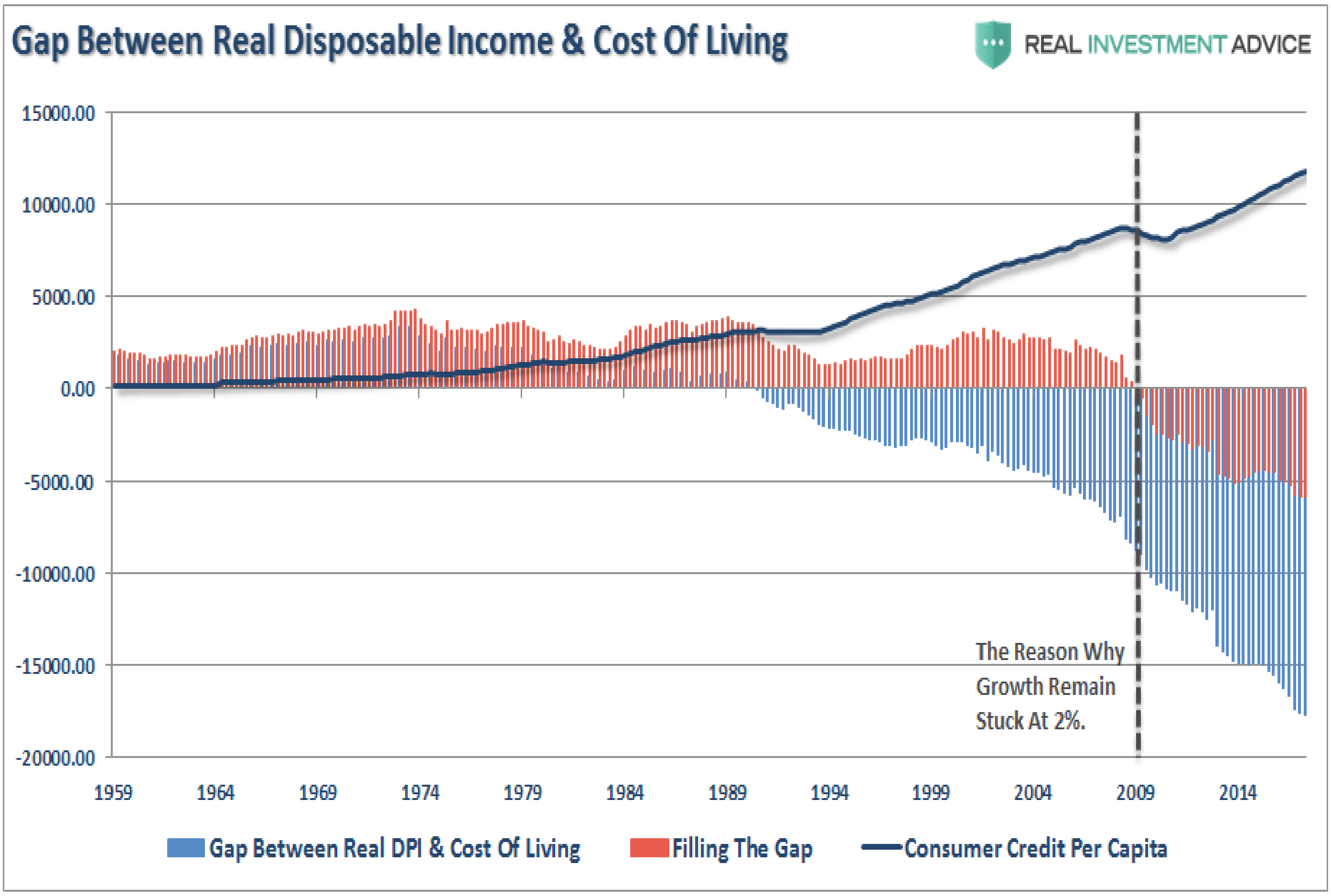




The reality is that after 3-massive Federal Reserve driven?*Quantitative Easing?*•programs, a maturity extension program, bailouts of TARP, TGLP, TGLF, etc., HAMP, HARP, direct bailouts of Bear Stearns, AIG, GM, bank supports, etc., all of which total more than $33 Trillion,**the economy grew by just $2.64 Trillion, or a whopping 16.7% since the beginning of 2009.•The ROI equates to $12.50 of interventions for every $1 of economic growth.** Not a very good bargain. READ: The Great Disconnect: Markets & Economy

Can't Afford It...Use Debt

Therefore, as the gap between the?*desired?*•living standard and disposable income expanded it led to a decrease in the personal savings rates and increase in leverage.**It is a simple function of math.**But the following chart shows why this has likely come to the inevitable conclusion,**and why tax cuts and reforms are unlikely to spur higher rates of economic growth.**



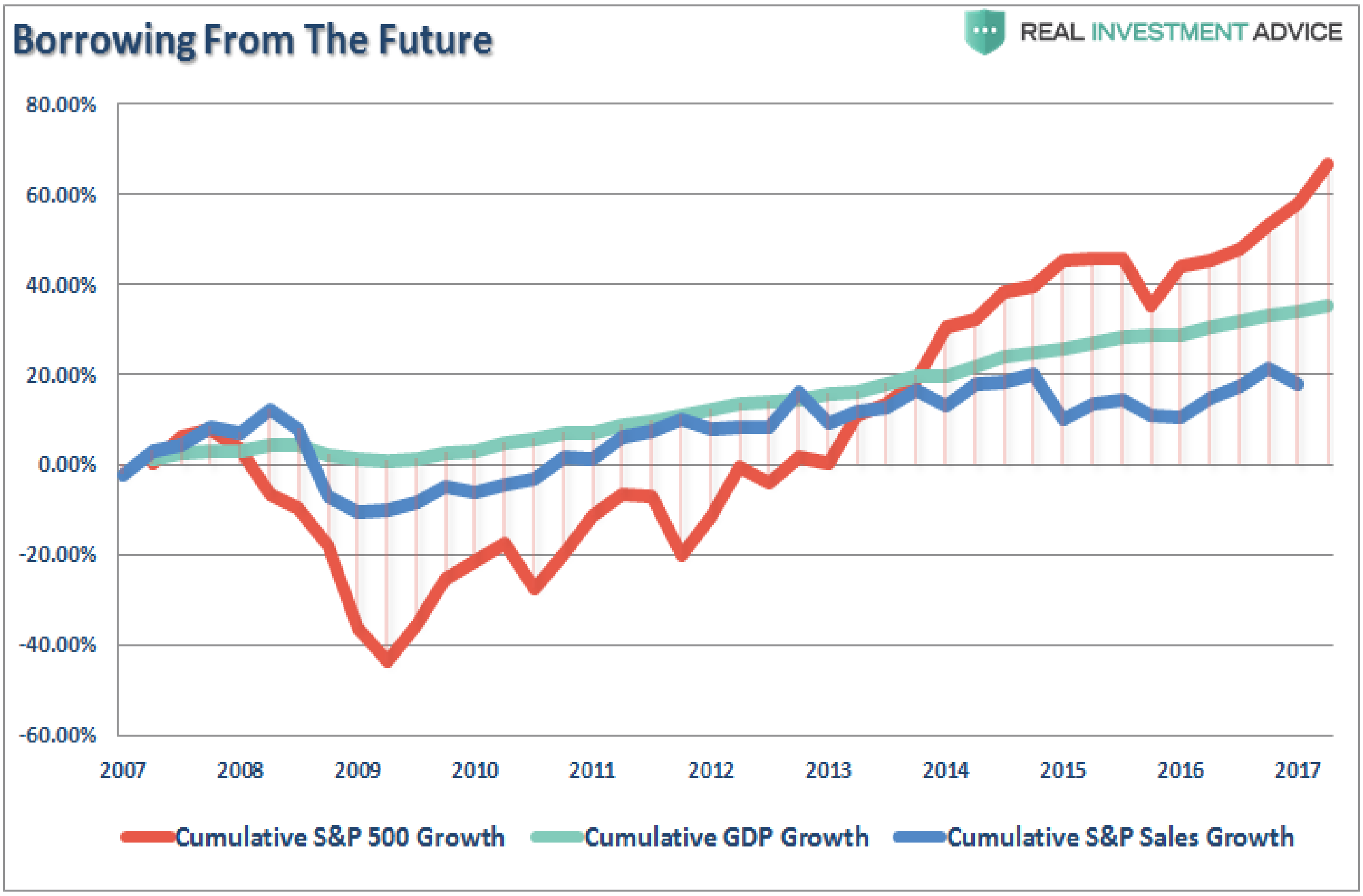
Beginning in 2009, the gap between the real disposable incomes and the cost of living was no longer able to be filled by credit expansion.•In other words, as opposed to prior 1980, the situation is quite different and a harbinger of potentially bigger problems ahead.**The consumer is no longer turning to credit to leverage UP consumption ? they are turning to credit to maintain their current living needs.** READ: Consumer Credit & The American Conundrum

Fed Dependency

Equity market gains post-2008 have been highly correlated with QE. **As the Fed embarks on balance sheet reduction, this correlation should be at the forefront of investors? minds.** The graph above plots the expected balance sheet reduction (gold) based on the Fed?s current plan as approved on September 2017. Will Trump tax cut *"hopes"* be enough to replace the dependency on the Fed?

Borrowing From The Future

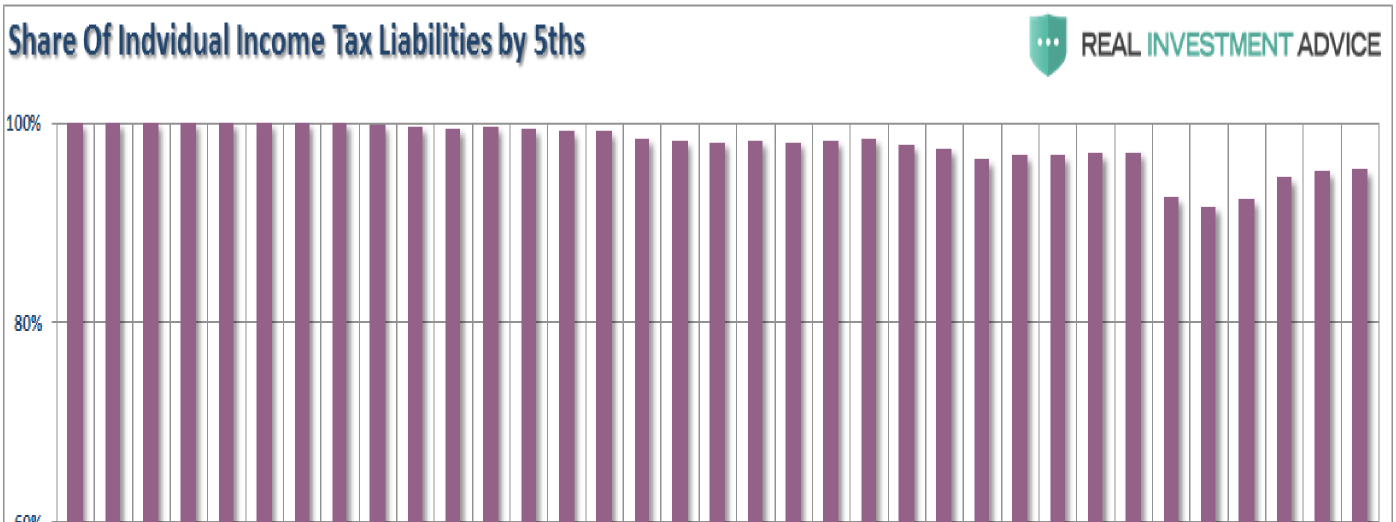
Thestock market has returned more than 60% since 2007 peak, which is more than three times the growth in corporate sales growth and 30% more than GDP.•The all-time highs in the stock market have been driven by the $4.5 trillion increase in the Fed?s balance sheet, hundreds of billions in stock buybacks, PE expansion, and ZIRP.



READ: Everyone Is In The Pool

Who Pays Taxes

Given that roughly 2/3rds of income taxes are paid by the top 20%, the reality is that tax cuts will have their greatest impact in reducing the tax burden on those individuals. The picture gets worse when you look at just INDIVIDUAL tax liabilities. The bottom 80% currently pay only about 18% of individual taxes with top 20% paying the rest.•**Furthermore, the bottom 40% currently have a NEGATIVE tax liability, and with the new tax plan cutting many of the deductions currently available for those in the bottom 40%, it could be the difference between a tax refund and actually paying taxes.**•



Of course, those in the top 20% of income earners are likely already consuming at a level with which they are satisfied. **Therefore, a tax cut which delivers a few extra dollars to their bottom line, will likely have a negligible impact on their current levels of consumption.** READ: Bull Trap & The False Promise Of Tax Cuts

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These are some of our favorite charts and we hope you find them useful and insightful. Please send us any comments, suggestions, or your favorite charts to us for consideration.