

# KEI INVESTMENTS, LLC

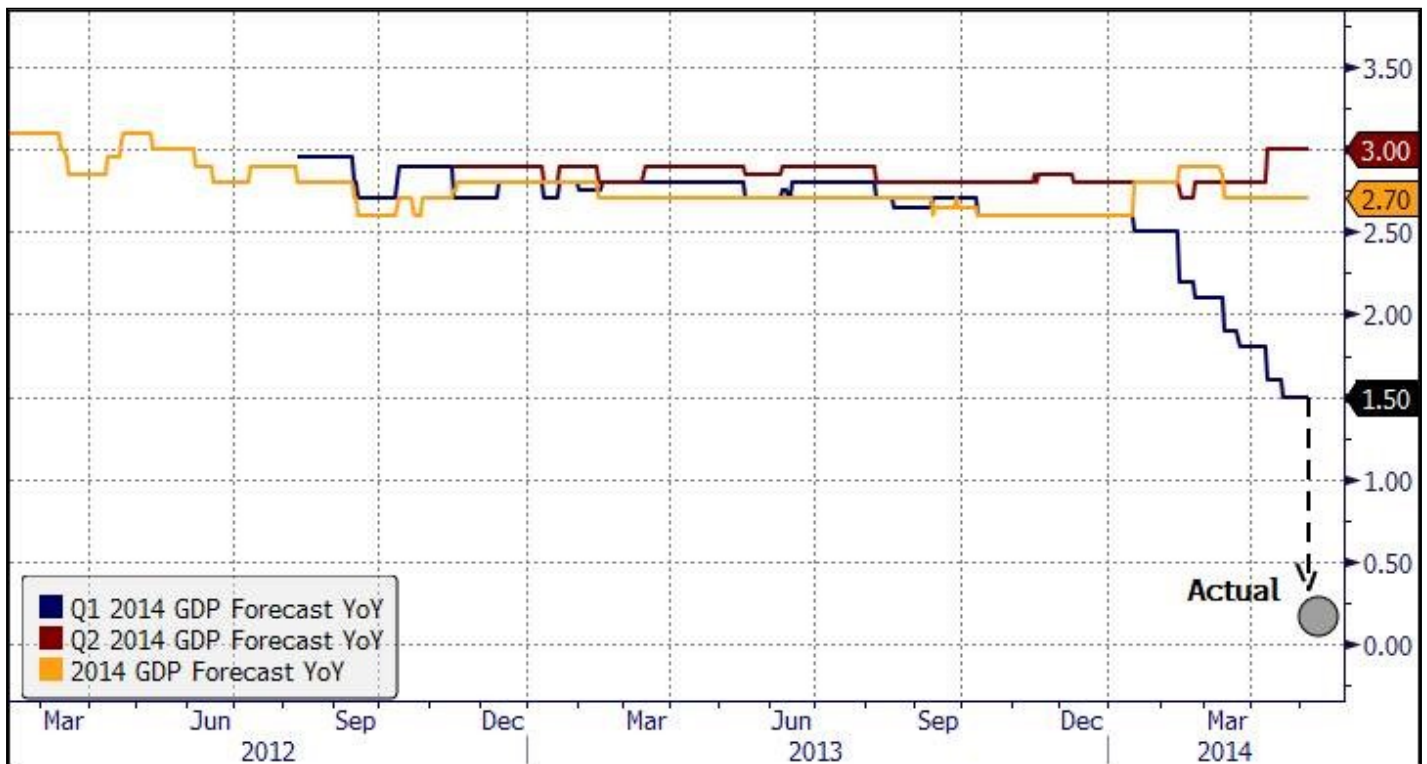
## Market Update – “The Physics of Wall Street”

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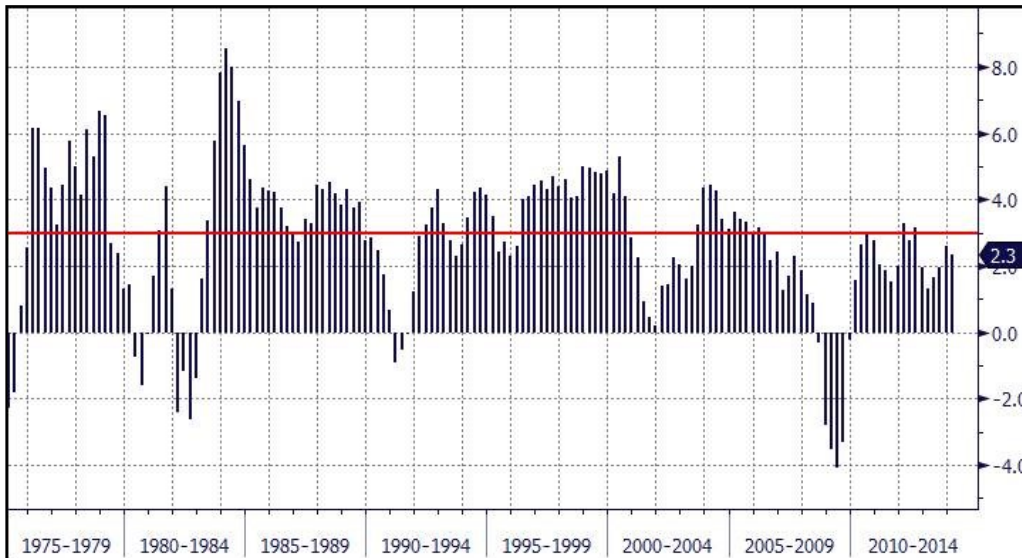
One of my favorite books I read last year was *The Physics of Wall Street* by James Owen Weatherall. The entertaining and easy-to-read book provides a history of the development and use of various models used in asset management. In the book, Mr. Weatherall discusses numerous models, some very popular such as Black-Scholes, and other less popular such as String theory, but I found one model missing – simple linear extrapolation. Surely Wall St. has advanced beyond simple linear extrapolation and such rudimentary mathematics is not applied to economic or market forecasting. Well, I would tend to disagree. No doubt, the brilliant minds of Wall St. have created amazingly complex spreadsheets, far beyond my level of programming or comprehension. So my simple mind looks for simpler ideas or trends, and I’ve found Wall St., economists, and individuals all tend to think/forecast linearly (perhaps subconsciously), but behave emotionally. Let me explain.

In the latest GDP report, the U.S. economy grew a disappointing 0.1% in Q1 2014. In the graph below, we show Bloomberg median GDP forecasts for Q1, Q2, and for the entire 2014. Going into the GDP report, Wall St. economists expected the economy to slow from 2.6% in Q4 2013 to 1.5% in Q1 due to weather (see prior Update and QRR for more information). How could economists’ have missed by such a large amount? Was the impact of weather more severe than originally thought? What does such a disappointing Q1 GDP tell us about the economy going into Q2 and 2014 overall? Despite the weakness in Q1, economists continue to expect GDP to grow by 3% in 2014. According to Wall St. economists, weakness in Q1 will be offset by strength in Q2-Q4. In the second graphic below, we show the Bloomberg GDP forecasts for the next several quarters. According to Newton’s first law of physics: **an object in motion will tend to stay in motion with the same speed and in the same direction unless acted upon by an unbalanced force**. Wall St. economists have followed Newton’s law perfectly. Question: do the laws of physics apply to the financial markets/economy?



Country	Q1 13	Q2 13	Q3 13	Q4 13	Q1 14	Q2 14	Q3 14	Q4 14	Q1 15	Q2 15
<b>Economic Activity</b>										
1) Real GDP (QoQ% SAAR)	1.10	2.50	4.10	2.60	1.50	3.00	3.00	3.10	3.00	3.00

If economists tell us to expect 3% GDP each quarter for the next year, how likely are these results to materialize? Is the economy capable of such sustained growth? In the graph below, we show the YoY GDP growth since 1975. The red horizon line shows a 3% growth rate that economists tell us we will consistently experience going forward. Over the past 8 years (32 quarters) since March 2006, only 3 quarters have seen growth above 3%. Economists have been, and continue to tell us, that the U.S. economy is 3-6 months away from reaching “escape velocity” on a path to self-sustaining growth – despite the simple fact the economy has not been able to sustain growth near 3% since the credit crisis started.

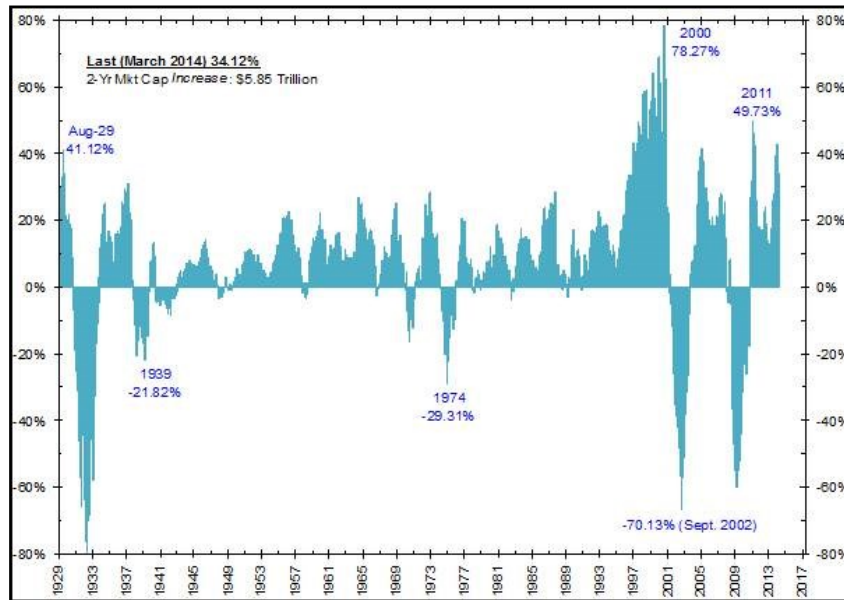


Before I move on to the next subject (earnings), we should point out that with such a large miss in GDP, the stock market capitalization percentage of nominal GDP increased rather significantly as shown in the graph below. A few things jump off the page:

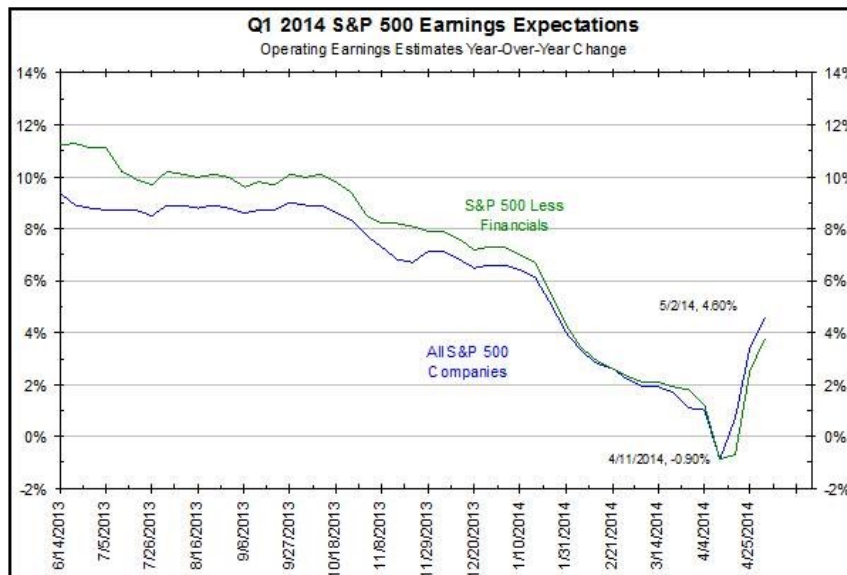
1. Since the tech bubble, stocks have remained the average line
2. In 2009, stocks only moved back to the average line
3. Stocks have moved back to the same point as the peak in 2007
4. At 132.23% (market cap % of GDP), stocks are 162% more fully valued (by this measure) than at the peak in 1929



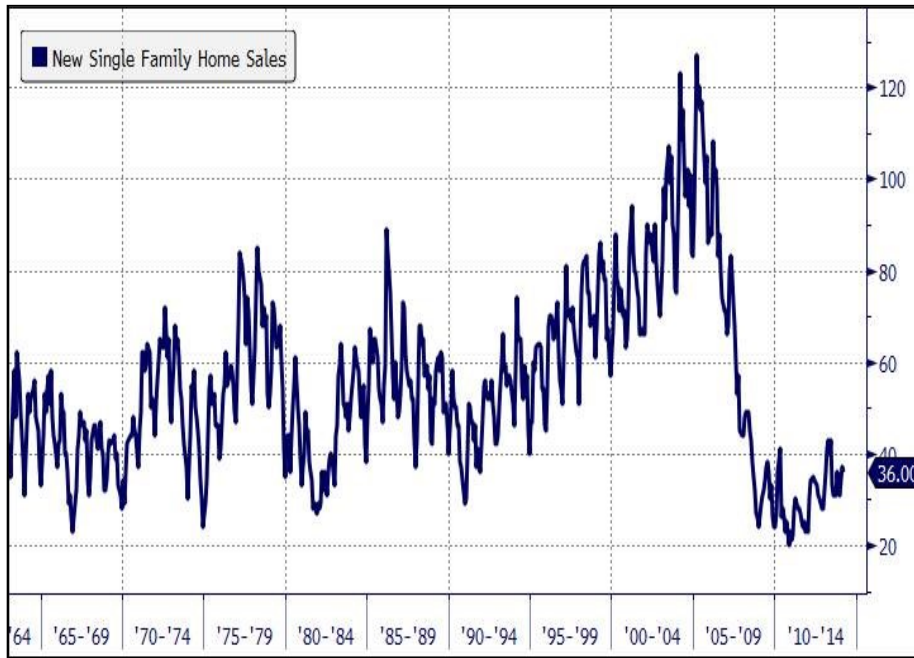
Another way of looking at the same data is to look at the rate of change. If we look at the 2-year change of stock market cap as a percent of nominal GDP, we see stocks have had a tremendous 2-year period – near the strong gains of 2011, but nowhere near the all-time highs of 2000.



I've received several questions on Q1 earnings results and why different reports quote different figures for growth. Through May 2, Bloomberg calculates Q1 earnings growth at 4.6%, Factset shows 1.5%, and S&P calculates 5.4%. All these measures use operating earnings which can vary depending on who is measuring it, and hence the reason these three measures are so different. Which is correct? There is no right or wrong answer, but just be consistent in its use – i.e., is YoY earnings growth expanding or contracting relative to prior years? For Q1, about one year ago, analysts' expected operating earnings to grow by 10-12% in Q1 2014. The final tally is 4.5-5%. Going forward, much like GDP, analysts expect continued earnings growth of 6.5% in Q2, 8.25% in Q3, and 9% in Q4. Good luck with that.

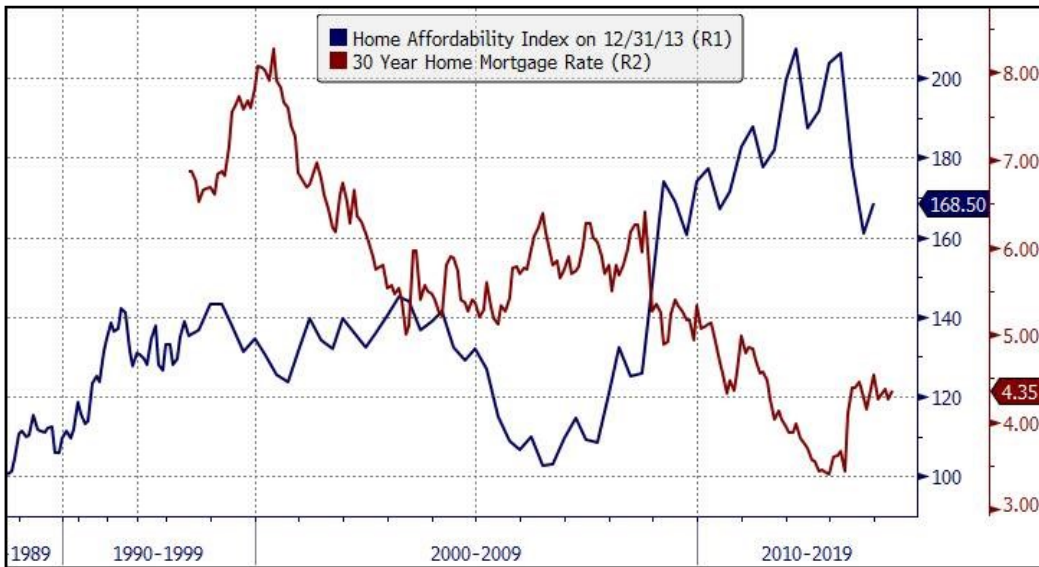


But it's not just economists and analysts that linearly extrapolate trends – we as individuals do it as well. How else can we explain the tech bubble, housing bubble, credit bubble, etc. We as individuals believe the current trend will continue until something stops it. Why did the tech bubble stop? If higher prices were begetting even higher prices, why did they just not continue going ever higher? Same question on housing. Why the reversal? Everyone wants a single trigger event, but the reality is much less dramatic. The reversals at tops are usually long, slow, drawn out affairs. In 2007, we could point out several indicators all showing the housing market at unsustainable prices. In 2009, just the opposite as valuations reached a bottom. The point being, everyone thinks and forecasts linearly, but invests emotionally. In 2007, housing was at a peak and offered the best time to be a seller. In 2009, the best time to be a buyer. How did investors react? The exact opposite. Where are we now? Kind of in the middle. Unlike equities which have climbed back into the stratosphere, the housing market rebound has been mild. In the first graph below, we show new single family home sales, which has improved since the 2009 low, but not by much. In the second graph, we look at home prices, which has improved more significantly as “investors” entered the market versus the more traditional individuals purchasing homes.

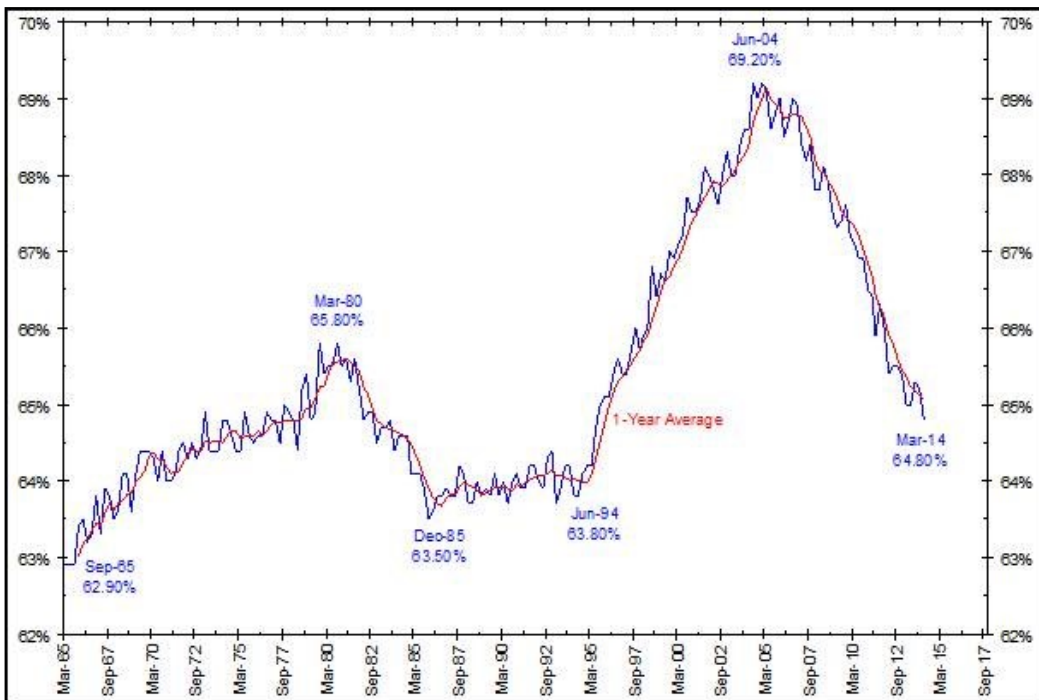


Of course, with any housing market analysis, we must consider interest rates and affordability. Thirty-year home mortgage rates reached an all-time low (and home affordability reached an all-time high) in 2012. Since then, rates have trended higher and affordability has declined.





What's interesting is since 2004, the percentage of U.S. household that own a home versus renting has consistently declined and has not experienced a rebound despite owning a home being more affordable than ever.



It's natural for us to think linearly – we've learned through everyday life these laws exist. However, the markets are not and never will be linearly in their behavior. Trends persist until they don't – with the real question being, how can we judge when the emotion of a market will change its tone? In other words, how can we better read the behavioral bias of the markets? The answer....well that's the subject of another book.

