ORG Insights April 2013

Candid Real Estate Investment Industry Observations by ORG Professionals

Beat the Dealer

In 1962, Edward O. Thorp, then an Associate Professor of Mathematics at New Mexico State University, published a book that had a profound impact on the way casinos operate. That book, *Beat the Dealer: A Winning Strategy for the Game of Twenty-One*, used probability theory to show that an individual player could have a "consistent advantage over the house".[1] This was not well received by the gaming industry, since their business was predicated on the fact that the house had a consistent advantage over individual players—the more you played, the more the casino won. It was, however, well received by the public, and quickly became a best seller. Over the next fifty years, countless individuals studied Thorp's book—and countless casinos have done their best to obviate Thorp's techniques. What was Thorp's revelation? At its most basic, it was simply "pay attention". What Thorp had written was a primer on how to count cards. He showed that by paying attention to the cards that were dealt, you had a better understanding of the cards that remained in the deck. Just by paying attention, you could significantly improve your odds of winning. The concept was simple, but brilliant.

What Thorp pointed out in his book was that it wasn't simply luck that caused you to win or lose. Instead, it was the composition of the cards remaining in the deck. How you respond to that information could affect the outcome. Pay attention, understand the conditions, respond accordingly, and you can dramatically improve your performance. Often though, that is much easier said than done. Ignoring the noise and focusing on what's important can be incredibly difficult to do in the real world. To see that in practice, we need look no further than our own homes.

Home Sweet Home

Prior to World War II, the homeownership rate in the United States never exceeded 50%. After the war ended, prosperity reigned in the U.S., and by 1965, the homeownership rate had reached 63%. Over the next 15 years, it continued to rise slowly and steadily, peaking at just below 66% in 1979 and 1980 (Figure 1). Over the next five years, high interest rates pushed the homeownership rate back down. It hit 63.5% in 1985, and stayed in this range for the next decade. Over this entire period, nominal home prices rose, as shown by the All-Transaction Price Index in Figure 1. This index is not a same property resale index, so some of the increase in nominal prices was driven by the composition of home sales. The average home size simply got larger over the past 40 years. By the mid-90s though, things changed. Homeownership rates rose steadily and sharply. In 1994, the homeownership rate was 64%; by 2004 it was just over 69%. There were several forces at work here. Clearly one was interest rates, they had been declining steadily since 1980, and by the 1990s had reached levels that were compelling for many households. Another important force at work was time—aging baby-boomers are just more likely to own the homes in which they live. But, as we have all become painfully aware, sub-prime lending was a major contributor to the surge in homeownership.

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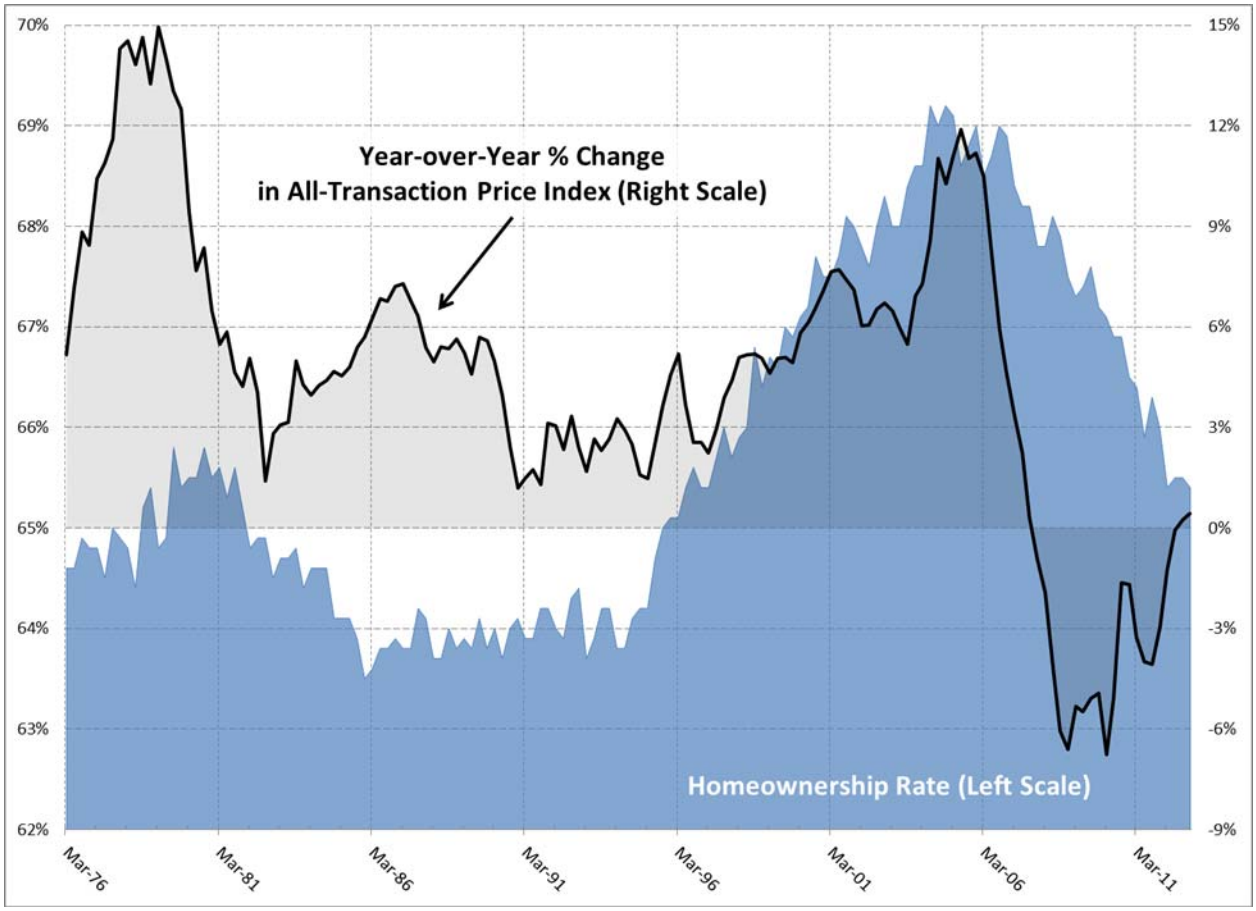
[1] Thorp, Edward O., *Beat the Dealer: A Winning Strategy for the Game of Twenty-One* (New York: Random House, 1966) p. 4.

Figure 1: U.S. Homeownership Rate versus Year-over-Year Transaction Price Change

Sources: U.S. Census Bureau (as of 3/19/2013); Federal Housing Finance Agency (as of 2/26/1013)



All of this investment in housing worked fine—as long as home prices continued to rise. But, as we have learned—repeatedly—over the millennia, prices eventually stop rising. For U.S. home prices, the inflection point came somewhere around 2005. The rate of home price increase peaked at around 12% per annum. By 2007 we were starting to see actual declines in the All-Transactions Price Index. By 2008, home prices were declining at an annual rate of more than 6%. Actual declines in the value of homes persisted for five years, and the U.S. homeownership rate is now approaching 65%. We had all been lulled into a sense of complacency by a long winning streak and never realized the streak had ended.

Buried deep in the landscape of economic growth that was the housing boom was that brain-child of financial engineering that Warren Buffet had referred to as a financial weapon of mass destruction.[2] Derivatives, in large part, fueled the growth in sub-prime lending. An entire industry grew up around sub-prime, from writing the loans, to bundling them for sale, to creating derivatives that miraculously transferred the risk, to investment funds that allowed anyone to share in the wealth being generated by this ingenious financial innovation. Somehow, we lost our focus.

But, What Else is out There?

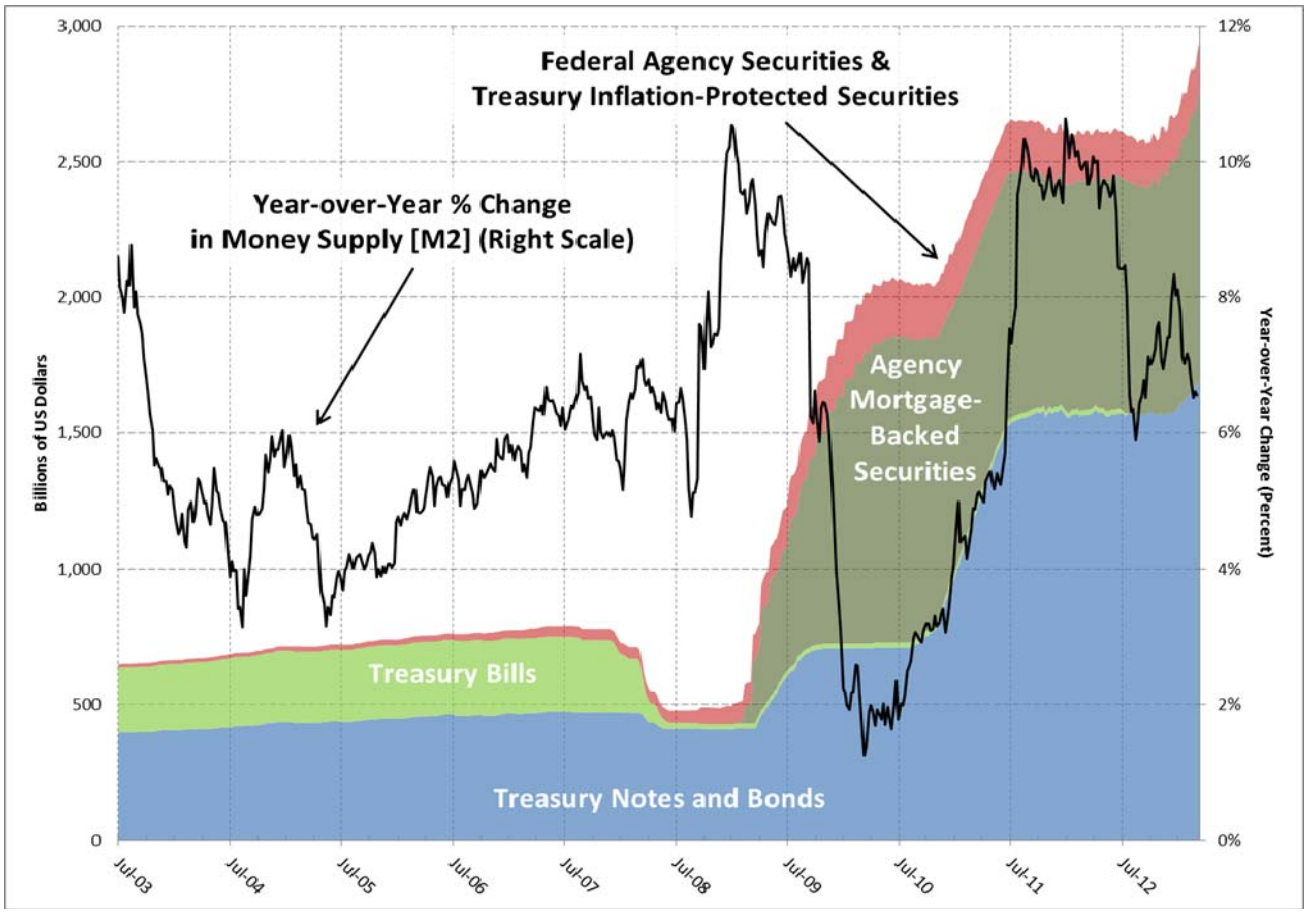
We all remember the events that unfolded to let us know that something had gone horribly wrong. Throughout 2006, stories began to surface of rising default rates among sub-prime borrowers—but the pace of investment in mortgage-backed securities continued to rise. In an article published in September 2006, The New York Times printed the following quote from Guy D. Cecala,

[2] 2002 Annual Report, Berkshire Hathaway Inc. (NYSE: BRK.A); p. 15; http://www.berkshirehathaway.com/2002ar/2002ar.pdf

president of *Inside Mortgage Finance*, an industry newsletter: "No one has gone cold on this market. There has been speculation that banks would pull away from it or someone else would, and nobody has. *Part of the problem is what else is out there?*"[3] But the defaults kept rising, and a study by the Center for Responsible Lending, published in December 2006, predicted that 1 in 5 sub-prime loans were likely to go into foreclosure. By July of 2007, Bear Stearns had announced that two of its hedge funds, invested in sub-prime loans, had essentially become worthless. Less than a month later, BNP Paribas suspended operation of three of its investment funds—once again, invested in sub-prime. The situation for Bear Stearns quickly deteriorated, and a sale to JP Morgan, announced in March 2008, was negotiated by the Federal Reserve and the United States Treasury Department. By June, the ratings agencies were cutting ratings on many of the nation's largest banks. Lehman Brothers announced a loss of $2.8 billion for the second quarter of 2008, just as they were announcing that they had just raised $6 billion from investors to shore up their balance sheet. By September Fannie Mae and Freddie Mac were placed under conservatorship by the U.S. Government. A week later, on September 14th, Merrill Lynch announced that it had agreed to sell itself to Bank of America while Lehman Brothers announced that it would file for bankruptcy protection the following morning. A day later, on September 16th, The Federal Reserve agreed to an $85 billion bailout of AIG—giving the U.S. Government control of the insurer. We were all left shaking our heads, and wondering how it had all come to this.

In the aftermath of the near-collapse of the U.S. banking system, The Federal Reserve made ample use of the tools available to it to inject liquidity back into the banking sector. As Figure 2 illustrates, The Federal Reserve has added $2.5 trillion to its open market account holdings, accounting for nearly all of the $2.7 trillion of growth in money supply (M2) since the Lehman bankruptcy. The Federal Reserve has been fighting a lot of battles these past few years: saving the financial system from collapse, trying to revive a moribund economy, getting unemployment down to tolerable levels, all while keeping inflation in check. It's a tall order to fill, but how does it position us for the future?

Figure 2: Federal Reserve—System Open Market Account Holdings versus Change in Money Supply
Weekly, July 9, 2003—March 20, 2013
Source: Board of Governors of the Federal Reserve System (as of 3/20/2013)

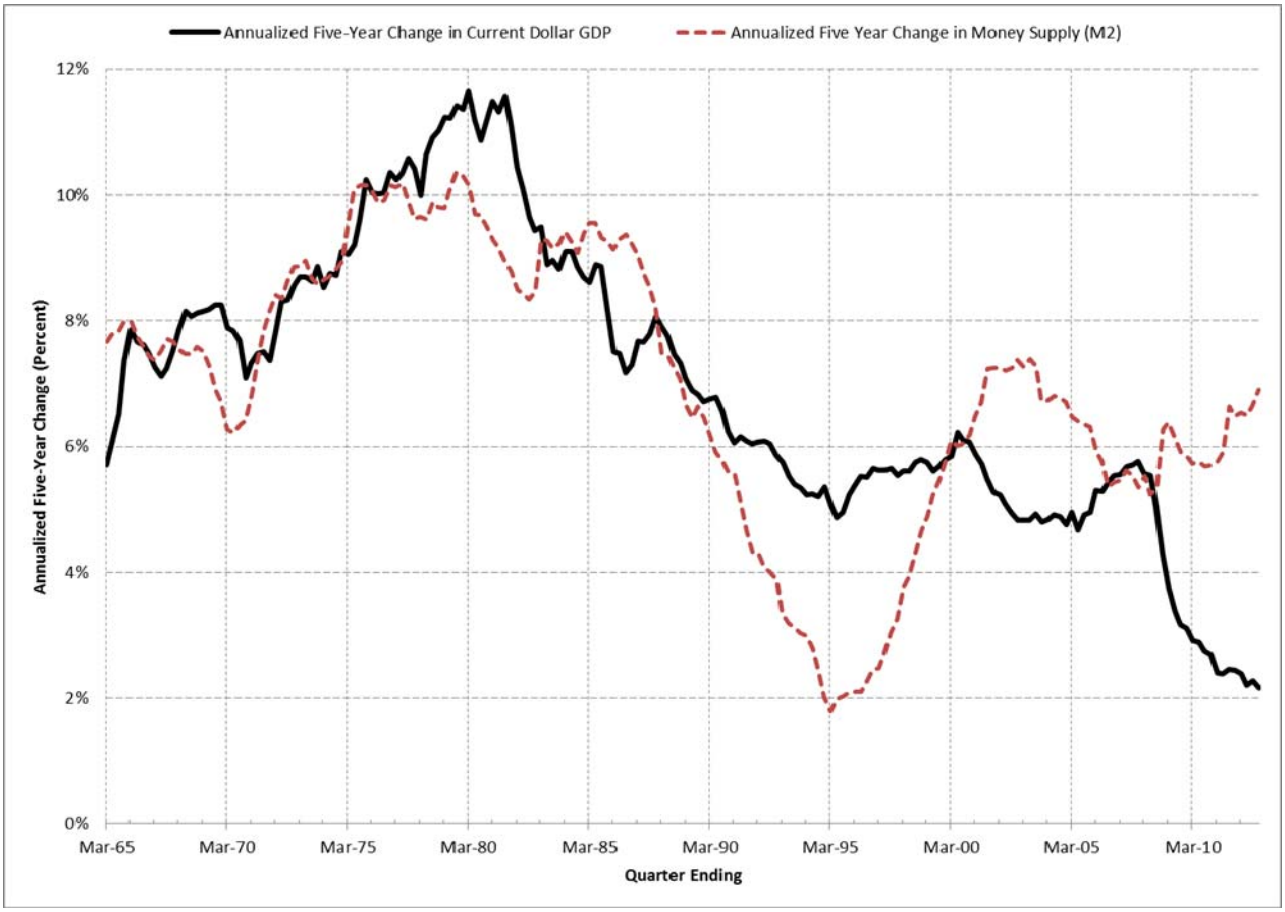


[3] "Mortgages Grow Riskier, and Investors are Attracted", The New York Times, Sept. 6, 2006 (http://www.nytimes.com/2006/09/06/business/06place.html?pagewanted=all)

Future Shock

While the growth in money supply in recent years, on a percentage basis, has been no higher than that in the 1970s or early 80s, there is an important difference. The economy was growing much faster back then. Figure 3 shows the annualized five-year percent change in current dollar GDP contrasted against the annualized five-year change in money supply. Prior to 2000, it was rare for money supply to grow faster than GDP for extended periods and for most of the 1990s long-term GDP growth dramatically outpaced the growth of money supply. But, after 2000, money supply has consistently grown faster than GDP. The spread today is the widest it has ever been. Over the past five years, money supply has grown at an average annual rate of 6.9%, while GDP has grown at an average annual rate of 2.2%. Traditional quantitative monetary theory holds that increasing money supply in excess of demand for goods will result in price inflation. A number of papers published over the past decade or so argue that this relationship is no longer valid. One paper, published in the *FRBSF Economic Letter*, points to the rapid growth in money supply since 2008—and the fact that inflation has not run rampant—as evidence that the relationship has changed.[4] This argument is challenged however, in an earlier paper, published in 1999 by the Federal Reserve Bank of Atlanta, which argues that the relationship still holds, it just occurs over longer periods of time (five or more years) that are "uninformative for practitioners and policymakers, who are more concerned about inflation next month or next year."[5] Following the logic of these two papers, if you are only interested in inflation over the short term, then money supply is of no concern to you—but, if you are concerned about inflation over longer periods, say five or ten years, this may actually be an important issue for you.

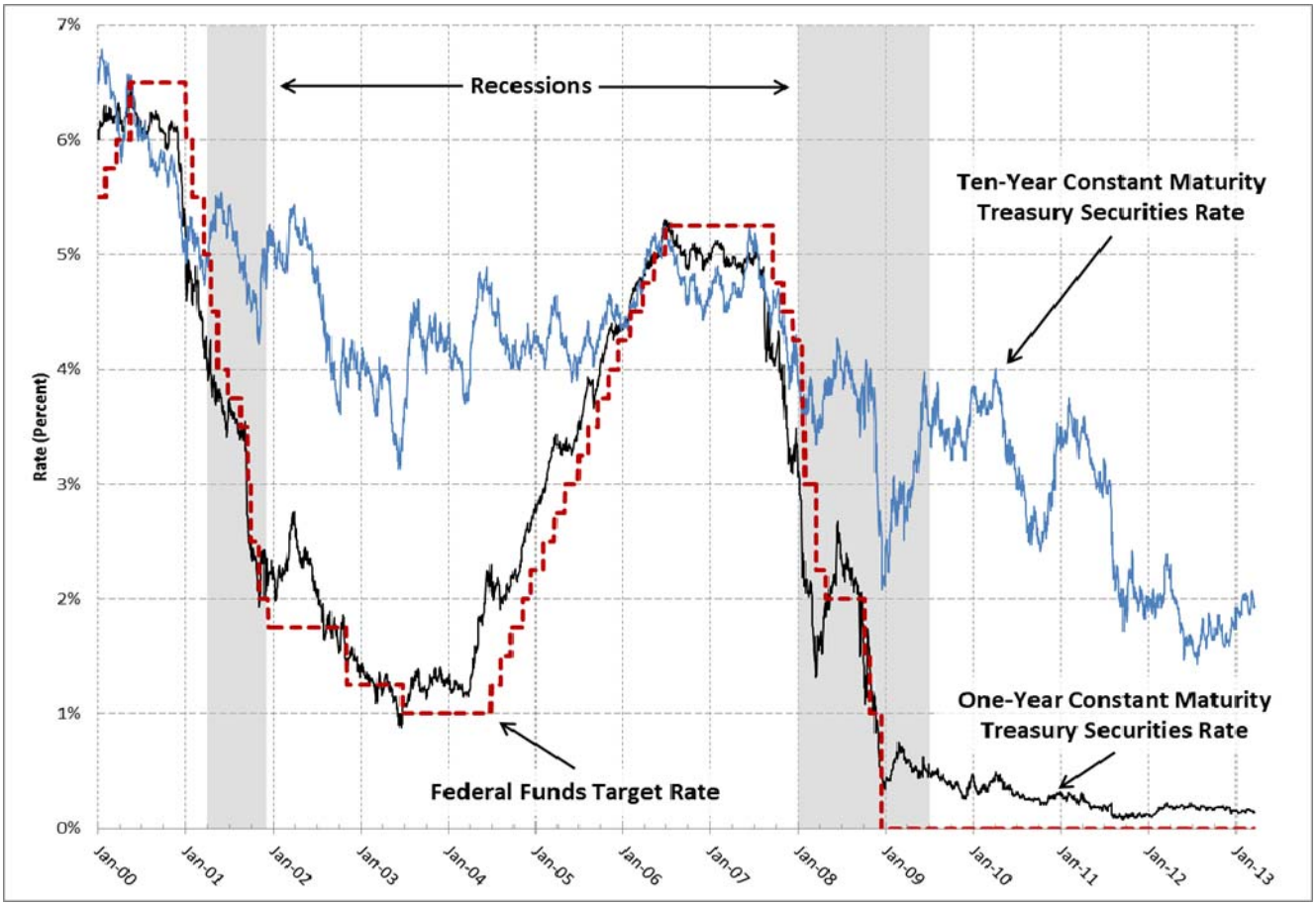
Figure 3: Annualized Five-Year Percent Change in Money Supply (M2) versus Annualized Five-Year Percent Change in Current Dollar GDP
Quarterly, Q1 1965—Q4 2012
Sources: Board of Governors of the Federal Reserve System (as of 3/15/2013), U.S. Bureau of Economic Analysis (as of 3/28/2013)



[4] "Monetary Policy, Money, and Inflation", John C. Williams, FRBSF Economic Letter, July 9, 2012; (http://www.frbsf.org/publications/economics/letter/2012/el2012-21.pdf)
[5] "Are Money Growth and Inflation Still Related?", Gerald P. Dwyer, Jr., R.W. Hafer, Federal Reserve Bank of Atlanta Economic Review, Second Quarter 1999; (http://www.frbatlanta.org/filelegacydocs/dwyhaf.pdf)

Since the Federal Reserve was created by an act of congress in 1913, it's had a lot on its plate. Among other things, the Federal Reserve is charged with conducting monetary policy by influencing monetary and credit conditions in pursuit of 1) maximum employment, 2) stable prices, and 3) moderate long- term interest rates. Let's focus on this last one for a moment. There's a rule of thumb among economists that an inversion of the yield curve indicates that a recession is imminent. Over the past thirty years, there has been a lot written on the topic, and evidence from the past decade clearly supports that view. As Figure 4 illustrates, the inverted yield curve in 2000 was followed by a recession in 2001, and the inverted yield curve in 2006-2007 was followed by a recession in 2008-2009. While there is a lot of empirical evidence to show that an inverted yield curve precedes a recession by about a year, there is a distinct lack of understanding as to why. We know that it's usually short-term rates rising, not long-term rates declining, that causes the inversion. But, what is it that drives those short term rates? At least since the beginning of 2009, all those Fed purchases of Treasury securities seem to have had an impact. Short-term rates are the lowest they have been in memory. At times like this, it's easy to see why so many investors say "don't fight the Fed".

Figure 4: Federal Funds Target Rate[6] versus One-Year and Ten-Year Constant Maturity Treasury Security Yields
Daily, January 3, 2000—March 22, 2013
Source: Board of Governors of the Federal Reserve System (as of 3/25/2013)



No, Really… What Else is out There?

It's impossible to say who first uttered those words, but "don't fight the Fed" has certainly taken on new significance since 2008. Investors in public equities have been all too happy to reap the benefits of current Fed policy. As seen in Figure 5, the Dow Jones Industrials have performed strongly since the bottom we hit in early 2009. Other public equity indices have shown similar strong performance. Given the resources the Fed has committed to keeping interest rates down, it's easy to see why. With 10-year Treasuries hovering around 2% and short term rates near zero, investors need to find somewhere else to put their money.

[6]The Federal Funds Target Rate was discontinued effective December 16, 2008. Commencing on that date the Board of Governors of the Federal Reserve System provides an upper limit and a lower limit that defines a target range for the Federal Funds Rate. The upper limit has remained at 0.25% since December 16, 2008, while the lower limit has remained at 0.00%.

Figure 5: Dow Jones Industrial Index—Absolute Level versus Annual Change
Daily, January 3, 2000—March 25, 2013
Source: Dow Jones & Company (as of 3/26/2013)

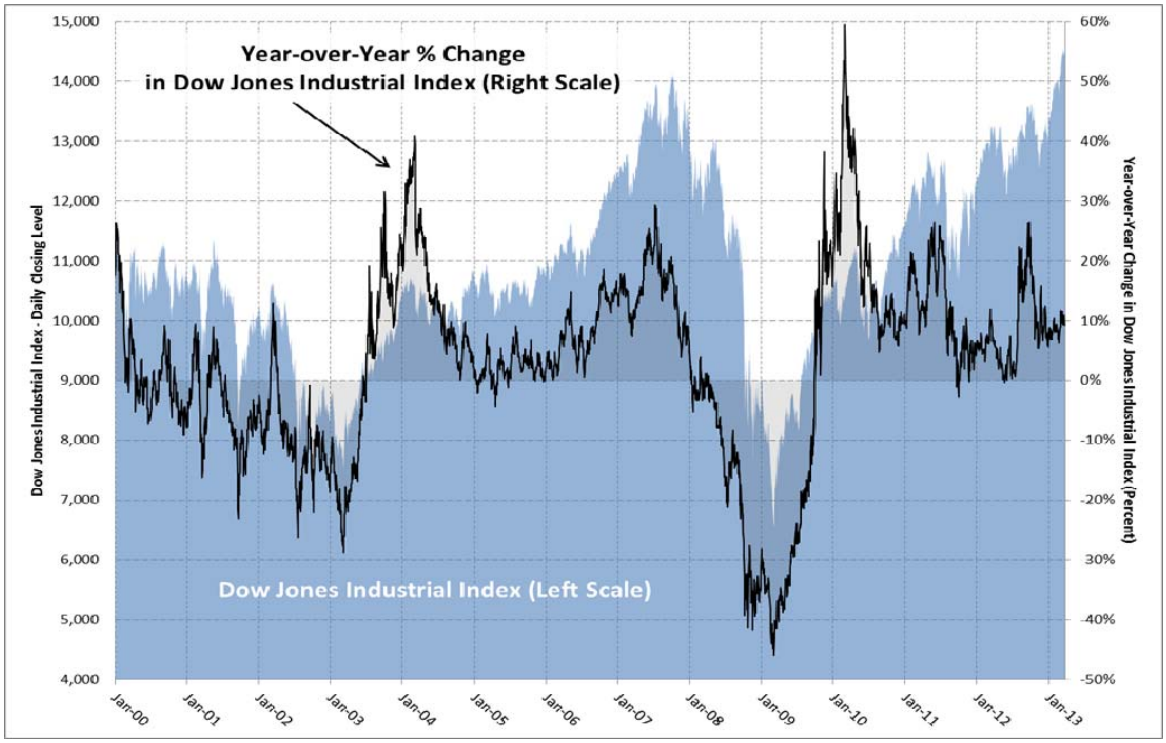
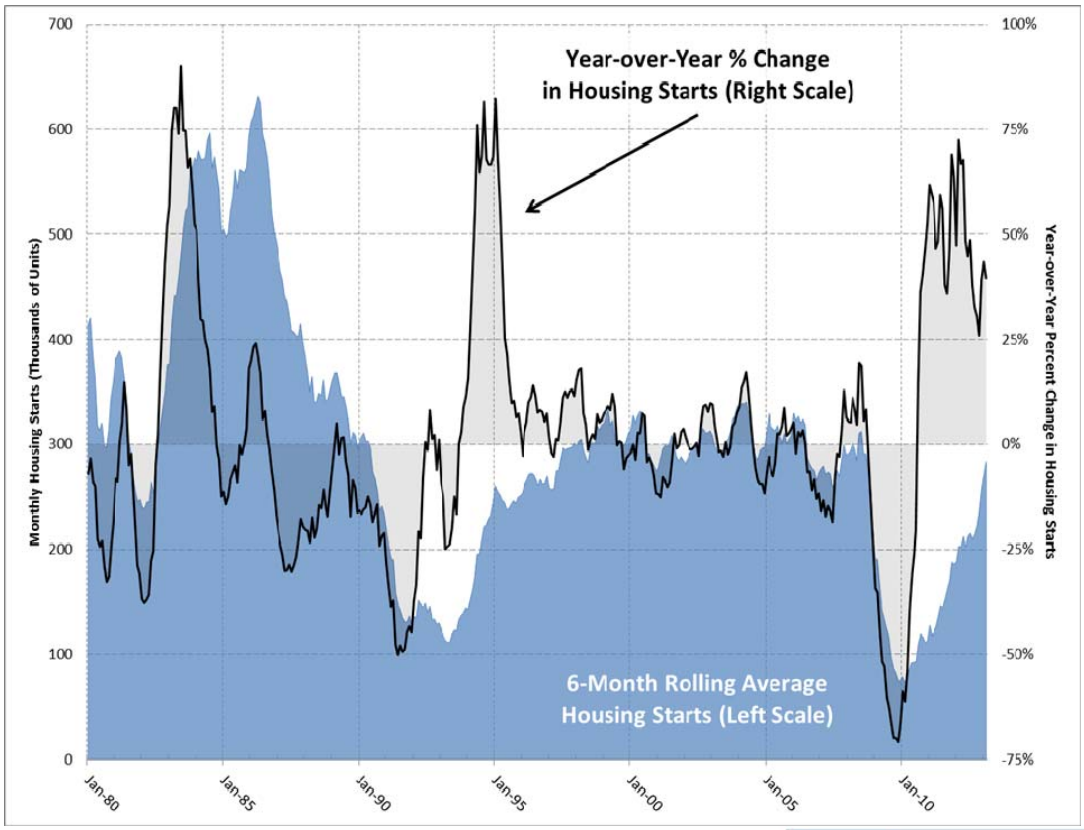


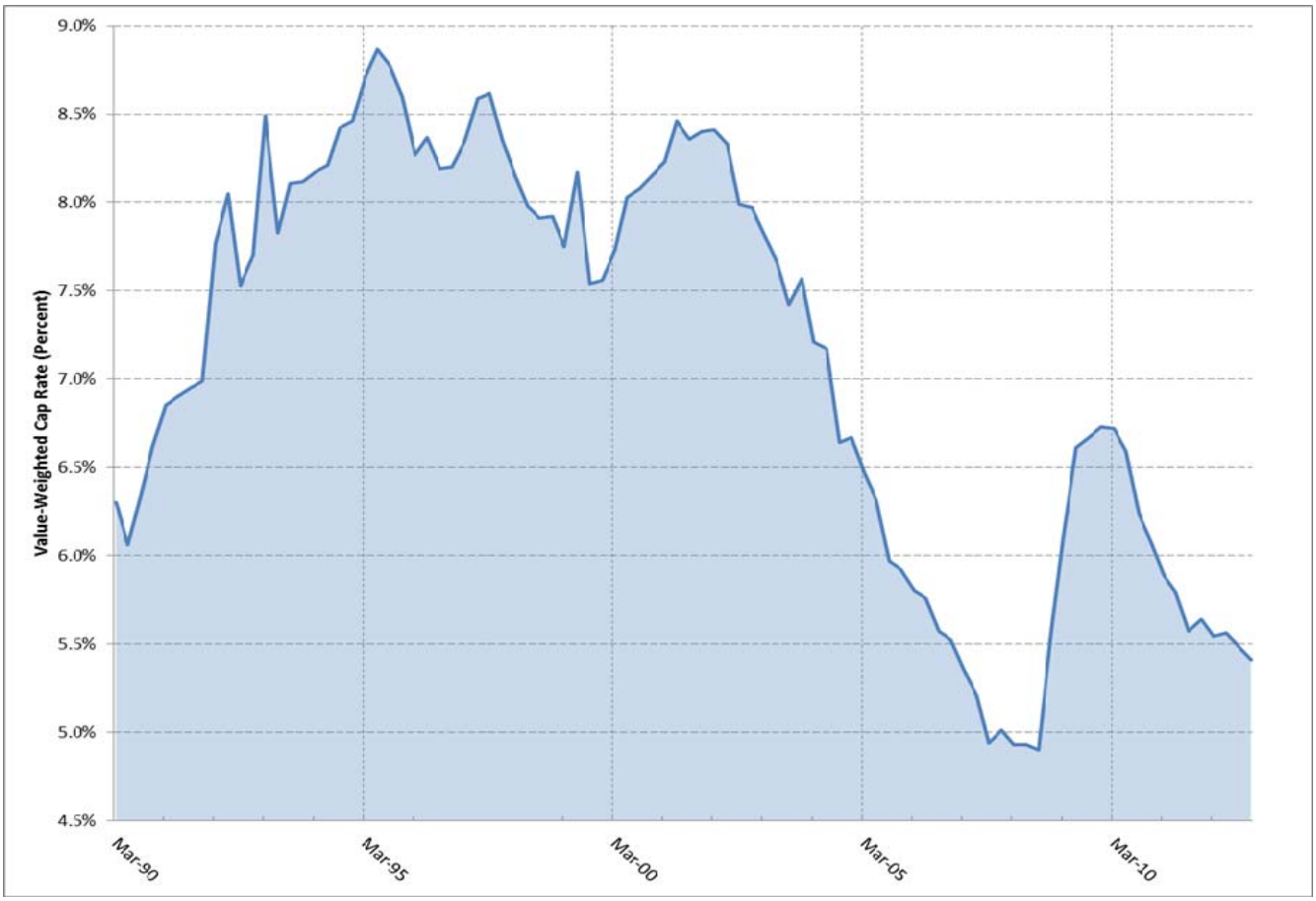
Figure 6: U.S. Housing Starts; 5-Unit or More Structures—Six Month Rolling Average
Monthly, January 1980—February 2013
Source: U.S. Census Bureau (as of 3/19/2013)

It's not just public equities that have benefited from accommodative Fed policy. Real assets have been extraordinarily popular. Figure 6 shows the growth in multi-family starts. While absolute starts in 2010 were at their lowest levels in more than 30 years, they are nearly back to the pace we saw prior to the global financial crisis. The rate of growth over this time has been exceptionally strong, reaching levels experienced only briefly in the mid-80s and mid-90s. Because of the income oriented nature of multi-family, it has been a popular investment alternative. But, it's not the only real estate sector to attract investment.



As one of the few income oriented investment alternatives available today, real estate has been exceptionally popular. Before the financial markets collapsed in 2008, cap rates on the properties in the NCREIF Property Index had dipped below 5% (see Figure 7). After the collapse, cap rates rose quickly; topping 6.5% by 2010. But, with the help of accommodative Fed policy, cap rates were back below 5.5% by the 4th quarter of 2012. Based upon the evidence we've seen, we could soon be below 5% again. While the current interest rate environment makes these low cap rates look reasonable to many, we have to keep in mind that unlike public equities, real estate has a much longer investment window. What happens if the unthinkable happens—interest rates rise?

Figure 7: NCREIF Property Index—Current Value Cap Rates
Quarterly, Q1 1990—Q4 2012
Source: National Council of Real Estate Investment Fiduciaries (as of 3/22/1013)



Perhaps unthinkable is the wrong word; we should have said inevitable. But, then again, if you're invested in real assets, the inevitable probably is unthinkable. While the Federal Reserve can continue to pump money into the financial system, purchasing Treasuries and mortgage-backed securities, they will need to stop—eventually. What happens then?

Timing is Everything –Isn't it?

No one can say with any certainty when, or by how much, interest rates will rise, but rise they will. The argument has been made by many real estate fund managers that the spread between cap rates and interest rates is at an all-time high—short-term rates could move up two or three hundred basis points without impacting cap rates. That is a valid point, and probably true. But it does ignore a simple rule of economics, supply and demand. The demand for income oriented investments has not diminished, but the supply of such investments has been dramatically reduced—at least by $2.5 trillion—the volume of securities purchased by the

Federal Reserve as part of quantitative easing. That constraint on the supply of interest bearing securities has resulted in the value of income oriented investments rising. Let's face it; it's had an impact on all asset prices. How will the Fed eventually unwind these positions? Will the Fed simply hold onto the securities they've already purchased and let them mature? Anything is possible, but nearly 90% of the trillion dollars of mortgage-backed securities the Fed has purchased, or $900 billion, don't mature until 2039—only 2% mature before 2027. The situation is better for the $1.7 trillion of treasury securities held by the Fed, but still, there are no meaningful maturities until 2016, when just over 12% of the holdings mature.[7] This doesn't even take into consideration any new securities the Fed will purchase this year as they continue to implement quantitative easing. The Fed could easily add another trillion dollars to its balance sheet in 2013. So, attrition, while a possibility, does not seem to be a likely outcome.

Many would agree that the economy, while not growing at a significant rate, appears to be stable and growing modestly. The Federal Open Market Committee ("FOMC") is on record as saying that they will continue with accommodative monetary policy as long as unemployment remains above 6.5% and expected inflation is no more than half a percentage point above the FOMC's 2 percent long run goal. Currently that means purchasing mortgage-backed securities at a pace of $40 billion per month, and Treasury securities at a pace of $45 billion per month. But, not all members of the FOMC agree that continued accommodation is prudent. Esther L. George, president of the Federal Reserve Bank of Kansas City, voted against continued accommodation. The statement that was issued after the last FOMC meeting said that she "was concerned that the continued high level of monetary accommodation increased the risks of future economic and financial imbalances and, over time, could cause an increase in long-term inflation expectations."[8] An increase in inflation expectations at the Fed would trigger an increase in the Fed funds target rate. It would also bring about the end of open market purchases, possibly leading to open market sales, leading to—you guessed it – higher interest rates. Higher interest rates make interest bearing investments more attractive on a relative basis, leading to softening in real asset values. This may be the absolute worst time to risk distraction.

How is the Deck Stacked?

Thorp understood that to win the game, you had to know what cards were left to be played. As we look around today, there is a lot to distract us. But, if we keep our focus and pay attention, we may find that we can see things pretty clearly. Thorp also made one other very important point in his book—when the cards are clearly stacked against you, it's probably time to take your money off the table and find a new game. If you are an investor in real estate today, there are some obvious places where the cards are stacked against you. But, if you can ignore the distractions, you'll find that there are still places where real estate offers attractive opportunities. It's simply a matter of paying attention.

[7] System Open Market Account Holdings, Federal Reserve Bank of New York, as of 3/27/2013, http://www.newyorkfed.org/markets/soma/sysopen_accholdings.html

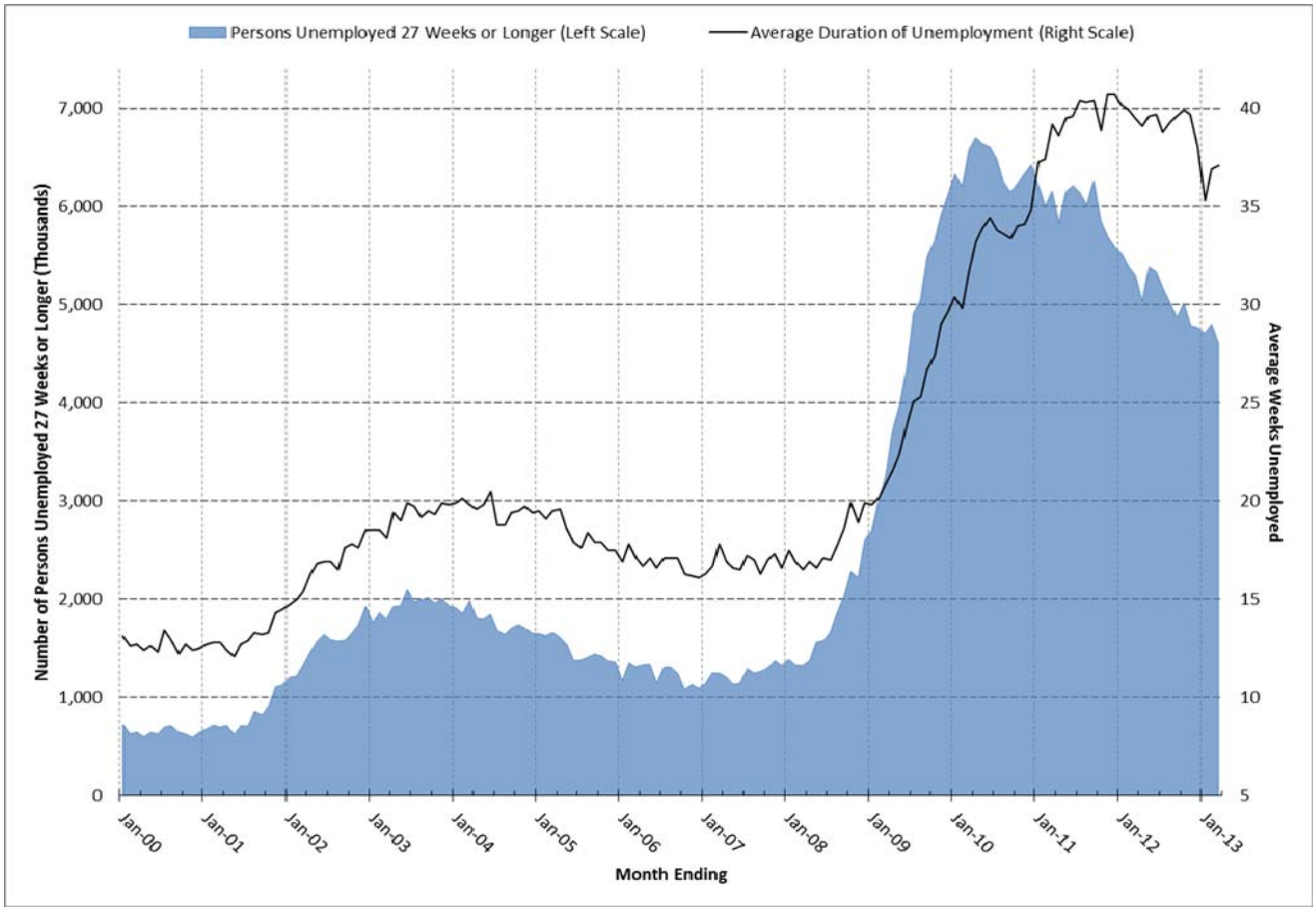
[8] Federal Open Markets Committee Statement, March 20, 2013, http://www.federalreserve.gov/newsevents/press/monetary/20130320a.htm

April 2013 Data Points

Long-Term Unemployment

The latest data from the U.S. Bureau of Labor Statistics, released on April 5, 2013, show that the level of long-term unemployment (those unemployed 27 weeks or longer) stood at 4.611 million at the end of March 2013. This is down from 4.797 million at the end of February 2013, and 5.302 million at the end of March 2012. The average duration of unemployment in the U.S. increased, to 37.1 weeks in March, up from 36.9 weeks in February, but down from 39.5 weeks in March 2012.

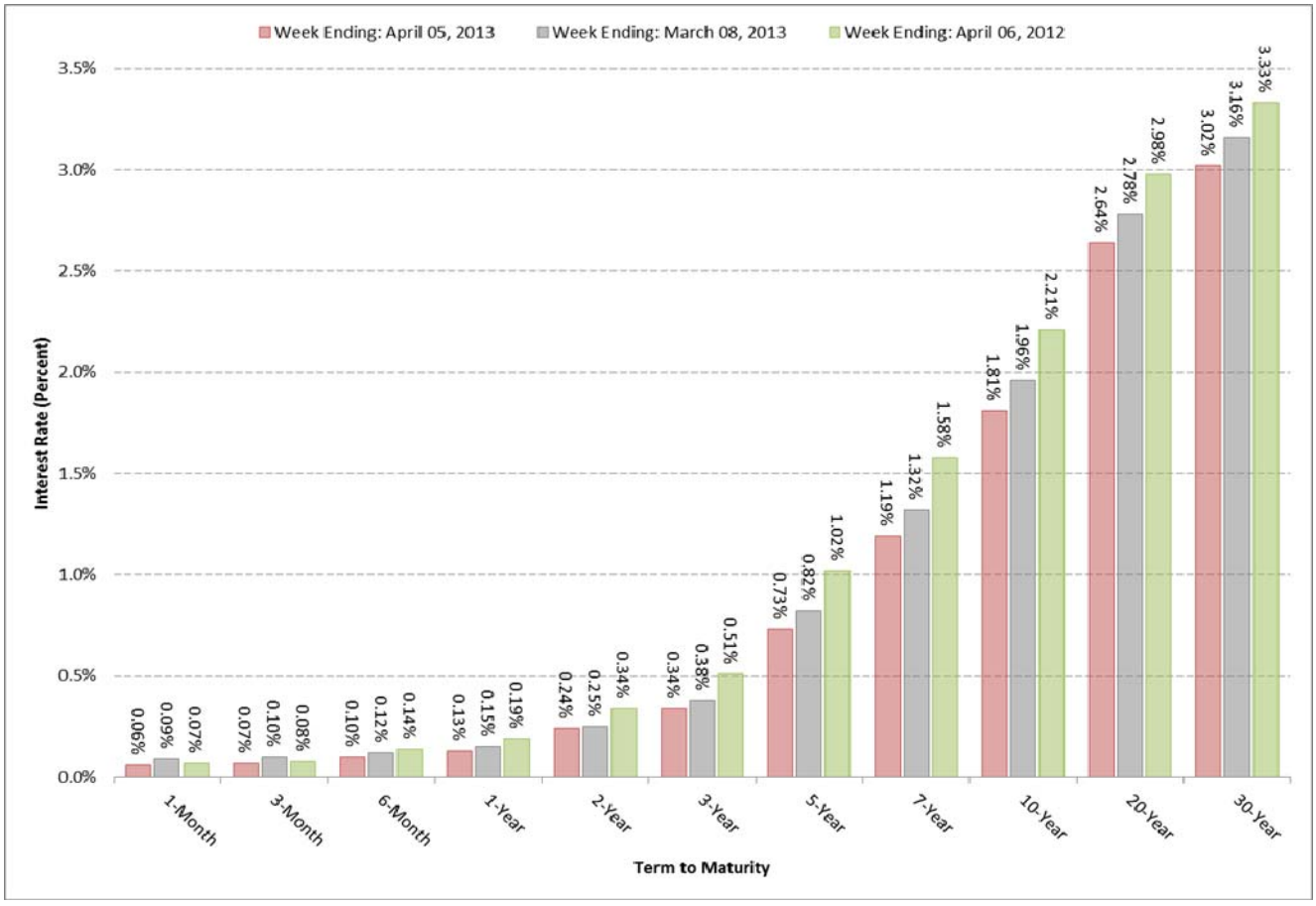
Level and Duration of Long-Term Unemployment
Monthly, January 2000—March 2013
Source: U.S. Bureau of Labor Statistics (as of 4/5/2013)



THE YIELD CURVE

Interest rate data from the Federal Reserve shows that rates for all maturities along the yield curve are down over the last month, as well as the last year.

Treasury Yield Curve
Weeks Ending: April 5, 2013; March 8, 2013; and April 6, 2012
Source: Board of Governors of the Federal Reserve System (as of 4/8/2013)



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