

Profitis Capital Services LLC



INVENTORY CORRECTION & NEGATIVE REAL INTEREST RATES: DEFLATION IS THE ANSWER

OCTOBER 25, 2011

Executive Summary

The financial crisis that arose in the Autumn of 2008 prompted the Federal Reserve to provide an extraordinary amount of liquidity to the capital markets. Three quantitative easing programs were subsequently launched to provide support for asset markets.

The impact on the real economy has been negligible. Unemployment has remained stubbornly above long term averages and a dramatic rebound to match the dramatic recession has yet to appear.

Fiscal solutions have produced similarly weak results because they have failed to embrace policies that effect the long term outlook of businesses and consumers. Ironically, current policies and proclamations have decreased visibility for decision makers.

The lone impact of the Fed's programs has been the deferring of the housing market inventory correction. In forestalling deflation, the Fed has diverted the economy's capitalistic tendencies from real economic recovery to asset speculation. A far better use of funds and effort would be the establishment of a Resolution Trust Corporation type entity. Regulators would orchestrate a private sector dispersion of under-water assets, as well as dictate principal write-downs. This would allow valuations to finally hit bottom, while maintaining a measure of market stability. Equity prices would suffer, as well as commodities markets. However, funds would be reallocated to projects that would build the foundation necessary for organic economic growth.

Housing Market Disequilibrium

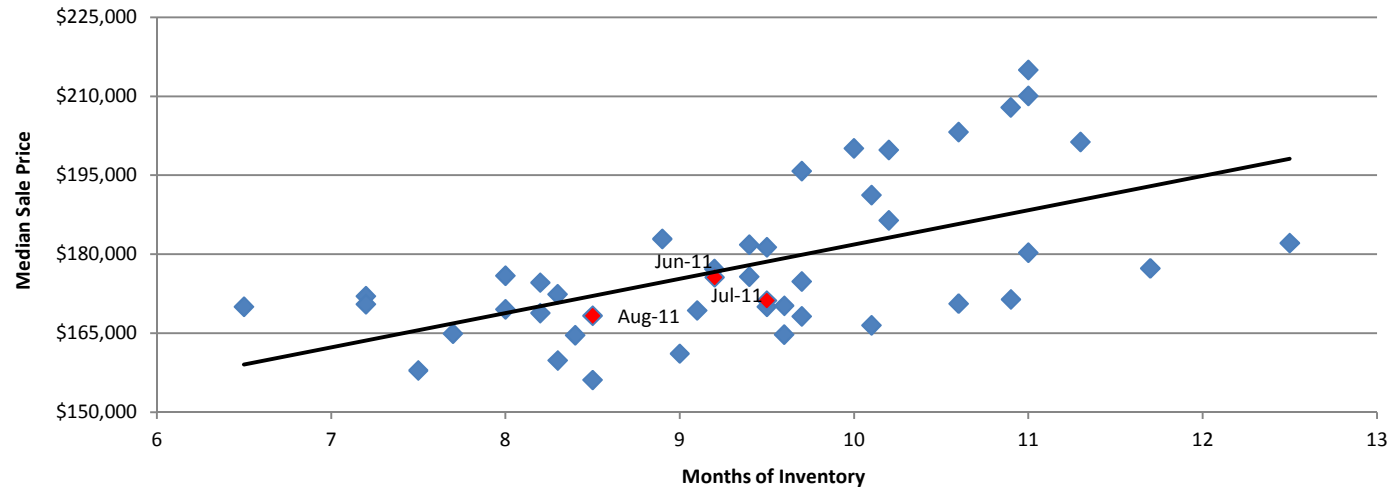


- **EXISTING HOME SALES**
- **NEW HOMES SALES & AFFORDABILITY**
- **HOME PRICES VS. GENERAL PRICE LEVEL**
- **VACANT HOMES**
- **HOUSING STARTS**
- **HOME EQUITY**

Existing Home Sales

Existing Home Sales Since Jan, 2008

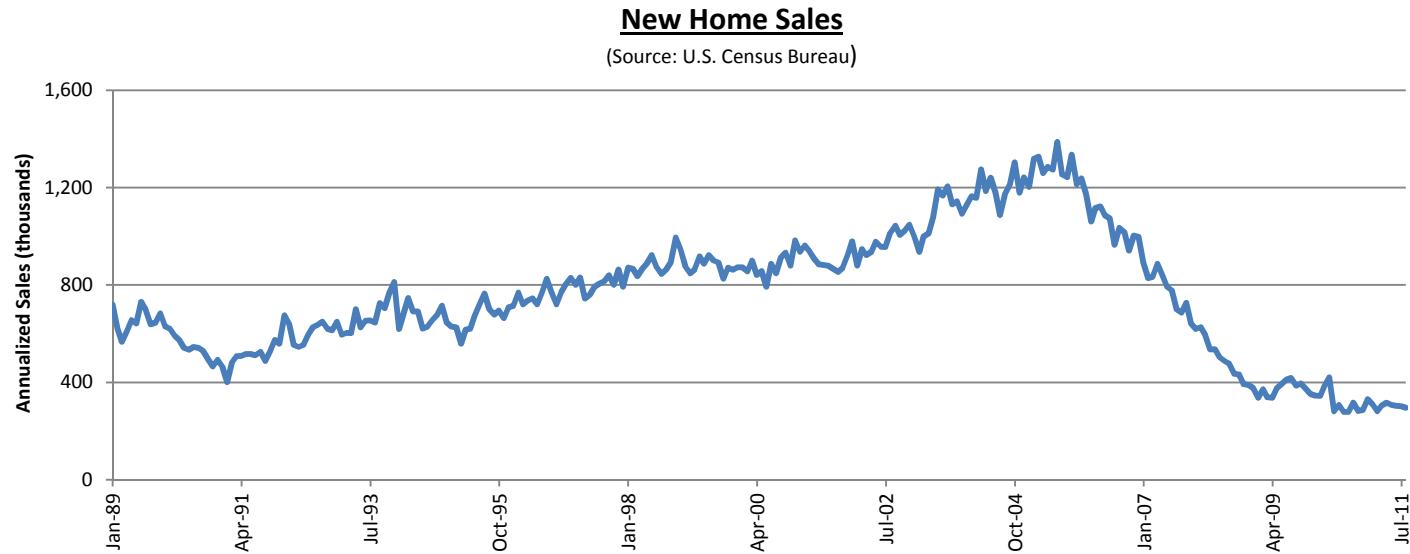
(Source: National Association of Realtors)



The black line on the above chart represents a simple linear regression model. According to this basic relationship, the median home price would have to drop from \$168,300 to \$155,800 (7.4% decline) to arrive at 6 months of inventory. As a reference point, the median home price has declined by 15.8% (4.7% annualized) since January, 2008.

Anecdotally, 4 to 6 months of inventory is representative of a healthy resale market. This elementary analysis serves as the starting point of our examination.

New Home Sales

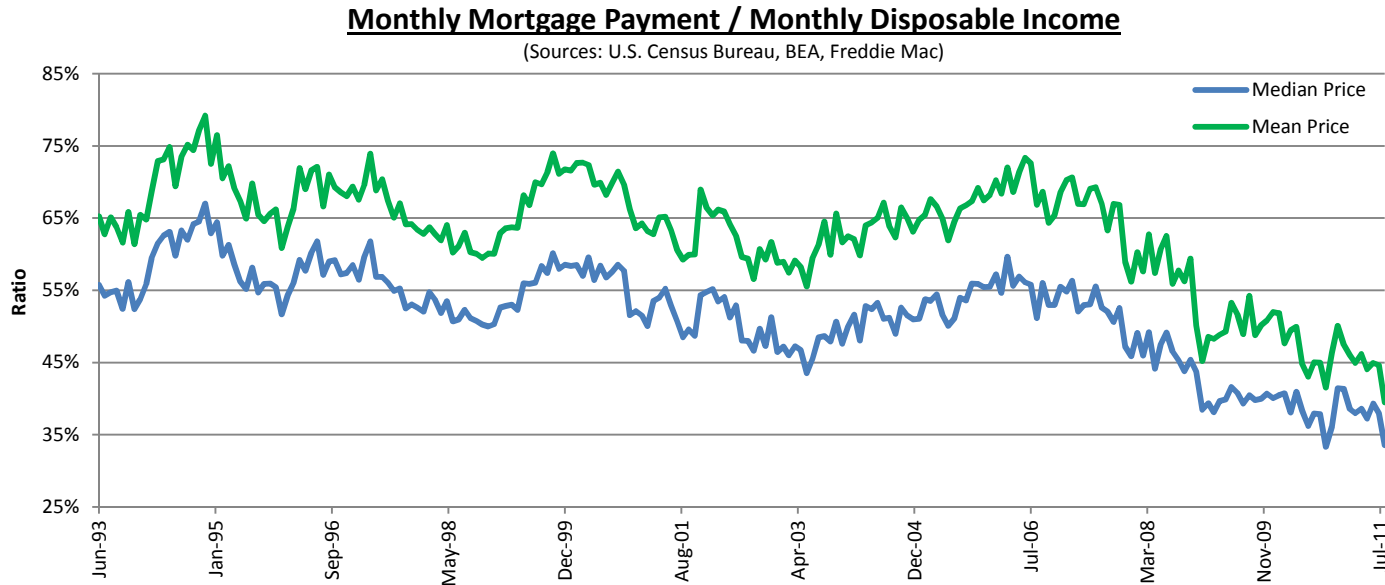


New Home Sales peaked in July, 2005 at an annualized rate of 1,389,000. During the summer of 2011, this figure averaged 300,000 **annualized**. From January, 1963 to September, 2008, New Home Sales fell below an annualized rate of 400,000 during only 20 months. From October, 2008 to August, 2011, New Home Sales fell below an annualized rate of 400,000 during 32 months.

Can household growth rates explain this drop? 1960s: 1.85% 1970s: 2.45% 1980s: 1.46%
(compounded annual growth rates) 1990s: 1.15% 2000s: 1.16%

Not really, how about affordability?

New Home Sales & Mortgage Payments

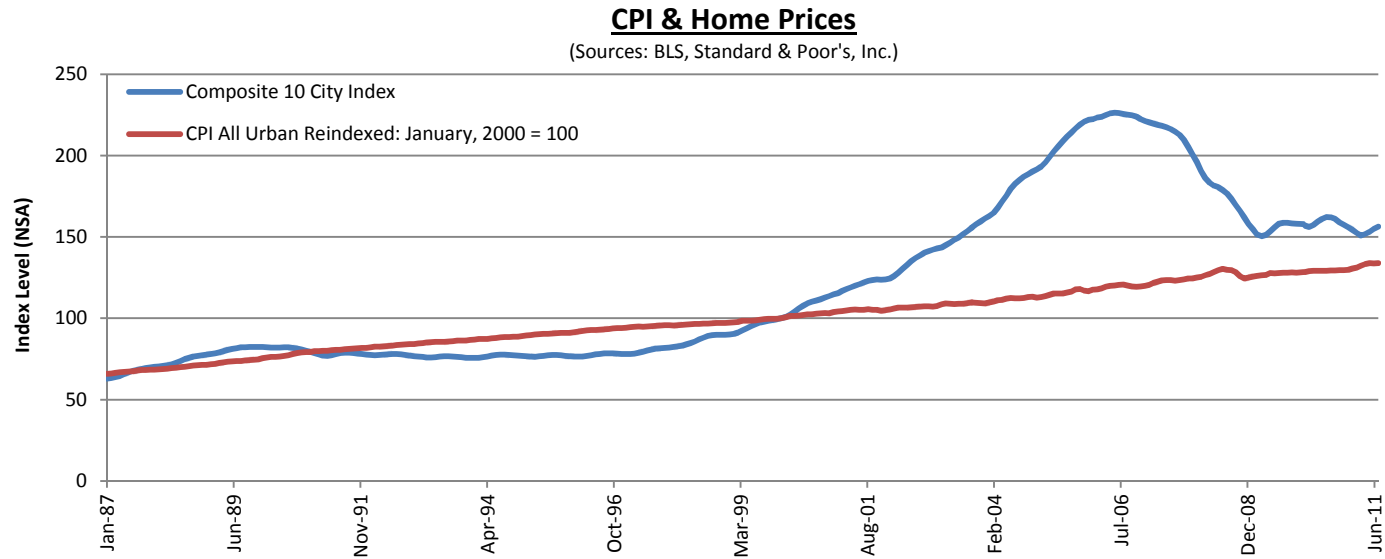


Monthly Mortgage Payment: Price of new home (U.S. Census Bureau report), financed at the Freddie Mac 30 year reference rate

Monthly Disposable Income: BEA Personal Income report

Falling home prices, falling interest rates and rising nominal incomes have created the most affordable home market in decades. This seems to have no impact on balancing supply and demand.

Home Prices & General Price Level



A house is a depreciating asset, an amalgam of raw materials and replaceable goods. Changes in technology, municipal codes/regulations and consumer preferences create expenses for the homeowner. These modifications simply maintain their home's status as a reasonable substitute for a newly constructed house.

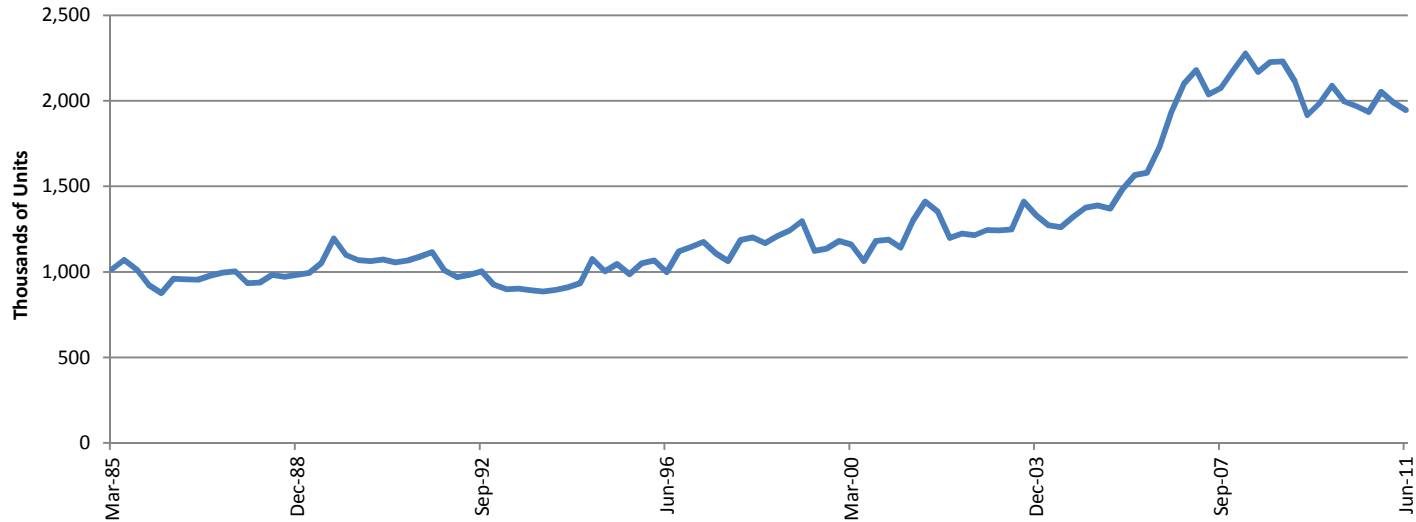
Over the long-run, home prices should not be expected to significantly outperform the economy's general price level.

From January, 2000 to June, 2006: Case/Shiller 10 City: 13.6%
(compounded annual growth rates) CPI: 2.9%

Vacant Homes

Vacant Residential Housing Units For Sale

(Source: U.S. Census Bureau)

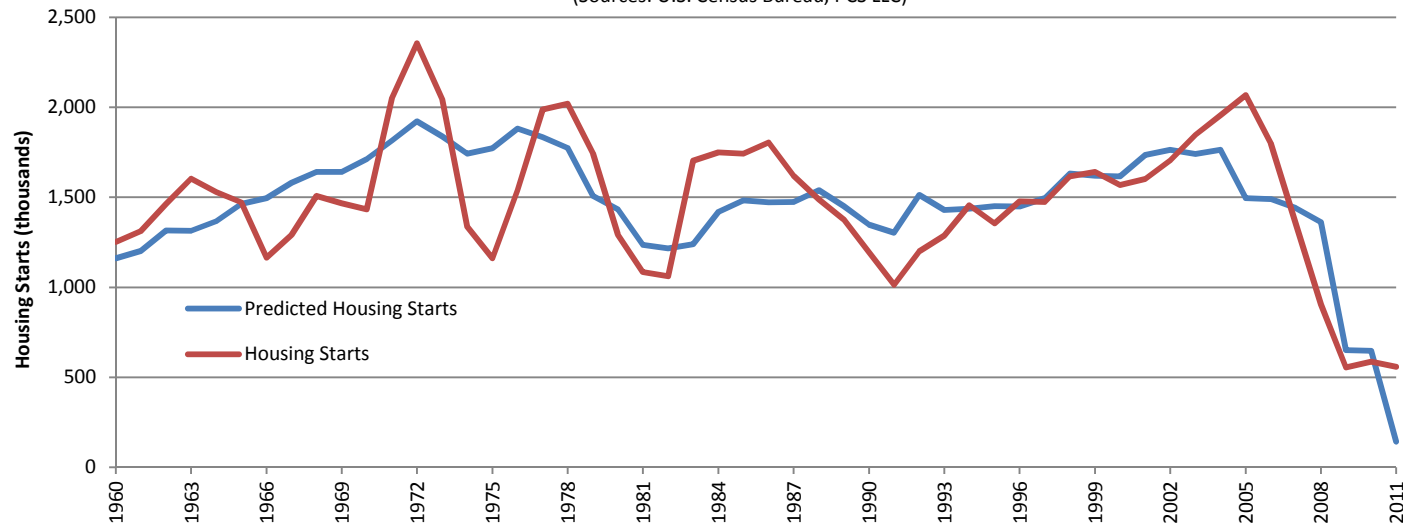


The number of vacant homes for sale has stubbornly remained near 2,000,000 since September, 2006. These homes still need to be maintained, creating negative carry for the owners. The longer the homes remain unsold, the higher the effective hurdle rate becomes for the owner.

Housing Starts

Actual Housing Starts vs. PCS LLC Model

(Sources: U.S. Census Bureau, PCS LLC)

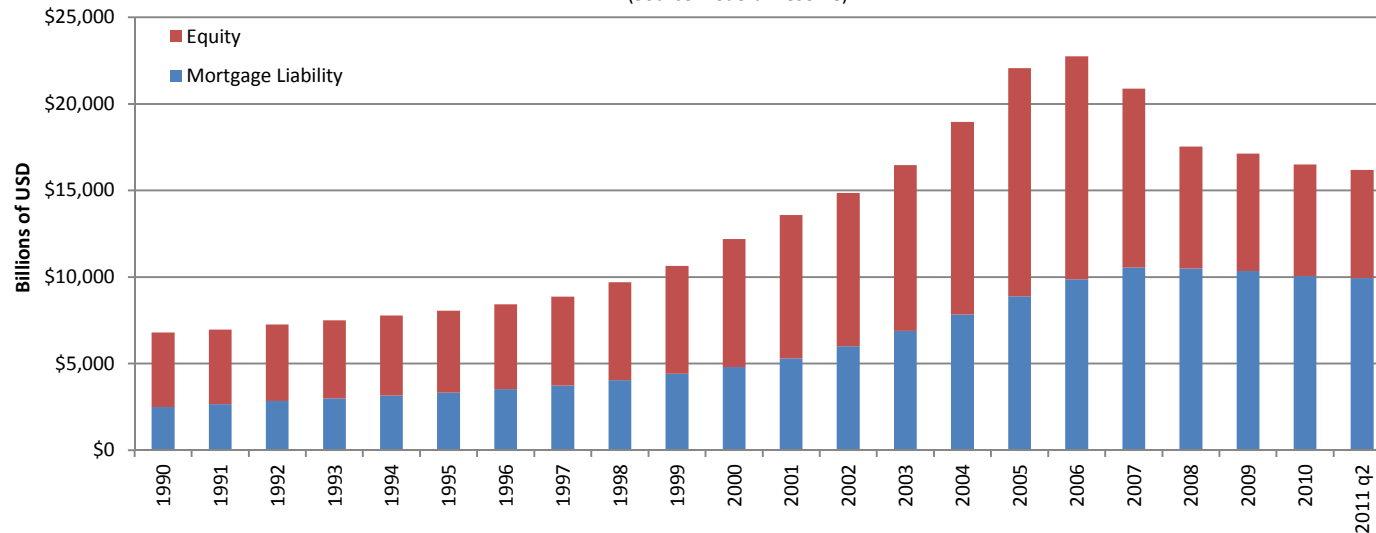


Housing starts did not drop as much as our proprietary model indicated in the wake of the 2003 - 2006 boom. The decline was only 53% of the correction that historical episodes indicated. Estimates for 2011 portend a significant worsening of the inventory imbalance. There is simply too much supply for the current amount of new construction.

Home Equity

Household Real Estate Value

(Source: Federal Reserve)



At what point do homeowners strategically default? Household real estate value peaked in 2006 at a level of \$22.7 trillion. As of the 2nd quarter of 2011, the tally dropped to \$16.2 trillion. However, household mortgage debt has actually **increased** by \$67 billion. As a result, homeowners' equity has fallen from 56.6% to 38.6%. Homeowners' equity has averaged 56.2% since 1990.

Decision inputs include current home values, current equity position, ability to service debt, equivalent rental expense and the future prospects for each variable. There is little room for the average homeowner to significantly value the emotional ties to homeownership.

Delaying the Inevitable: Quantitative Easing



- **FED ACTIONS**
- **MONEY SUPPLY & MONEY MULTIPLIERS**
- **RESERVES & EXCESS RESERVES**
- **CREDIT CREATION**

Quantitative Easing Expeditions

Duration		Target Asset	Purchase Size (billions)	10 Year Treasury Yield	30 Year Mortgage Rate ^d	Monetary Base (ann.)	M2 (ann.)	Equity Market (ann.) ^e
1/2009	3/2010	MBS ^a	\$1,250	+155 bps.	-11 bps.	18.4%	2.1%	19.7%
11/2010	6/2011	Treasury Debt	\$600 ^b	+42 bps.	+27 bps.	65.5%	6.5%	20.3%
10/2011	6/2012	Treasury Debt	\$400 ^c	TBD	TBD	TBD	TBD	TBD

^a The mortgage backed securities (MBS) that the Fed purchased were issued by Fannie Mae, Freddie Mac and Ginnie Mae.

^b In total, the Fed added \$768 billion in Treasury debt to their holdings during “QE II”. The Fed reinvested the proceeds from MBS returns of principal into Treasury debt. MBS holdings decreased by \$138 billion during this time.

^c “QE III” is a reprise of Operation Twist. The Fed will be modifying the duration of their Treasury portfolio, not adding \$400 billion of new purchases.

^d Freddie Mac Weekly Survey Rate

^e Return of S&P 500, excluding dividends

Money Supply

“There is one important difference between the expansion and contraction processes. When the Federal Reserve System adds to bank reserves, expansion of credit and deposits *may* take place up to the limits permitted by the minimum reserve ratio that banks are required to maintain. But when the System acts to reduce the amount of bank reserves, contraction of credit and deposits *must* take place (except to the extent that existing excess reserve balances and/or surplus vault cash are utilized) to the point where the required ratio of reserves to deposits is restored. But the significance of this difference should not be overemphasized. Because excess reserve balances do not earn interest, there is a strong incentive to convert them into earning assets (loans and investments).”

(emphasis in original)

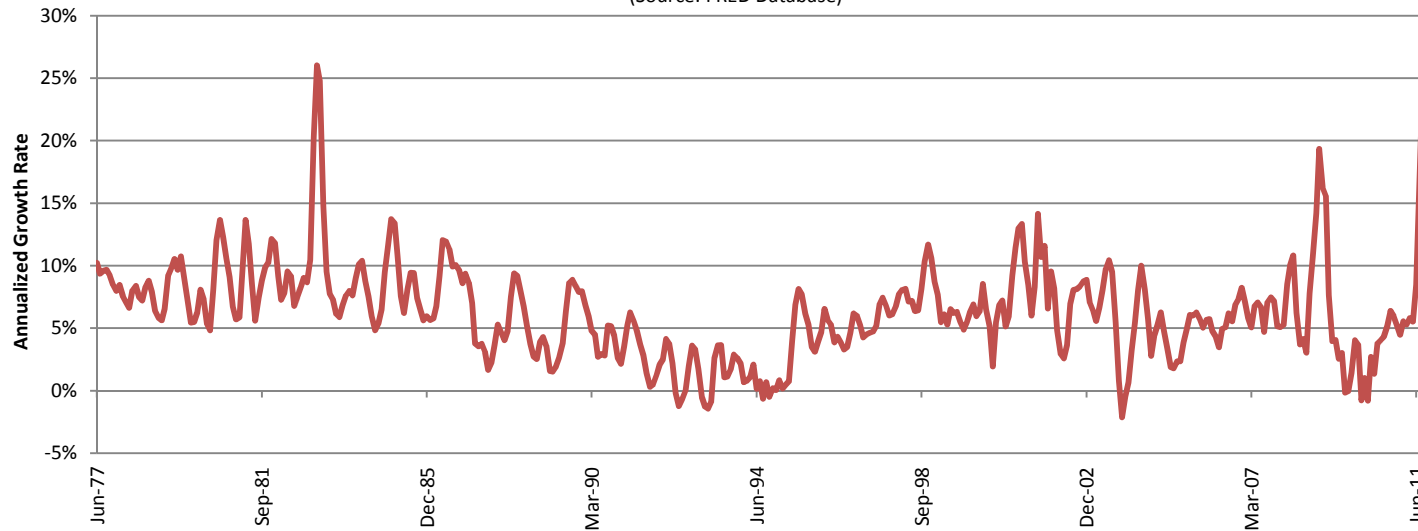
Modern Money Mechanics
Federal Reserve Bank of Chicago

Please Note: publication was written before reserves earned interest.

Money Supply

Quarterly Growth Rate of M2 Money Supply

(Source: FRED Database)



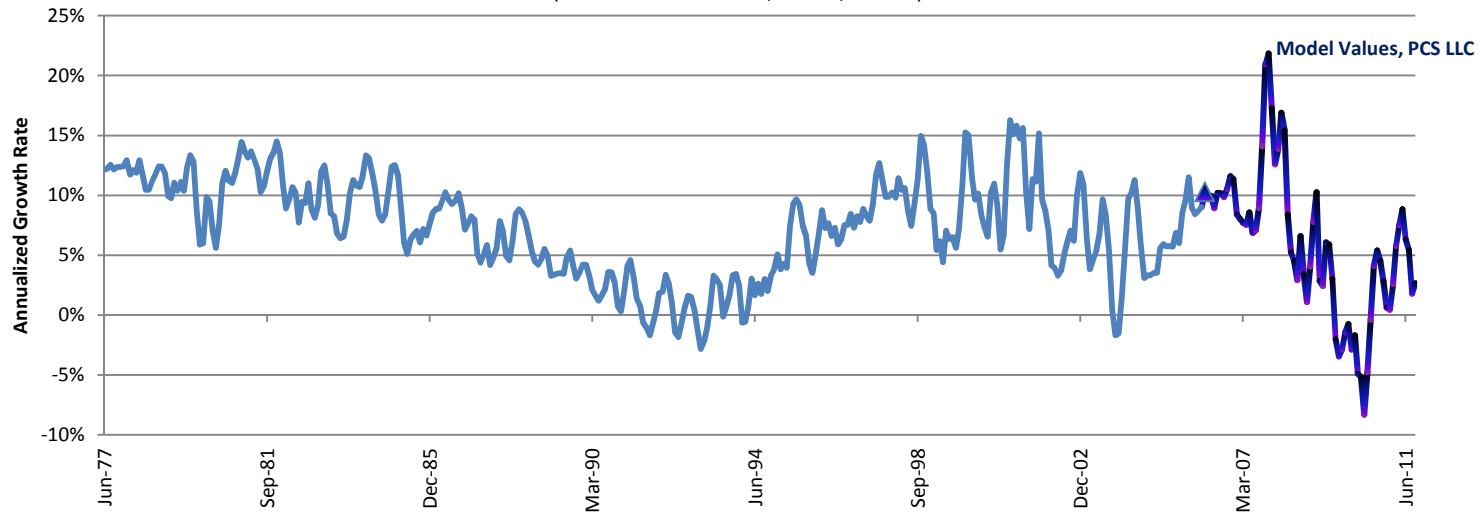
Money supply growth is beyond the Fed's ability to control. Open market operations, reserve ratios and other regulatory controls can provide the kindling, yet it is still the commercial banking system that materially creates money.

Despite the FOMC's unprecedented actions, money supply growth has remained within historic observations. In fact, volatility has reigned: episodes of considerable growth & episodes of contraction.

Money Supply

Quarterly Growth Rate of M3 Money Supply

(Sources: FRED Database, FRB H8, PCS LLC)

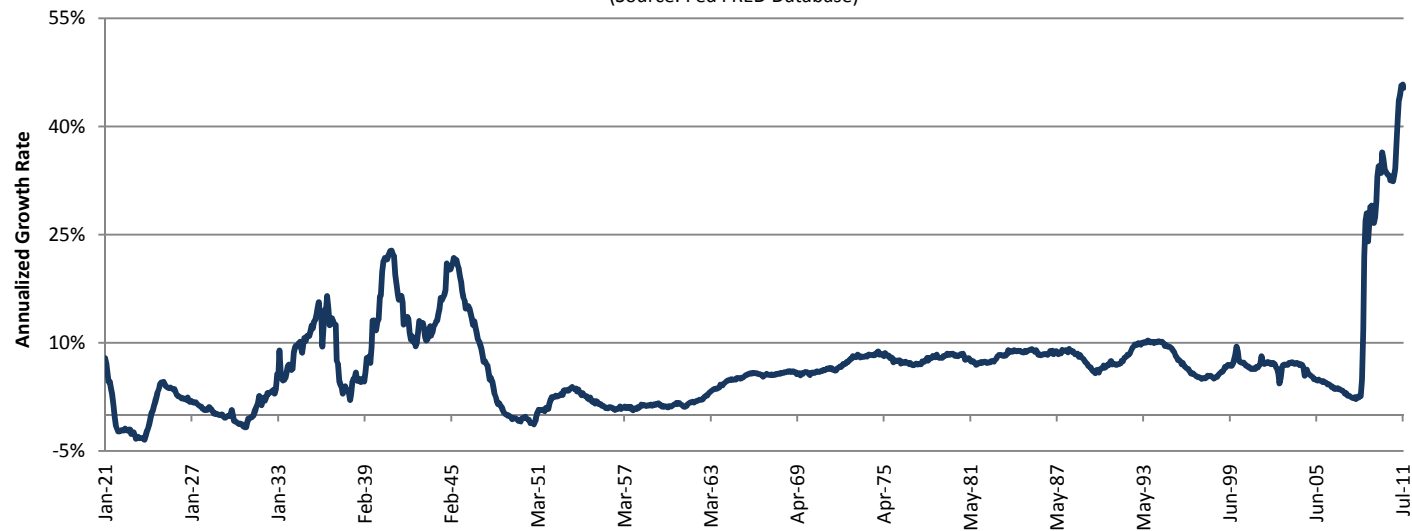


M3 is a broader definition of money supply than M2. The Fed ceased reporting M3 in March of 2006. PCS LLC's model incorporates available Fed data to reproduce the tally.

Monetary Base: The Big Picture

3 Year Growth Rate of St. Louis Adjusted Monetary Base

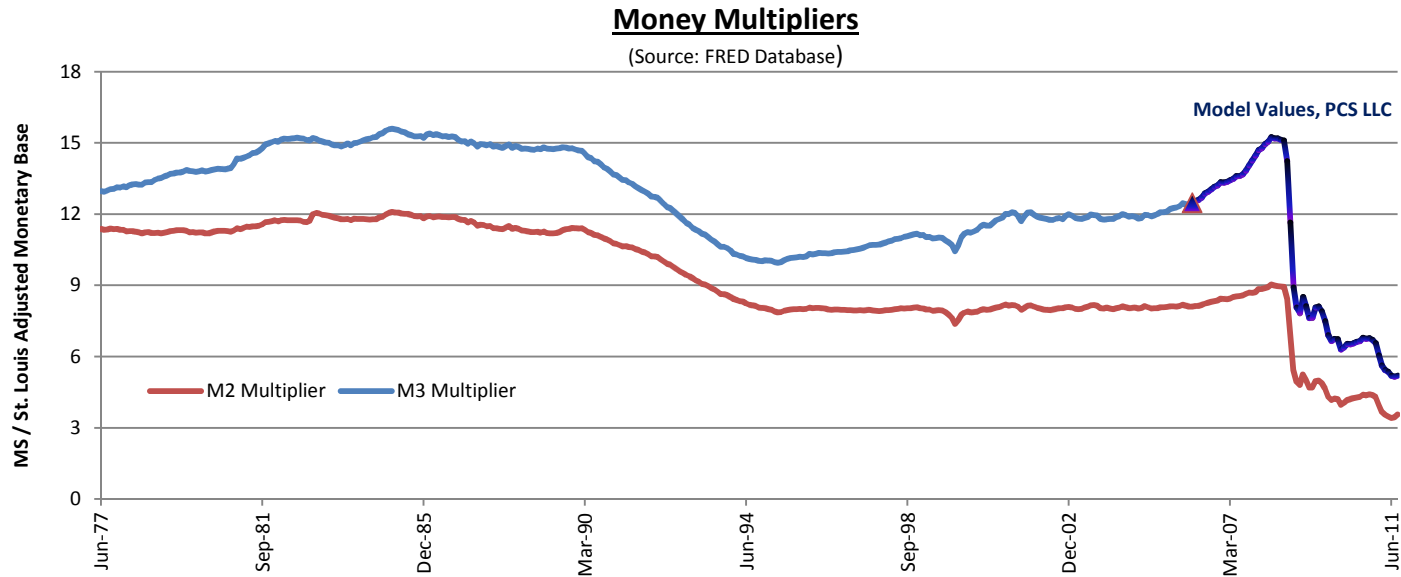
(Source: Fed FRED Database)



The monetary base is also referred to as high-powered money. It is typically to most narrow definition of money supply used by economists. As such, it is the measure that is most directly effected by FOMC actions. It consists of currency in circulation and deposits at the Fed.

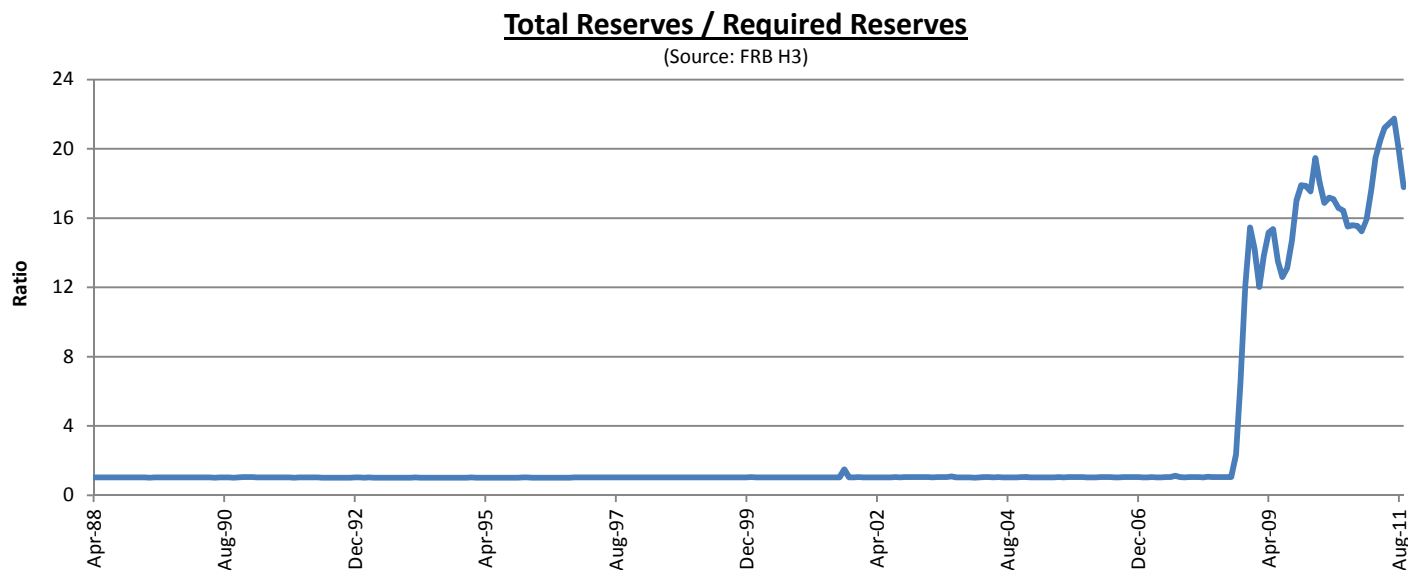
The behavior of the monetary base over the last 3 years far outstrips any other activity in the last 90 years. The Fed has clearly done *something*, but what exactly?

Money Multipliers



The behavior of the money multiplier quantifies the amount of slippage between the Fed's efforts and the commercial banking system's money mechanism. For one reason or another, the money creation that results from credit expansion is absent from the economy.

Allocation of Reserves



Depository institutions are required to hold a minimum amount of reserves against certain deposit liabilities. The required reserve ratio is set forth by the Fed and is occasionally modified to further the goals of monetary policy.

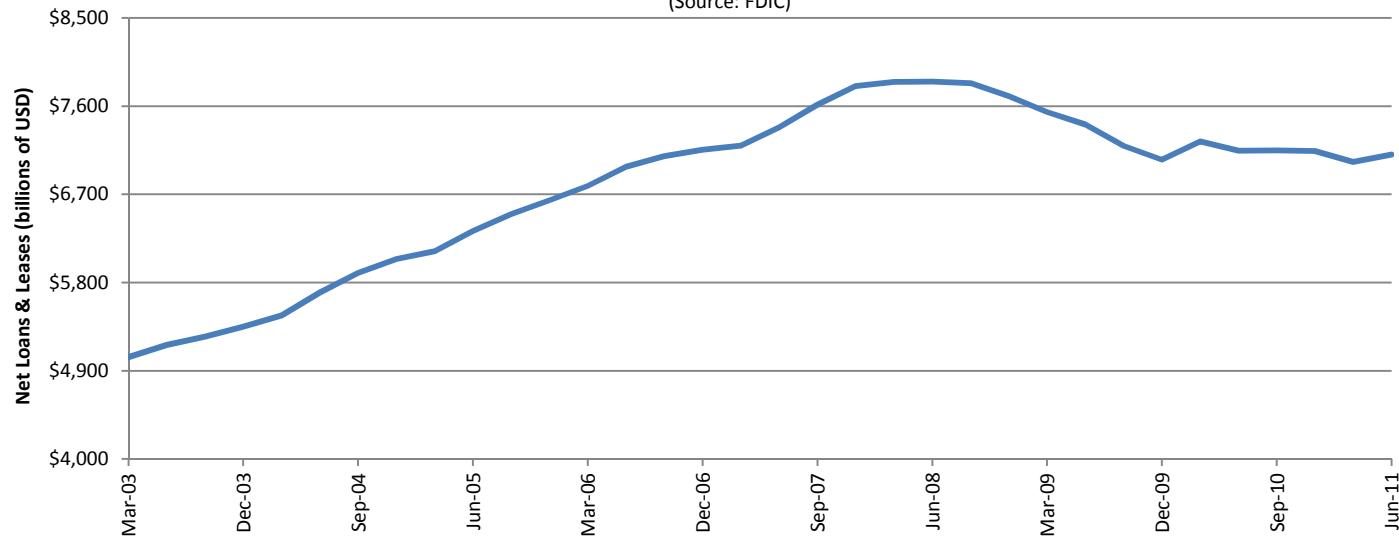
Historically, reserves were held near the required minimum to maximize high margin activity (thereby expanding money supply). From January, 1959 – August, 2008, depository institutions held an average of \$1.028 in reserves for each \$1.00 in required reserves. The ratio peaked at \$1.488 during September, 2001. Since that time, the average ratio has clocked in at **\$15.907**, peaking at \$21.743 in July of this year.

In October, 2008, the Fed announced the payment of interest on reserves.

Credit Creation

Net Loans & Leases: All FDIC Insured Institutions

(Source: FDIC)



Loan balances have decreased by 10% since peaking in June, 2008. The uptick for the most recent quarter is impacted by FASB regulations that modified the accounting for securitized loans.

Real Interest Rates



- **IRVING FISHER**
- **REALIZED REAL INTEREST RATE**
- **MARKET EXPECTATIONS**
- **RELATIVE PRICE INCREASES**
- **ASSET PERFORMANCE**

Real Interest Rates

Irving Fisher is generally credited with initiating the analysis of nominal interest rates by decomposition:

$$\text{➤ } (1 + \text{Nominal Interest Rate}) = (1 + \text{Real Interest Rate}) * (1 + \text{Inflation Rate})$$

Rearranging to solve for the Real Interest Rate:

$$\text{➤ } (1 + \text{Real Interest Rate}) = (1 + \text{Nominal Interest Rate}) / (1 + \text{Inflation Rate})$$

In practice, a shorthand approach is taken:

$$\text{➤ } \textbf{Real Interest Rate} = \textbf{Nominal Interest Rate} - \textbf{Inflation Rate}$$

If nominal income produced by lending agreements is insufficient to compensate the lender for increases in the general price level, wealth is consumed. Payment for price increases must be taken from the lender's store of capital.

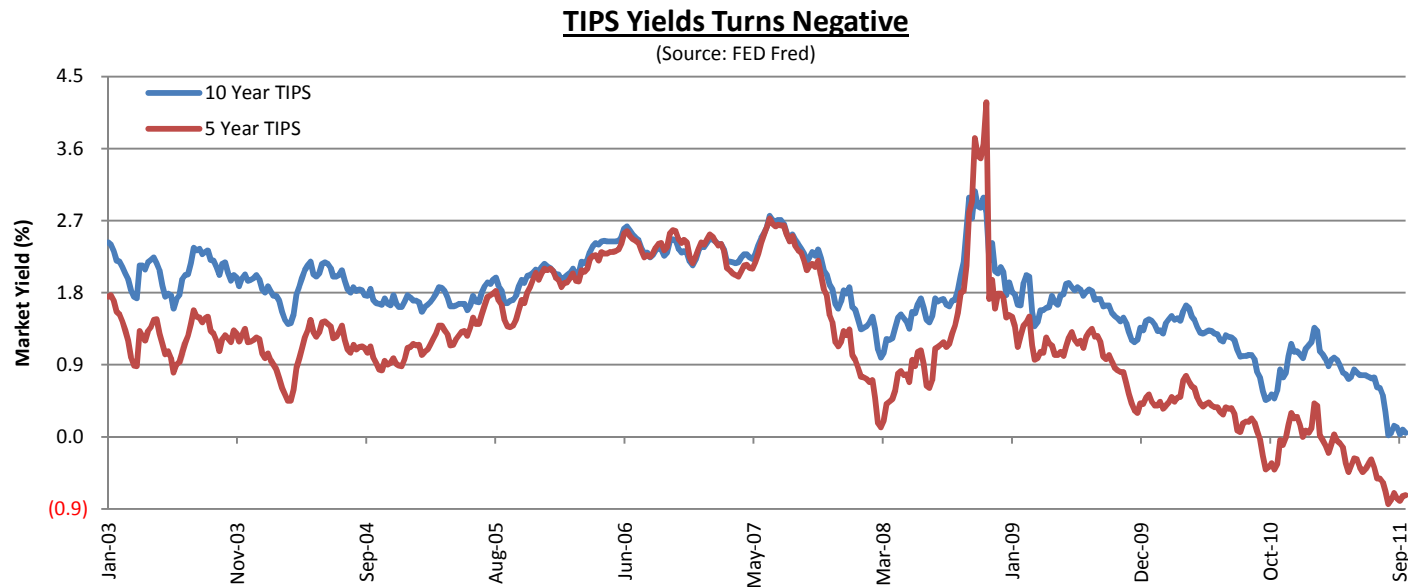
Realized Real Interest Rate



Simply put, a real interest rate is negative when price increases are greater than the nominal yield. A realized real interest rate tracks the impact on real income over a discrete, past period of time.

Example:	1 Year Treasury Bill Rate, 8/2010	0.260%
	Change in CPI from 8/2010 – 8/2011	3.771%
	Realized Real Interest Rate	(3.384%)

Prospective Real Interest Rates

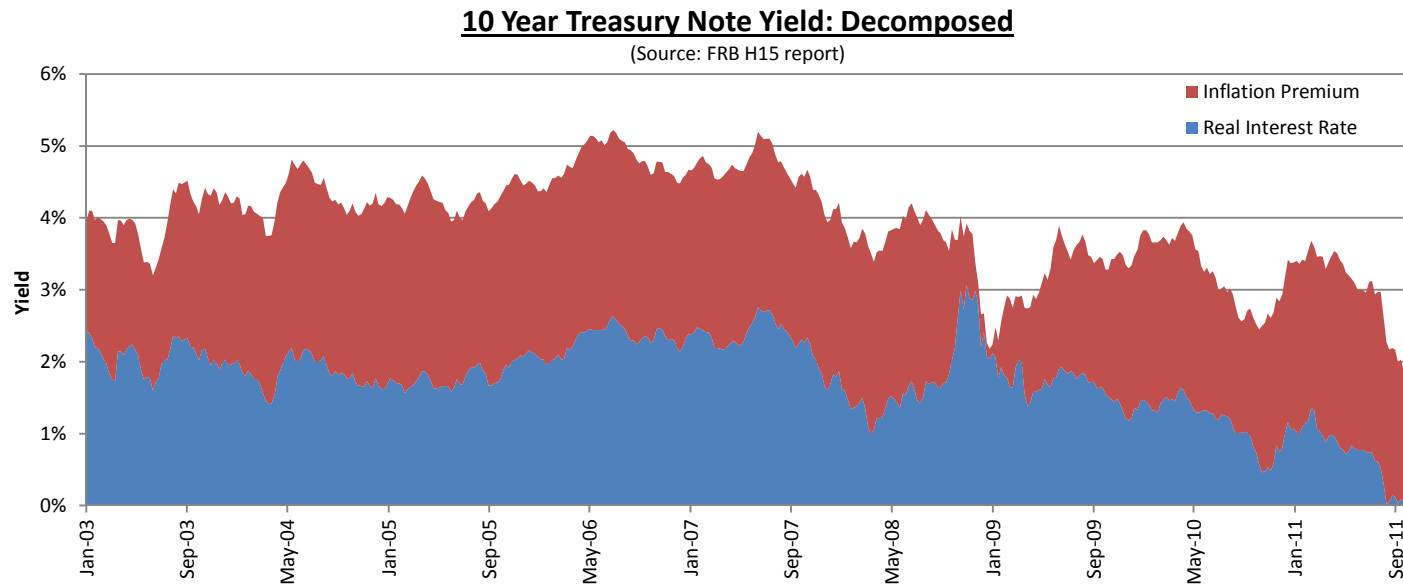


Treasury Inflation Protected Securities (TIPS) were first issued in 1997. These notes are quoted in terms of real yield. The return on these securities is composed of both a stated coupon rate and an accruing inflation component.

As such, market participants post levels based on the additional return they require above the expected change in the price level over the life of the security.

The 5 year issue has traded at a negative real yield for a large portion of the last 12 months. Recently, the 10 year issue has traded below zero on an intraday basis.

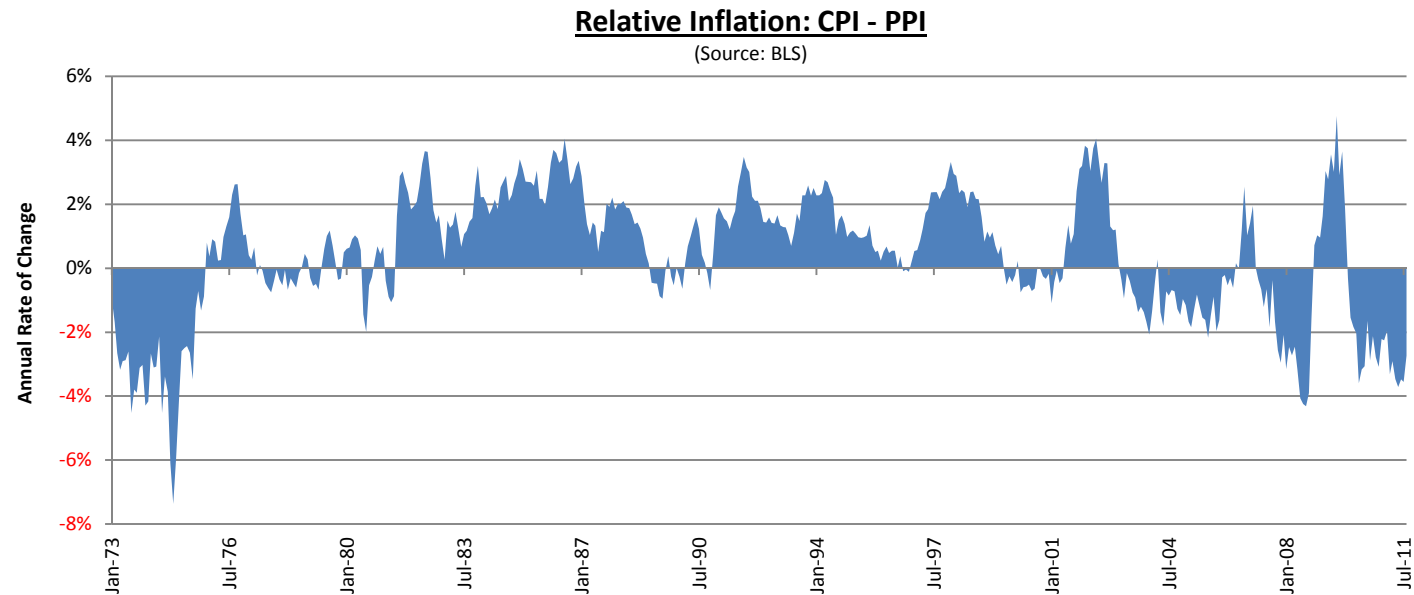
10 Year Treasury Note Yield: Decomposed



The TIPS market provides economists with the necessary data to gauge future inflation expectations. By comparing the TIPS yield to the yield of the nominal equivalent (maturity), analysts can determine the breakeven yield between owning the two notes.

Both extremes in valuation have been reached over the last 2+ years. During the winter of 2008/2009, the inflation premium fell to a scant 12 basis points. Over the last 6 weeks, the real yield component had dropped as low as 3 basis points.

Relative Price Increases



What would necessitate negative real interest rates? Lack of pricing power on the part of corporations is a major factor. If the price of a producer's inputs is rising faster than the price of the final good, why would ownership lever their business? In fact, the economy is fortunate that production is proceeding at all. Negative real interest rates would compensate a borrower for assuming the risk of negative relative pricing.

Real Rate Cycles

Cycle		Gold	Crude Oil	Equity Market	USD Index
		Annualized Change			
1/1973	4/1980	33.10%	39.39%	-1.20%	-1.10%
5/1980	1/2002	-2.74%	-3.17%	11.29%	0.72%
2/2002	9/2011	20.56%	15.95%	0.23%	-4.65%

Gold: London PM Fixing

Crude Oil: WTI

Equity Market: S & P 500 (not including dividends)

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