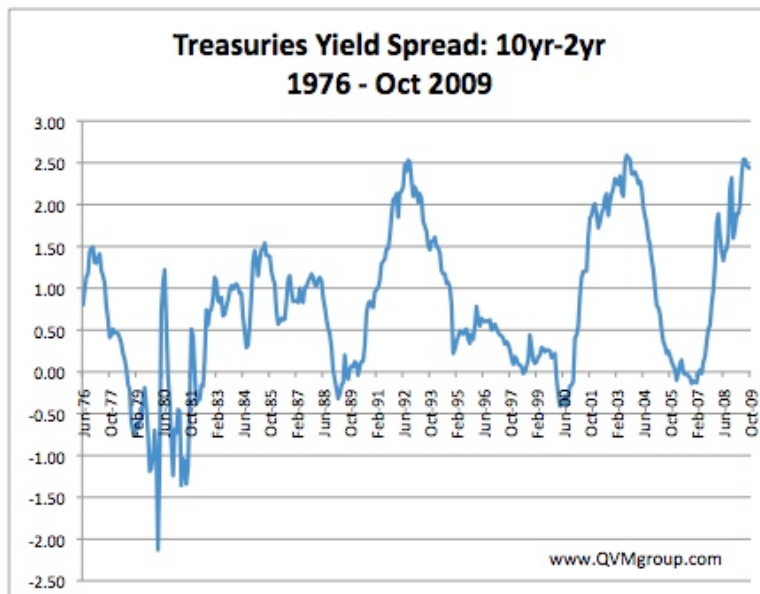


## Research Memo: Interest Rates and Bonds Today

**Summary:** *Historic levels of central bank induced liquidity around the world, and exceptionally low short-term U.S. interest rates have driven risky asset price appreciation across asset classes globally. To avoid (or reduce) an inflationary crisis or an asset bubble collapse, central banks and governments must sooner or later withdraw unprecedented stimulus programs, including raising short-term interest rates. When that happens, there will be significant price adjustments that require portfolio adjustments. Staying on top of the interest rate picture is key.*

### Steepest Yield Curve In Decades:

The financial press made major note of the fact that the official unemployment rate reached the highest level in 26 years at 10.2%.



Much less reported, was that the slope of yield curve and the spread between Treasury interest rates is at long-term highs as well.

That is an indication that we have pulled out all of the stops we can on interest rates. They have nowhere to go but sideways or up from here.

That makes keeping a close eye on bond issues relatively more critical than in more normal times.

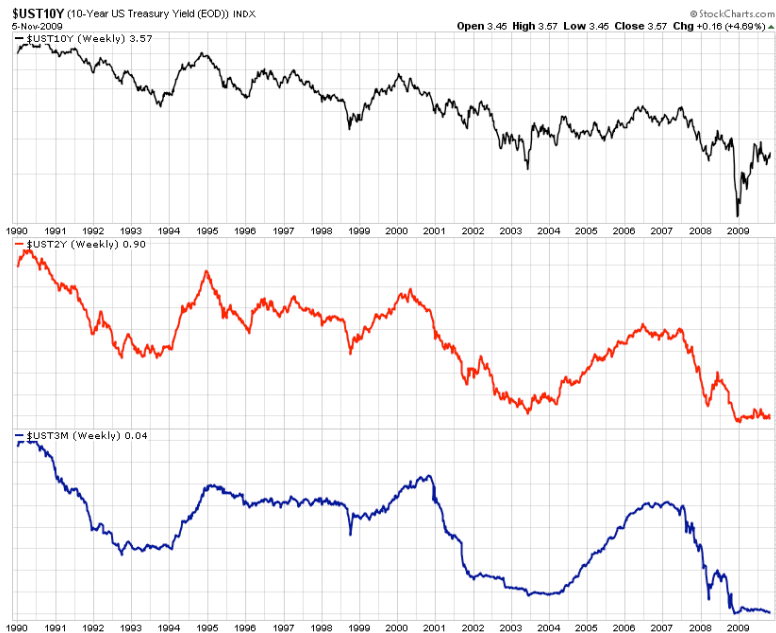
This chart of the point spread between 10-year and 2-year Treasuries from 1976 through

October of this year, shows that we are at an historic peak, last seen at the 2003 stock market low and the recession of the early 1990's. The current spread is high, but not unprecedented.

So what's the big deal? James Caron, head of U.S. interest-rate strategy at Morgan Stanley predicted a new record spread by a wide margin. On November 5 he said:

*"Longer-term we think the curve gets to +350 basis points some time in the first half of 2010 ... Our core view remains for a bear steepening of the curve. Higher back-end rates with low and stable front-end rates."*

Here is a twenty-year view of rates for 10-year (black), 2-year (red) and 3-month (blue) Treasuries:



The first thing we see is that rates have been in a state of decline for the last twenty-years, seemingly with little room to continue in that direction.

That portends extended periods of low bond returns, or a period of bond losses if rates begin to rise significantly.

With the long-term inflation implications from putting the world awash in liquidity, and the currency debasement of quantitative easing, significant inflation seems likely eventually.

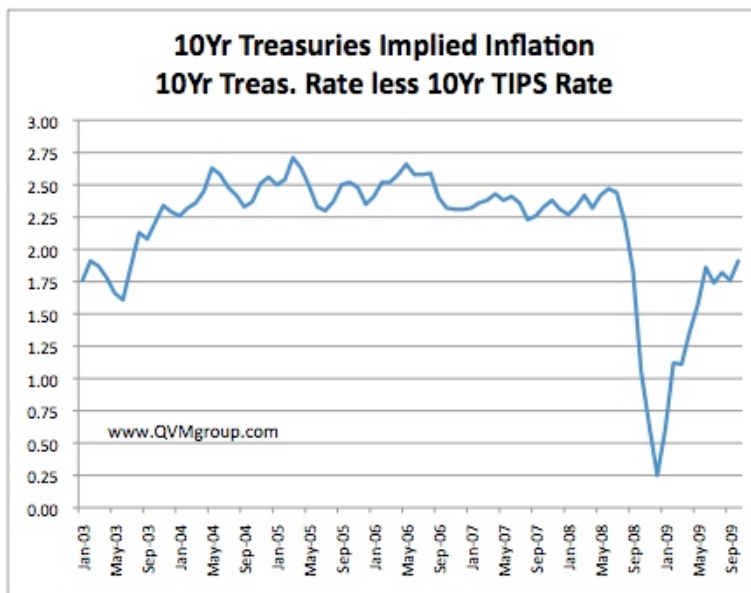
Here are the inflation expectations of Treasuries investors.

This chart plots the spread between 10-year Treasury rates (a nominal rate) and 10-year inflation protected Treasuries (TIPS).

During the bull market years after the 2002-2003 bear, the 10-year inflation expectations were about 2.25% to 2.75%. They fell to 0.25% during the 2008 crash and are not approaching 2%.

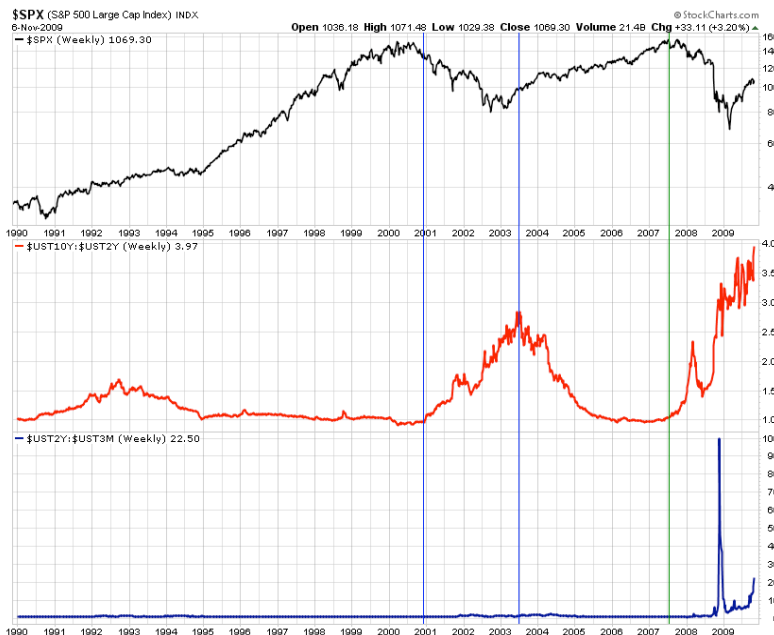
Since inflation, default or massive tax increases are the only ways to pay for the past and ongoing “stimulus” and bailout programs, we’d bet on inflation as the route that government will engineer to keep their jobs and to prevent rebellion.

Inflation is a problem for investors and households, but is a key debt repayment tool of governments. Somehow we seem to accept inflation more readily than default or taxes.



The near-zero short-term rates, which have begun to drive investors out of cash into risk assets, cannot persist in the long-term. The modest long-term rates cannot persist forever as investors demand “real” interest rates, and as foreign buyers of Treasuries demand “real” income after currency exchange rate changes.

The extraordinary steepness of the Treasury yield curve is well illustrated by this 20-year chart:



The black line is the S&P 500. The red line is the ratio of the 10-yr Treasury to the 2-yr Treasury. The blue line is the ratio of the 2-yr Treasury to the 3-mo Treasury.

While the 10-yr to 2-yr point spread is not yet historic, the ratio is historic, and according to Morgan Stanley will become even steeper in 2010.

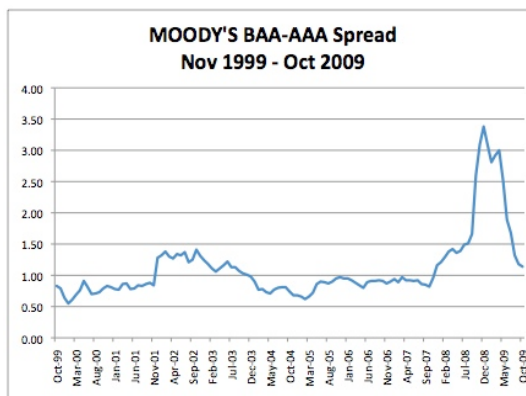
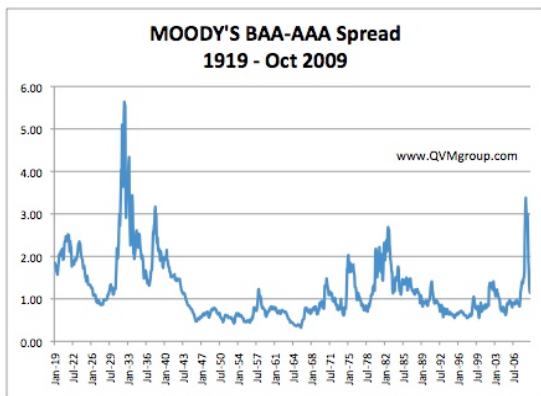
The steeper they make the curve, the harder it will be for banks to stay profitable when the process is unwound to return to some kind of normal.

The rates just can't realistically be more accommodative in the yield dimension. The Fed controls the short end of the curve, but the market controls the long end. The long end has to go up as inflation arises (as it must). That will be hard on bonds.

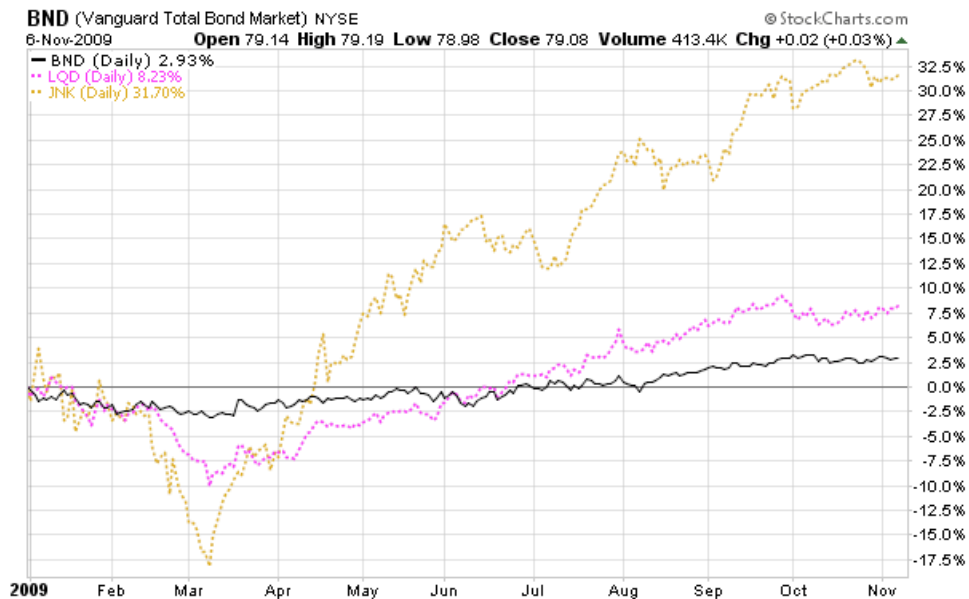
The short end will eventually go up as inflation arises, and that will cool some of the risk taking incentive as cash begins pay something. The Dollar based carry-trade will become less of an opportunity, and the asset speculation in other markets that is being partially fueled by low U.S. rates will moderate or perhaps correct to a substantial degree.

### Credit Spreads

The large spread between low quality corporate bonds and high quality corporate bonds that we saw in 2008 has substantially reduced. The big gains in junk bonds have been made. The risk of widening (a relative decline in junk bond prices) may now be greater than the opportunity for gain. They should not be over emphasized in a portfolio.

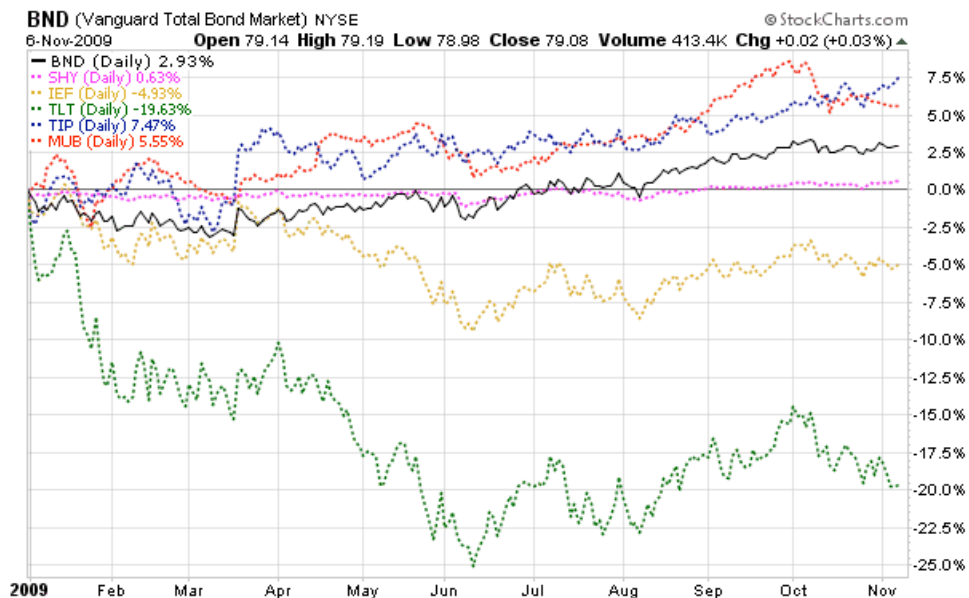


### Relative Price Performance: Low Quality versus High Quality Corporate Bonds (JNK = low quality, LQD = high quality, BND = U.S. aggregate)



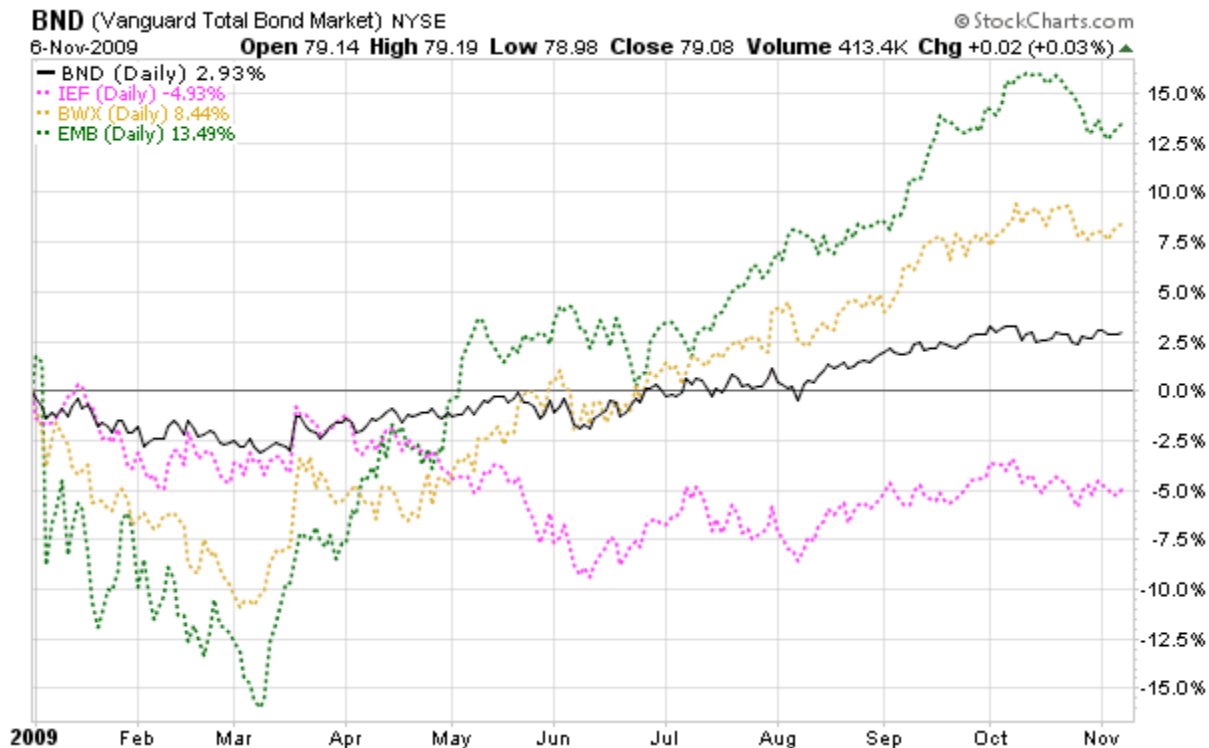
Junk has been the place to be. Corporate bonds still did OK.

### Relative Price Performance: U.S. and Muni Bonds versus U.S. Aggregate Bonds (BND = U.S. aggregate, SHY = 1-3 yr Treas., IEF = 7-10 yr Treas, TLT = 20+ yr Treas, TIP = long-term TIPS, MUB = intermediate-term national muni bonds)



Long-term Treasuries are a 2009 disaster story. TIPS have done best with muni bonds in second place.

### Relative Price Performance: U.S. versus Developed Mkt and Emerging Mkt Sovereign Bonds versus U.S. Aggregate Bonds



Foreign sovereign bonds have outperformed U.S. Treasuries. That is partly due to the falling Dollar and partly due to a reduction in the fear factor, which raised rates on foreign bonds and lowered them on U.S. Treasuries in 2008.

As the fear subsided, the foreign bond rates declined, with the corresponding price improvements. Emerging market debt is the big winner.

In this example, the developed market sovereign bonds are denominated in local currency and are represented by BWX. The emerging market sovereign bonds are Dollar denominated and are represented by EMB.

## Fundamental Statistics For Broad Scope of Bond Funds

| Name   | Symbol | Credit Quality | Duration | % SEC Dividend Yield | % Dividend Yield TTM |
|--|--------|----------------|----------|----------------------|----------------------|
| Aggregate U.S. Bonds                         | AGG    | AA             | 4.03     | 1.88                 | 4.04                 |
| Intermediate-Term U.S. Bonds                 | BIV    | AA             | 6.30     | 3.96                 | 4.37                 |
| Long-Term U.S. Bonds                         | BLV    | AA             | 11.59    | 5.11                 | 5.07                 |
| Aggregate U.S. Bonds                         | BND    | AAA            | 4.27     | 3.46                 | 4.16                 |
| Short-Term U.S. Bonds                        | BSV    | AA             | 2.62     | 1.70                 | 3.00                 |
| Developed Mkt Sovereigns (local currency)    | BWX    | AA             | 6.11     | 2.29                 | 1.02                 |
| Emerging Mkt Sovereigns (U.S. Dollars)       | EMB    | BBB            | 7.02     | 5.59                 | 5.73                 |
| Junk Bonds                                   | HYG    | B              | 4.25     | 9.19                 | 9.80                 |
| 7-10 Year Treasuries                         | IEF    | AAA            | 7.02     | 3.15                 | 3.67                 |
| Junk Bonds                                   | JNK    | B3             | 4.75     | 9.98                 | 12.45                |
| Investment Grade Corporates                  | LQD    | A              | 7.10     | 4.84                 | 5.38                 |
| Global Bonds (active)                        | LSGLX  | AA             | 5.64     | 3.35                 | 5.25                 |
| Intermediate National Municipals             | MUB    | AA             | 7.35     | 3.11                 | 3.73                 |
| Emerging Mkt Sovereigns (US Dollars)         | PCY    | BBB            | 7.59     | 6.31                 | 6.20                 |
| Foreign Bonds (local currency) (active)      | PFBDX  | AAA            | 7.97     | 3.95                 | 3.00                 |
| Internationals Bond (active)                 | RPIBX  | AA             | 5.76     | 2.20                 | 2.63                 |
| 1-3 Year Treasuris                           | SHY    | AAA            | 1.90     | 0.79                 | 2.48                 |
| Long-Term Inflation Protected Treasuries     | TIP    | AAA            | 3.68     | 1.12                 | 3.13                 |
| 20+ Years Treasuries                         | TLT    | AAA            | 15.11    | 4.06                 | 4.00                 |
| International Inflation Protected Treasuries | WIP    | AA             | 9.30     | 1.54                 | 0.95                 |

| Name   | Symbol | Number of Holdings | % Assets in Top 10 Holdings | \$mil Fund Size Total Assets | % Expense Ratio |
|--|--------|--------------------|-----------------------------|------------------------------|-----------------|
| Aggregate U.S. Bonds                         | AGG    | 253                | 23.78                       | 10,922.73                    | 0.20            |
| Intermediate-Term U.S. Bonds                 | BIV    | 1011               | 20.00                       | 9,518.37                     | 0.10            |
| Long-Term U.S. Bonds                         | BLV    | 804                | 25.40                       | 2,934.07                     | 0.10            |
| Aggregate U.S. Bonds                         | BND    | 12800              | 7.67                        | 65,438.59                    | 0.10            |
| Short-Term U.S. Bonds                        | BSV    | 1130               | 15.41                       | 14,703.18                    | 0.10            |
| Developed Mkt Sovereigns (local currency)    | BWX    | 102                | 34.79                       | 1,455.44                     | 0.50            |
| Emerging Mkt Sovereigns (U.S. Dollars)       | EMB    | 48                 |                             | 846.88                       | 0.60            |
| Junk Bonds                                   | HYG    | 243                |                             | 4,015.16                     | 0.50            |
| 7-10 Year Treasuries                         | IEF    | 11                 |                             | 2,641.46                     | 0.15            |
| Junk Bonds                                   | JNK    | 150                | 21.37                       | 2,860.65                     | 0.40            |
| Investment Grade Corporates                  | LQD    | 206                |                             | 12,798.46                    | 0.15            |
| Global Bonds (active)                        | LSGLX  | 293                | 25.79                       | 2,023.97                     | 1.00            |
| Intermediate National Municipals             | MUB    | 522                | 10.13                       | 1,528.47                     | 0.25            |
| Emerging Mkt Sovereigns (US Dollars)         | PCY    | 25                 | 47.61                       | 418.64                       | 0.50            |
| Foreign Bonds (local currency) (active)      | PFBDX  | 788                | 64.81                       | 2,252.44                     | 0.93            |
| Internationals Bond (active)                 | RPIBX  | 351                | 31.03                       | 3,685.51                     | 0.81            |
| 1-3 Year Treasuris                           | SHY    | 54                 |                             | 7,572.66                     | 0.15            |
| Long-Term Inflation Protected Treasuries     | TIP    | 29                 |                             | 17,269.83                    | 0.20            |
| 20+ Years Treasuries                         | TLT    | 11                 |                             | 2,158.40                     | 0.15            |
| International Inflation Protected Treasuries | WIP    | 74                 | 41.67                       | 793.78                       | 0.50            |

| Name   | Symbol | % Total Return 1 Month | % Total Return 3 Month | % Total Return YTD | Total Return 2008 | Av Daily \$ Vol (\$mil) |
|--|--------|------------------------|------------------------|--------------------|-------------------|-------------------------|
| Aggregate U.S. Bonds                         | AGG    | 0.15                   | 3.11                   | 3.53               | 7.91              | 45,414,044              |
| Intermediate-Term U.S. Bonds                 | BIV    | (0.67)                 | 3.56                   | 3.95               | 7.79              | 5,082,676               |
| Long-Term U.S. Bonds                         | BLV    | (3.06)                 | 3.27                   | 0.05               | 10.31             | 1,927,194               |
| Aggregate U.S. Bonds                         | BND    | (0.63)                 | 2.40                   | 3.32               | 6.88              | 32,687,120              |
| Short-Term U.S. Bonds                        | BSV    | 0.10                   | 1.55                   | 1.47               | 8.50              | 33,174,963              |
| Developed Mkt Sovereigns (local currency)    | BWX    | 0.14                   | 4.48                   | 8.45               | 4.01              | 6,409,147               |
| Emerging Mkt Sovereigns (U.S. Dollars)       | EMB    | (1.81)                 | 4.97                   | 14.14              | (2.04)            | 19,060,657              |
| Junk Bonds                                   | HYG    | 2.46                   | 6.06                   | 23.86              | (17.35)           | 46,838,708              |
| 7-10 Year Treasuries                         | IEF    | (0.96)                 | 3.27                   | (4.63)             | 17.91             | 29,631,207              |
| Junk Bonds                                   | JNK    | 0.27                   | 6.50                   | 30.58              | (25.56)           | 22,334,863              |
| Investment Grade Corporates                  | LQD    | 0.98                   | 4.47                   | 8.86               | 2.46              | 72,801,753              |
| Global Bonds (active)                        | LSGLX  | 0.52                   | 5.86                   | 23.18              | (8.83)            | Mutual Fund             |
| Intermediate National Municipals             | MUB    | (2.67)                 | 1.90                   | 5.90               | 1.18              | 7,800,265               |
| Emerging Mkt Sovereigns (US Dollars)         | PCY    | (1.54)                 | 5.12                   | 35.42              | (18.79)           | 5,285,682               |
| Foreign Bonds (local currency) (active)      | PFBDX  | 0.16                   | 9.27                   | 23.51              | (4.45)            | Mutual Fund             |
| Internationals Bond (active)                 | RPIBX  | (0.35)                 | 4.74                   | 10.57              | 1.78              | Mutual Fund             |
| 1-3 Year Treasuris                           | SHY    | 0.21                   | 1.20                   | 0.77               | 6.61              | 66,951,193              |
| Long-Term Inflation Protected Treasuries     | TIP    | 1.31                   | 5.37                   | 8.57               | (0.53)            | 94,472,328              |
| 20+ Years Treasuries                         | TLT    | (4.50)                 | 3.27                   | (19.32)            | 33.93             | 315,247,983             |
| International Inflation Protected Treasuries | WIP    | 0.51                   | 4.97                   | 18.71              | n/a               | 7,302,024               |

### The Federal Reserve FOMC View

Economic conditions "are likely to warrant exceptionally low levels of the federal-funds rate for an extended period."

That's Fed-speak for "things aren't really going all that well yet".

Remember, the Fed has a lever on very short-term rates, while the global market controls other rates.

### The PIMCO View -- Short-term Stability at the Cost of Longer-term Instability?

Mohamed El-Erian, PIMCO's chief executive and co-chief investment officer said last week that while the jobless rate argues for continued low interest rates, the other two conditions -- inflation trends and inflation expectation -- are flashing yellow lights. He pointed out that gold (an inflation and currency exchange value expectations indicator) touched \$1100 an ounce while the Treasury Inflation Protected Securities market was indicating implied higher inflation.

He cautioned about the Fed's policies possibly feeding asset bubbles, a lesson he said we should have learned from the past. Regarding the Fed's next move he said (excerpt of two separate statements):

*"Putting it together, there's no right answer" [as to whether the Fed should raise rates or wait]. "It's a question of which mistake you're willing to make ... The*

*FOMC is trying to strike a very, very delicate balance; a major question is whether markets and, more importantly, the real economy will be appropriately accommodating ...*

*It is totally rational for risk markets to rally in the very short term when the FOMC flashes a green light for the dollar-funded carry trade.*

*The challenge is that, in the process, they accentuate what is already a wide gap between valuations and the outlook for economic fundamentals in 2010. ...*

*The risk for the U.S. is that, absent a sustainable and robust resumption of growth (driven by genuine private sector activity rather than stimulus and inventory cycles), the underlying economic and financial conditions are getting more unstable and not less – in other words, the Fed runs the risk of inadvertently pursuing short-term stability at the cost of longer-term instability.*

*Look for all this to re-ignite the difficult policy discussions on whether the Fed should lean against the wind in the context of market overshoots; to fuel concerns about the standing of the dollar as the global reserve currency; and to impart greater market volatility down the road”*

Bill Gross, co-chief investment officer said,

*“[after describing the low rates on Treasuries] Broadening the concept to the U.S. bond market as a whole (mortgages + investment grade corporates), the total bond market yields only 3.5%. To get more than that, high yield, distressed mortgages, and stocks beckon the investor increasingly beguiled by hopes of a V-shaped recovery and “old normal” market standards. Not likely, and the risks outweigh the rewards at this point.”*

### **The Morgan Stanley View**

Short-term rates stay low while intermediate-term and long-term rates go up in 2010.

### **The Roubini View**

*“... Risky asset prices have risen too much, too soon and too fast compared with macroeconomic fundamentals.*

*... important factor fuelling this asset bubble is the weakness of the US dollar, driven by the mother of all carry trades. The US dollar has become the major funding currency of carry trades as the Fed has kept interest rates on hold and is expected to do so for a long time.*

*Investors ... are borrowing at very negative interest rates [to buy risky assets ... other countries follow with low rates to stay export competitive ... creating a self-reinforcing bubble ]*

*But one day this bubble will burst, leading to ... [a] coordinated asset bust ... if factors lead the dollar to reverse and suddenly appreciate – as was seen in previous reversals ... the leveraged carry trade will have to be suddenly closed as investors cover their dollar shorts [by] closing long leveraged risky asset positions across all asset classes [resulting in] a coordinated collapse of all those risky assets – equities, commodities, emerging market asset classes and credit instruments.*

*... the dollar cannot fall to zero and at some point it will stabilise; when that happens the cost of borrowing in dollars will suddenly become zero, rather than highly negative, and the riskiness of a reversal of dollar movements would induce many to cover their shorts. ... if US growth surprises on the upside ... markets may start to expect a Fed tightening to come sooner, not later. ... [also of concern are] geopolitical risks, such as a military confrontation between the US/Israel and Iran [resulting in fear driven Dollar appreciation as in 2008].*

*This unraveling may not occur for a while, as easy money and excessive global liquidity can push asset prices higher .... But the longer and bigger the carry trades and the larger the asset bubble, the bigger will be the ensuing asset bubble crash. ... “*

### **Reuters Comments**

A Reuters article this week summarized the struggle within the Fed among the Governors this way:

*“One side focuses on the "output gap" between the economy's actual and potential output, putting heavy weight on the unemployment rate and the amount of the nation's untapped industrial capacity.*

*On the other side is the worry that the sheer amount of money the Fed has pumped into the economy to get credit flowing could spark inflation even with the economy still weak; that side may tend to look more closely at measures that show whether inflation worries are building.”*

The existence of a tension within the debate may make policy more subject to surprise changes than at other times when there is more harmony within the Fed leadership.

### **The Goldman Sachs View**

Jim O'Neill, chief global economist at Goldman Sachs Group Inc. in London said,

*“There are all kinds of risks ... We don't know how much of the improvement in markets is due to central banks' largesse, and neither do they. They're pretty nervous, but they've got to get out of it at some stage.”*

## The Citigroup View

Juergen Michels, chief European economist at Citigroup Inc. in London said,

“As soon as the first exit measures are put in place, there’s the risk that the market overreacts ... “

We take that to mean they are likely to overreact, as they are prone to do, but how much and for how long, and with what knock-on effects?

## Bloomberg Comments

The world’s biggest central banks are starting to unwind emergency measures ...

... European Central Bank President Jean- Claude Trichet yesterday said, “Not all our liquidity measures will be needed to the same extent as in the past” ...

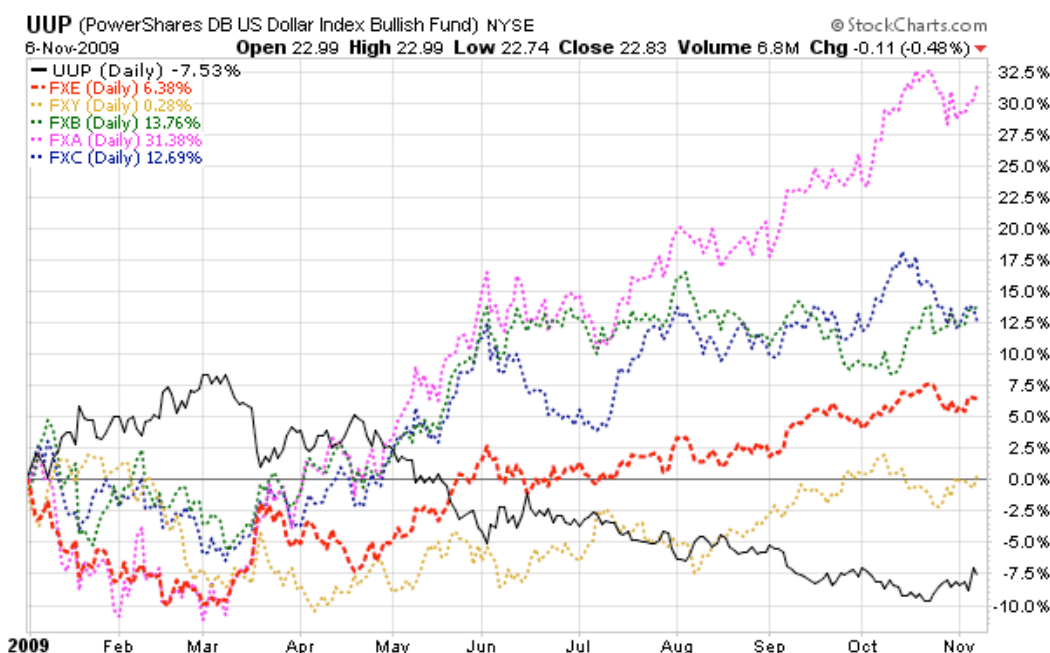
... The Federal Reserve outlined the circumstances in which it would be prepared to raise interest rates.

... The Bank of Japan intends to end its programs of purchasing corporate debt in December ...

... The Australian central bank has now raised rates two times this year.

## International Monetary View

The IMF said that “*There are indications that the U.S. dollar is now serving as the funding currency for carry trades,*” [due to low interest rates] and that while the dollar “*has moved closer to medium-run equilibrium,*” it is still “*on the strong side.*” [heading for further declines].



## Brown Brothers Harriman View

Marc Chandler, global head of currency strategy for Brown Brothers Harriman & Co. in New York, said the dollar carry trade is likely to continue in coming months,

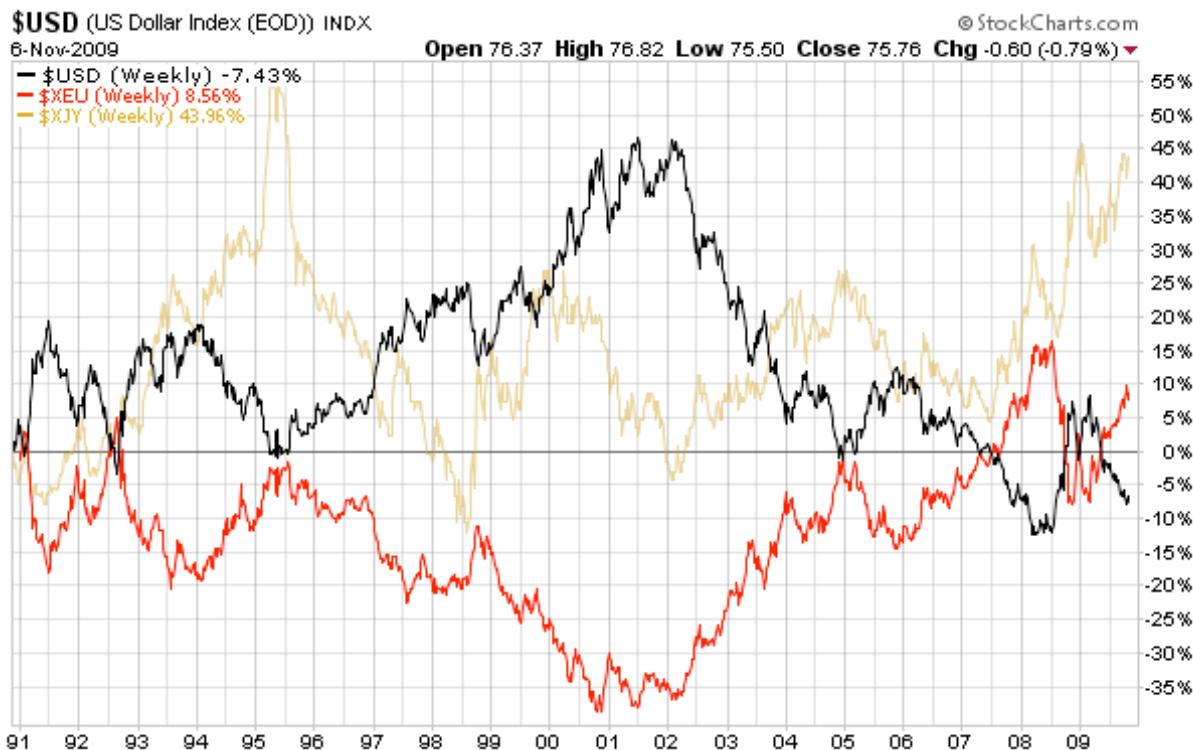
*“The key wildcard to dollar carry trades [ a function of low short-term U.S. interest rates ] is whether people continue to show an appetite for risk, [and if so] That’ll weigh on the dollar.”*

## U.S. Currency Versus European Currency

If there is a Dollar exchange rate reversal, as Roubini suggests may be in the future, the implications for the Euro are suggested by this 19-year chart of the US Dollar index and the Euro index (same as relationship of UUP and FXE in ETFs). The Euro and the Dollar are virtually reciprocal. The Yen has a much lower correlation to either the Dollar or the Euro.

The three dominant currencies in the currency markets are the Dollar, the Euro and the Yen.

The reciprocal Dollar, Euro relationship makes holding Dollar and Euro denominated cash or sovereign debt funds approach being exchange rate neutral with respect to those two currencies.



## Moody's View

They said that within ten years, the Dollar may lose its AAA rating.

## Bond Portfolio Implications for Now

### Don't

- Don't own individual bonds unless you are certain you can hold them to maturity.
- Don't own individual long-term bonds, because rates must rise, which will cause the value of your interest stream be lower than expected.
- Don't overweight junk, because the bulk of the opportunity has past.
- Don't buy intermediate or long-term Treasuries, which will lose their safe harbor appeal as stock markets recover, and which will decline as major foreign buyers demand higher rates (lower prices) due to a weak Dollar foreign exchange and inflation prospects.
- Don't remain entirely in cash which is a guaranteed purchasing power loss in the event of possible continued Dollar declines, while earning next to zero cash flow

### Do

- Do lean toward bond funds instead of individuals bonds. The flow of maturities within the bond will be reinvested at current rates. The diversification will reduce credit risk (remember that Lehman bonds were AAA 3 days before they filed for bankruptcy).
- Do lean toward intermediate-term or short-term bond funds to minimize losses when rates eventually rise.
- Do perhaps consider TIPS as a value holding action, but only in tax deferred accounts, due to taxation of unrealized income in the appreciation of maturity value.
- Do diversify bond holdings to include non-Dollar based issues to hedge your portfolio partially against Dollar exchange rate losses
- Do diversify bond holding to include some emerging market sovereign issues where country credit worthiness is rising
- To the extent possible, where needed fund type is available and trading liquidity is sufficient, utilize ETFs so that you can deploy persistent trailing stop loss orders to protect against potential major market calamity – if you use mutual funds use manual stops and don't reset them if fund prices decline.
- Do maintain a spread of both credit quality and duration, but with a bias away from long-term debt and toward higher quality credit bonds.

Too many investors are so traumatized by 2008 that they are afraid to do anything. You can't go back. You must go forward. Feet frozen in cement, and assets frozen in cash will not serve you well. Remember that doing nothing IS doing something. No position, including cash, is without risk. Asset class diversification, security diversification within classes, duration and credit diversification within bonds, currency exposure diversification, and protective stop loss orders (and the will to let them do their job if and when the time comes) is probably your best course of action.



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