



**Robert Tipp, CFA**  
Chief Investment Strategist  
Prudential Fixed Income

## Economic Recovery Creates Opportunities in Bonds

*While conventional wisdom would suggest that the U.S. economic recovery will put steady upward pressure on interest rates, this time may be different. Unlike the economic recoveries of the 1980s and 1990s, a host of factors in place today should keep long-term interest rates lower during this recovery than during most of the past thirty years. As a result, plan sponsors may continue to reap both solid returns and diversification benefits from their fixed income allocations.*

### Why Bond Yields Have Risen Since Mid-year

The third quarter saw an historic sell-off in the U.S. bond market, with what may prove to be the better part of a bear market compressed into a handful of weeks. After declining towards 3% in June, the yield on the 10-year Treasury rose to nearly 4.5% by the end of July. Why?

First, economic statistics improved: the notion of a U.S. economic recovery shifted from 'doubtful' at mid-year to 'all but assured' early in 3Q. For investors expecting otherwise, the stronger economic data provided reasons to sell.

Second, there was a convergence of outflows from U.S. Treasury and agency debt, magnifying the size and speed of the sell-off. One source of selling was Japanese institutions, which sold U.S. Treasury holdings to offset losses in their Japanese government bond portfolios suffered at the end of June, when that market weakened considerably. Another source was European central banks. Following the accounting issues at Freddie Mac, rumors began to circulate—eventually confirmed—that the European Central Bank had deemed U.S. agency securities to no longer be an appropriate holding for member countries' reserve assets. European member central banks, as well as the ECB itself, pressured the U.S. bond market, selling billions of dollars of U.S. agency debentures into an already weak market.

Finally, technically driven selling from a range of investors also served to push yields higher. Hedge funds and dealers that were counting on a stable yield curve to 'roll down' ran out of confidence and/or capital and bailed out of positions.

Perhaps the single most significant technical factor, though, was the onslaught of mortgage-related selling, as mortgage issuers, banks, pension managers, and others became forced sellers of interest rate products as rates rose. When interest rates rise, durations of mortgage securities lengthen, increasing the interest rate exposure of the mortgage investor. Many mortgage investors, in turn, need to hedge this risk by selling mortgages or other fixed income instruments. With the agency mortgage market now at nearly \$3 trillion (that's over one third the size the entire investment grade bond market as measured by the Lehman Aggregate Index), it is not surprising that the mortgage hedging process has become a major force in the bond market in recent years. While this mortgage-related selling seemed to climax at the end of July,



the mid-August announcement by Fannie Mae stating that they were still long a significant amount of interest rate risk, once again put upward pressure on rates as investors braced for more selling.

### ... And Why They Shouldn't Rise Much Further

There is now, however, a case to be made that long-term yields have already reached what will be looked back upon as attractive levels, and that once again better times are ahead for the bond market. This may seem counterintuitive in an environment where yields are still near generational lows, economic growth is accelerating, and the feared 'twin deficits'—both current account and budget—are surging. While these headwinds may put upward pressure on yields over the near-term, the ongoing secular trend toward low and stable inflation should ultimately emerge as the dominant influence, allowing for a continuation of the trend toward both lower real and nominal Treasury yields. While it may sound perverse, a further decline in yields would, in fact, represent no more than a return to the types of yield levels that existed for some decades before the chaotic fixed income market experience of the last thirty-some years.

### Yields Have Actually Been Unusually High...

From a long-term perspective, we are actually emerging from a period of unusually high interest rates. In the graph below, we can see that prior to the 1960s, long-term Treasury yields actually spent the vast majority of the last century well *below* 4%.



Source: Merrill Lynch as of 12/28/02

In comparison to recent history, it seems amazing. However, for developed countries with stable policies, such conditions are not unique. For an example, prior to the last few decades, long-term interest rates in the UK averaged less than 4% for the previous 300 years!

### Why Have Yields Been So High?

To what can we attribute the interest rate 'Mount Fuji' of recent decades? While a number of factors played a role, including loose fiscal policy and OPEC, the primary driver was monetary policy. Through the 60s and 70s, inflation—which is primarily a monetary phenomenon—ran wild, with the ensuing secular rise in interest rates causing substantial losses for fixed income investors. By the 80s, however, investors had wised up to the inflation demon and began to price bonds with a sufficient yield cushion not only to account for a high level of inflation, but also to compensate them for the high level of bond market volatility.

Then, with the arrival of Paul Volcker at the Fed in 1979, monetary policy turned its focus toward taming inflation. Real interest rates—i.e., nominal interest rates less inflation—were kept high, which served to curtail excess

demand and thereby leach inflation from the system. On average, during the 1980s and 1990s real interest rates averaged 4.4%.

Some twenty years later, the Fed has succeeded in bringing inflation back to its rightful “zone”—that of price stability. Bond yields, though, may have yet to fully adjust.

**What’s ‘Normal?’**

So what’s a normal level for long-term Treasury yields? We will use the ‘divide and conquer’ approach. Let’s break the workaday nominal yield into two parts, estimate the value of each, and then combine to get our estimate. We start with the simplified equation for ‘yield’ below:

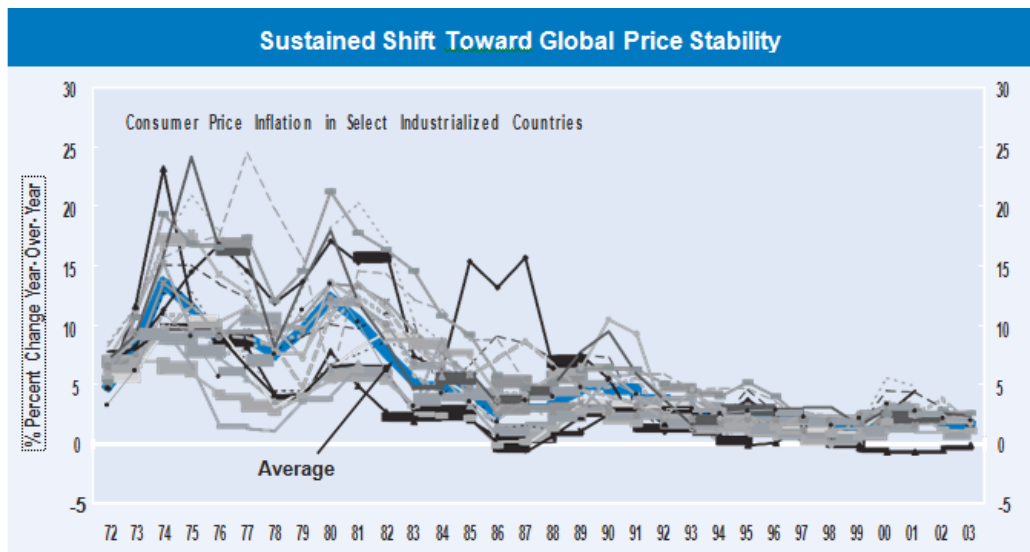
$$\text{Nominal Yield} = \text{Expected Inflation} + \text{Real Yield}$$

This equation crudely divides yield, conceptually, into two components: 1) an expected inflation component, and 2) a real yield, or real return, component. The expected inflation component represents the compensation that investors require to maintain their purchasing power over the life of the bond investment. Additionally, above and beyond maintaining their purchasing power, investors demand compensation for sacrificing the use of their money and subjecting themselves to the fluctuations of the bond market, i.e., a real yield, or real after inflation rate of return.

**Market Consensus Provides Reasonable Forecast For Expected Inflation**

For a forecast of the expected inflation component, we’re reasonably comfortable with the current market consensus forecast for core inflation of 1.5%. While forecasting involves a leap of faith, we believe the Fed has established itself as a credible inflation fighter, and that they will continue to be successful in controlling inflation.

In fact, far from a fluke, we see the recent trend to low inflation in the U.S. as just one part of a global shift to monetary policies oriented toward price stability. One by one, central banks around the world have been granted independent mandates to control inflation. As shown in the graph on the next page, their success in wresting inflation to the zone of price stability is unmistakable. Western European countries—many of which suffered from high inflation—have turned over responsibility for their monetary policy to the price stability focused European Central Bank, with many Eastern European countries now slated to follow suit. Inflation has tumbled across Asia, including countries both large and small, and looking through the statistical noise of the crises, one can even see clear signs that inflation rates have fallen in South America as well. So while inflation will continue to fluctuate, we believe that the Fed, as well as many other central banks both large and small, should prove successful at maintaining inflation at or around current levels.



Source: Bloomberg

### Estimating a Normal “Real Yield”

While real yields, as noted earlier, have averaged over 4% since the 1980s, longer-term averages are in fact much lower. For example, from 1925 through 1965—i.e., before the inflation maelstrom—real yields averaged about 1.3%. Looking at the past eighty years in its entirety, the average real yield for 10-year Treasuries has been 2.1%. Assuming we are returning to conditions of price stability, we believe it is reasonable to expect that real yields should also revert toward longer-term averages. So, we’ll take 2% as our estimate for a normal level of real yields.

With our “expected inflation” and “real yield” estimates in hand, we now return to our original yield equation. Plugging in our consensus inflation forecast of 1.5% and long-term average real yield level of 2%, we arrive at a normal nominal yield level for 10-year Treasuries of 3.5%. This new/old normal level for 10-year Treasury yields—based on historical real yields and projected inflation—is compared with historical averages for a range of periods in the table below.

10-Year Treasury Yields, Past and Future					
	Good Old Days	Inflation Mayhem	Shock Therapy	Continued Tight Policy	‘Normal’ Policy
Time Period	1925-1965	1965-1979	1980-1989	1990-Present	2004+
Real Yield (%)	1.3	0.8	5.0	3.3	2.0
Inflation (%)	1.6	6.2	5.6	2.9	1.5
10-year Treasury Nominal Yield (%)	2.9	7.0	10.6	6.2	3.5

Source: Lehman Brothers, Bloomberg and Prudential Investment Management

### Economic Recovery, Falling Dollar, Budget Deficit, Demographics: All Other Things Are Not Equal...

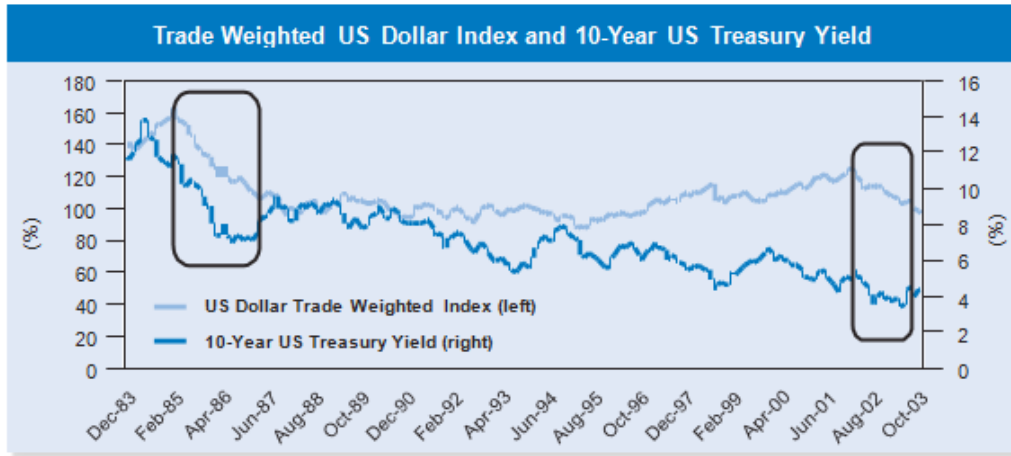
While 3.5% might represent a good estimate for the long term average level for 10-year Treasury yields over the market cycle, we now turn our attention to other oft cited factors that, over the near or intermediate term, could push yields away from 3.5%.

First, the current economic recovery, fueled by a tidal wave of fiscal and monetary stimulus, should be expected to keep interest rates somewhat above normal levels. At present, the 10-year Treasury yields 4.4%, some 90 basis points above our estimated ‘normal’ level. While one could certainly argue that the recovery should bring further upward pressure on interest rates, the market—perhaps miraculously—may be suggesting otherwise.

Despite the surge in growth, long-term interest rates have yet to exceed their highs of late summer. The market could be telling us that in a world of price stability, long-term Treasury yields may simply peak at lower levels than in recent cycles. In short, if we haven’t seen a 5% yield on the 10-year Treasury note or a 6% yield on the 30-year Treasury bond yet, that may be a sign that even during the ‘upswing’ portion of an economic recovery, we should not expect to see long-term interest rates much higher than they have been during the past few months. The late summer’s 4.6% yield on the 10-year Treasury—as low as that seems—may have been the high water mark for 10-year Treasury yields for this cycle!

Next we turn to the U.S. dollar. On the heels of the communiqué following the G-7’s most recent meeting in Dubai, fears have escalated of a falling dollar causing a crash in the U.S. Treasury market. History, however, shows the dollar to be a very unreliable indicator of future yield movements. As shown in the graph below, over the past fifteen years the relationship between the dollar and 10-year U.S. Treasury yield was quite unsteady, with periods where yields and the currency trended in either the same or opposite directions.

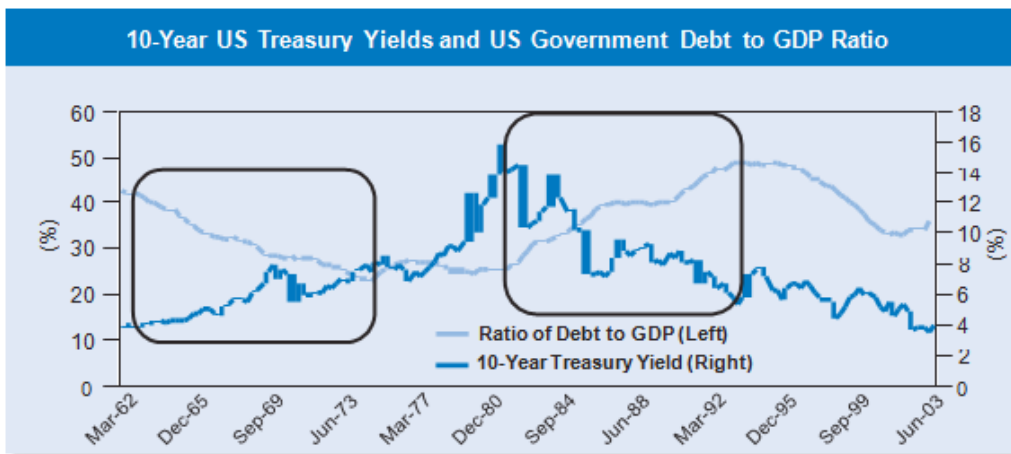
However, if we are particularly concerned about dollar weakness driving interest rates higher, the past two decades provide two striking counter examples. From 1985 through 1986, as the dollar lost over a fourth of its value on a trade-weighted basis, Treasury yields fell peak to trough, from 12% to 7%. More recently, between January 2002 and September 2003, as the dollar lost one fifth of its value, Treasury yields, again peak to trough, fell over 200 basis points. So contrary to what one might expect, yields have actually experienced significant declines during the only two major dollar corrections of the past twenty years. In summary, experience raises serious doubts about the notion of a dollar decline leading to higher interest rates.



Source: Bloomberg as of 11/28/03

Next, we look at the fiscal situation. While it may seem logical to assume that a shift from a substantial budget surplus to huge deficit, and the attendant increase in government debt, should lead to higher interest rates, a review of history would actually counsel against jumping to conclusions.

For example, between 1963 and 1974 as the stock of outstanding federal debt declined from 42% to 23% of GDP, rates rose spectacularly from 4% to 8% as the surge in inflation proved the dominant driver of the bond market. Then, between 1981 and 1993 as a substantial budget deficit lifted the stock of outstanding federal debt from 25% to 49% of GDP, 10-year Treasury yields actually fell from just under 16% to nearly 5%. While high government issuance over that period undoubtedly had some upward impact on interest rates, once again that influence was swamped by the disinflationary undercurrent of the day.



Source: Bloomberg as of 9/30/03

No doubt, the recent large swing from surplus to sizeable deficit has been shocking. Nonetheless, a review of history argues against forecasting interest rates based on the government's finances.

On the other side of the ‘all other things are not equal’ ledger, longer-term structural and demographic factors may produce downward pressures on interest rates. From a structural perspective, at institutions both private and public, both domestic and foreign, and across countries both developed and developing, a shift is in progress toward pre-funded, rather than ‘pay as you go’, pension and benefit schemes. This, over time, should lead to higher investment levels in marketable securities. Additionally, from a demographic perspective, in the developed nations at large, as well as in the U.S. in particular, the general aging of the population, combined with longer life spans, could lead to an increase in demand for income producing securities, which in turn may serve to push interest rates lower, accelerating the move toward historical norms.

### Interest Rate Conclusion

In summary, while factors such as the economic recovery, the fate of the dollar, and the budget deficit must be watched, they may ultimately prove to be only a sideshow in the current interest rate drama. The domestic, and in fact global, advent of price stability, combined with the secular return toward more normal levels of real interest rates, may in turn cap nominal interest rates at lower levels than we’re used to seeing in an economic recovery.

Going forward, interest rates may continue to be surprisingly low, even though we are actually just returning to historically more normal levels of interest rates.

### Practical Implications for Investment Strategy

If our premise is correct and rates continue their secular decline, the following represent a few key investment implications for plan sponsors:

#### 1. Bonds Could Continue to Post Solid Returns for a Few More Years

A drop in yields towards the normal levels discussed earlier could propel returns on longer Treasuries to high single digit, and for the longest issues even low double digit levels, over the next few years. And, any flattening of the yield curve toward historical norms would further boost the returns of long duration issues.

#### 2. Duration Extension: Probably Still Make Sense

Most pension plans’ fixed income allocations are managed versus intermediate duration market-based benchmarks, such as the Lehman Aggregate and Citigroup “BIG.” Since plan liability durations are generally significantly longer, however, this leaves a duration gap, where the liabilities have a much higher sensitivity to interest rate movements than the assets. In a continuation of the secular bull market in bonds, the value of the plan’s liabilities will rise much faster than the assets, reducing the plan’s surplus. To protect the plan from this “liability bonanza” scenario, sponsors can extend the duration of their fixed income assets, thereby decreasing risk, and possibly increasing return. While conventional wisdom at this level of interest rates might dictate the opposite, if one believes interest rates will either continue to decline towards long-term averages, or even just fluctuate around current levels, then extending duration still makes sense as a means of reducing both surplus volatility and the plan’s long-term cost of funding its liabilities.

#### 3. Spread Sectors Should Benefit

When interest rates decline, in an effort to maintain their income, financial institutions buy more non-government and lower quality spread product, which results in a narrowing of spreads for non-government products. Bond investors recently witnessed this first-hand in Japan, where the progressive decline in yields triggered a scramble for income that took corporate spreads to incredibly narrow levels despite a marked decline in credit worthiness.

Additionally, the relative supply differential between the U.S. government and corporate sectors is another factor that should drive spreads narrower over the next few years. While government issuance is an unreliable predictor of absolute rates, it is nonetheless a significant predictor of relative rates. In contrast to corporate issuance, which is expected to be relatively low over the next few years as corporations work to improve their credit profiles, until the budget deficit is trimmed, Treasury issuance will remain comparatively high. This supply/demand imbalance, in combination with the potential “scramble for income” described above, should cause spreads to contract, and thereby boost returns for the non-government sectors. The highest spread (and highest risk) sectors—such as high yield and emerging markets—should benefit the most.

#### 4. Alpha-Generating Trading Opportunities Should Remain

While one might expect much less volatility in a low yield environment, experience suggests otherwise. For example, in the recent global bond market correction, Japanese 30-year bond yields rose 150 bps (from 1.0% to 2.5%) from their lows, while 30-year U.S. Treasury yields only rose 130 bps (4.2% to 5.5%)! A 150% rise for the low yield market, and an approximate 30% rise for the higher yielding market? Just goes to show that ‘low’ doesn’t necessarily mean ‘stable!’

Since interest rate moves are ultimately driven by changes in inflation and growth, the ever-present fluctuations of the business cycle should continue to create interest rate volatility, even as the average level of rates declines. So while a return to a low yield environment will eventually result in lower bond market returns, interest rate volatility will continue to provide managers with tactical yield curve and duration trading opportunities to add value versus their benchmarks.

#### Summary

In recent decades monetary policy makers have managed to tame inflation. This return to an environment of low and stable inflation contributes to overall economic stability, and allows risk premiums to fall. In the case of bonds, this should allow both real and nominal yields to generally continue to decline toward levels that existed before the 60s. As a result, fixed income securities should provide solid real and nominal returns over the next few years while also providing a buffer against the volatility of the other higher risk asset classes.

Since long duration securities are likely to benefit the most from the drop in interest rates, it may still make sense for plan sponsors – both from a strategic as well as tactical perspective – to extend the duration of their fixed income allocations. In addition to the reduction in surplus volatility, plans may also benefit from higher returns. Increasing exposure to spread product now may also prove profitable as relative supply and investors’ “reach for yield” drive spreads narrower, and thereby boost the returns of the credit and mortgage sectors. Finally, fixed income market volatility is likely to remain, even in a low interest rate environment, leaving tactical trading as an important source of alpha generation for fixed income managers.

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