Rising Yields: Doom or Opportunity?

Introduction
It is commonly thought yields are going to go higher. But, if this is so, then it is already reflected in market pricing. And if it is already reflected in market pricing, then it will be very difficult to profit from betting on a rising rate environment.

The determining issue for fixed-income positioning is not whether yields are likely going to rise, but also whether they are going to rise faster or slower than is reflected in forward yields. Presently, the yield curve is so steep (Exhibit 1) that forward yields are 4.50% or higher for longer-maturity TBonds on forward curves three years or more out in the future. 4.50% TBond yields were typical in cash markets throughout 2004 to 2005, before the onset of financial crisis and the Great Recession.

In effect, market pricing is currently consistent with a return to pre-crisis yield levels by 2016. However, there is no indication that the US economy is returning to pre-crisis conditions. If pre-crisis growth trends should eventually reemerge, yields might indeed be expected to return to pre-crisis norms, but only after many years of robust economic recovery. In the meantime, yields could be expected to hold below normal in accord with the depressed economy. If, instead, pre-crisis growth trends are gone for good, and normal trend growth in the economy is much lower than in past decades, then normal yields could occur a lot sooner, but our notion of “normal” yield levels should be substantially lower than pre-crisis yields in reflection of those slower growth trends.

In either case, post-crisis economic realities argue against an imminent return to pre-crisis bond yield levels.

Executive Summary
- For fixed-income investing, the crucial issue is not whether yields are going to rise or fall, but whether they will end up higher or lower than the forward yields embedded in the cash yield curve.
- Current yield curves are so steep that forward bond yields are 4.50% or higher on forward curves three years or more out. So, long bonds are an unfavorable investment now only if you expect bond yields eventually to crest above 4.50%.
- Pre-crisis experience, long-term historical performance, and recent economic growth trends all suggest that TBond yields should eventually settle below 4.50%, probably in a range of 3.75%–4.00%, given current inflation trends.
- If Treasury yields normalize alongside a normalizing economy, credit spreads should normalize as well. Spreads are generally wide at present, especially so for long credit and lower quality issues.
- The case can be made that long corporate bonds and even long UST are attractive buys at present, despite the acknowledgement that we will be in a rising rate environment for the next few years. Most of this rate rise is already priced into the long end of the curve.

Exhibit 1
Current Spot Yield Curve

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In either case, post-crisis economic realities argue against an imminent return to pre-crisis bond yield levels.
And if long-maturity yields don’t reattain pre-crisis levels in the next few years, then forward yields overstate the upside potential for bond yields, in which case long bonds would be a very favorable investment presently, even with the prospects for rising yields.

In coping with a rising rate environment, there are some tactical ploys investors should consider. Whatever maturity investors choose, they are typically better off letting that maturity roll down over time, rather than maintaining a target maturity or duration. This will be the case so long as the yield curve maintains a positive slope. Similarly, yields can be expected to normalize alongside a normalizing economy, but a normalizing economy should mean normalizing credit spreads, and this potential for spread compression points to corporate bonds as performing better than US Treasuries (UST) in a rising-rate environment.

All these stratagems are based on a belief that inflation rates will remain within recent ranges. If you staunchly believe that inflation will be rising soon, we have other offerings that will be of more appeal to you. However, in an environment of inflation sustained around recent rates, it can be argued that present market pricing already reflects a nearly worst-case scenario, in which case long-maturity positions would be an attractive play in the fixed-income space, despite the potential for rising yields.

Forward Yield Curves Already Have Further Sharp Increases In Bond Yields Priced In

Forward yield curves provide breakeven yield levels for various maturity bets. For example, at current 1-year and 2-year yields of 0.13% and 0.45%, respectively, 1-year yields would have to be about 0.77% one year from now for an investor today to “break even” between buying and rolling 1-year TBills or buying and holding a 2-year TNote. Whether you think 1-year yields will be above or below 0.77% one year from now determines how you would choose between 1-year and 2-year maturities right now. That 0.77% rate is the one-year-forward 1-year yield.2

Similar calculations determine forward yield curves covering any maturity at any point in the future. Forward yields are often described as the market’s expectation of future rate levels, but it is more informative to describe them as breakeven points of future yields for different maturity plays now. Exhibit 2 shows forward...
yield curves one to 10 years out based on September 13, 2013 market pricing. Exhibit 3 lists values on some of these same forward curves for the reader’s convenience. These can be used to get a better indication of the importance of forward yields for investing.³

Consider the three-year forward curve and a three-year holding period. The “risk-free” yield for such a holding period is the 3-year instrument, where a 1.02% return can be locked in for the next three years via today’s spot curve. Now, compare that to buying a 10-year instrument today, at a 3.05% yield. In three years, that investment will have rolled down to a 7-year maturity. The three-year forward 7-year yield is 4.07%. This means that 7-year yields could rise to 4.07% by 2016 and a 10-year note bought today would still provide the same return as a 3-year note “locked in” today. At any lower level of 7-year yields in 2016, buying the 10-year today would be a winner versus the 3-year.

The 2003 to 2005 pre-crisis average for 7-year TNote yields was 3.84%. So, intermediate note yields would have to push well through pre-crisis levels by 2016 in order for an investor to be merely indifferent between 10-year and 3-year maturities today.

Now, consider the short end of the curve. In order for cash positions to match the three-year holding period return on a 3-year note, cash yields would have to rise in line with the those shown on the forward curves in Exhibits 2 and 3. Cash yields would have to be 0.56% a year from now, 1.41% two years from now, and 2.49% in three years to match the 1.02% return on a 3-year note today. Yet, Federal Reserve (Fed) officials continually tell us that they will not begin to raise short rates until Spring 2015 and that the funds rate will not hit 2.00% until late-2016. In order for cash to be a profitable investment today, short rates will have to rise sooner and faster than what the Fed states to be its intentions. This is not impossible, but is it a risk worth taking?

Similar points can be made with respect to the other forward curves and maturities shown in Exhibits 2 and 3. As can be seen there, forward long bond yields are around 4.50% for all forward curves three or more years out. Yet, the long bond traded steadily in a 4.50% to 5.00% range over 2003 to 2005, prior to the financial crisis. So, cash TBond yields could rise to pre-crisis levels in the next three years, and the returns on long TBonds would still be comparable to those on shorter maturity instruments.
Once again, the relevant issue is not whether yields are likely going to rise back to normal, but also whether a return to normal will result in yields rising faster and higher than what is reflected in today’s forward curves. This raises the issue of just what “normal” yields would be in the years ahead.

Where Might Yields Settle?

**Historical Norms.** Inflation and yields were in secular uptrends from 1955 to 1980, and both have been in secular downtrends since then. Nothing of the last 60 years’ experience can be considered “normal.” All our personal perceptions of “normal” yields are colored by the secular trends of recent decades.

Fed data on long Treasury bond yields extend back to 1919. Over the 94 years since then, the median TBond yield level has been 4.32%. If we confine the analysis to the pre-inflation era (1919–60), the median drops to 3.15%. Data on high-grade (AAA) corporate bonds from the National Bureau of Economic Research and the Fed extend back to 1857. The 157-year median for this series is 4.46%. Given normal AAA Treasury spreads, that level implies a “normal” long TBond yield of about 3.80%. For the pre-Inflation period (1857–1960), the normal level is about 3.40%. (Exhibit 4).

Finally, against GDP deflator inflation, median real TBond yields since 1919 are 2.24%. With this inflation measure presently running about 1.50%, this implies a “normal” TBond yield level of about 3.75%.

So, various takes on long-term norms suggest that given current inflation rates, a normal level of long TBond yields would most likely be in a 3.75% to 4.00% range, but no higher than 4.32% and no lower than 3.15%. This compares with a current yield of 3.50%. This analysis of historical norms indicates that bond yields are likely at most 25 basis points (bps) below normal levels and may already be at normal levels. Meanwhile, all the norms stated here are below bond yields on current forward curves.

**Yields and Economic Growth.** Exhibit 5 tracks levels of long TBond yields against a smoothed, lagged rate of growth in nominal GDP. The chart portrays an interesting coherence between these, suggesting TBond yields eventually move to levels equal to the trend rate of growth in nominal GDP.
Note, though, that this relationship failed to hold in the 1930s, when growth was extremely rapid as the economy was recovering from the depths of the Depression. Presently, the US economy remains more depressed than at any time since the 1930s. If a robust recovery were to emerge, it would still take many years of such rapid growth to get the economy back to normal, during which period yields could be expected to remain below eventual normal levels, just as was the case in the 1930s and 1940s.

So, if US growth potential is undiminished from pre-crisis rates, consistent with 2.6% or better real growth and about 4.10% or better nominal GDP growth, TBond yields could eventually sustain levels of 4.10% or higher, but only after many years of strong recovery. (It would take seven years of 4% real growth to re-attain a 2.6% growth GDP trend path.) So, even those 4.10% TBond yields would not be expected to be achieved for quite a while.

What if US growth potential has been permanently impaired below pre-crisis trends? Then no such extended burst of rapid growth would be expected, and “normal” yield levels could settle in soon. However, in that case, present nominal GDP growth rates of 3.5% would seem to imply “normal” TBond yields no higher than 3.50%, right where we are, presently.

So, comparisons of yields to trend GDP growth result in much the same expectations for bond yields as we derived from analysis of yield history, at least over the next few years. An imminent move in TBond yields above 4% would not look to be consistent with current economic realities, regardless of whether those realities are predicated on pre-crisis growth trends or on more modest growth potential.

Yes, Fed models center on higher expected levels of “normal” TBond yields. Those models are likely focused on post-1980 experience. It is doubtful that such models have successfully forecast the declining yield trends of the past 30 years, let alone the swings of the last five years. Most importantly, it is even more doubtful that the Fed would persist in pushing bond yields to the levels of Staff models if the economy were not capable of sustaining them, as our analysis here would suggest.
Recent, Pre-Crisis Experience. Speaking of Fed policy, a look at early 2000s experience is instructive. First, as we have mentioned previously, TBond yields traded in a 4.50% to 5.00% range then, despite decent economic growth, low unemployment, and rampant housing speculation. Second, with the yield curve extremely steep when Fed tightening commenced, an increase of 425 bps in the federal funds rate failed to effect any further increase in bond yields despite then Fed Chairman Alan Greenspan’s continued frustration with this failure.

This was the “conundrum” period. Again, relative to conditions then, the economy and inflation are more subdued, Fed officials even more vocal about future intentions, and the yield curve almost as steep. It could well be that Fed rate hikes, when they finally come, will be just as unable to push bond yields higher as was the case 10 years ago.

Yield Normalization and Spread Normalization
We’ve discussed possible normal levels for Treasury yields as the economy normalizes. Another issue for fixed-income investors is credit spreads. While spreads have contracted sharply from their crisis peaks, they remain elevated relative to pre-crisis lows. It is commonly understood that current credit spreads reflect not just default risk, but also the liquidity premium that Treasuries offer relative to credit should financial turmoil resurface.

As the economy normalizes enough to return Treasury yields to normal levels, it is only to be expected that credit spreads would normalize as well. This would offset some of the negative impact of higher Treasury yields on corporate bonds. The relative incidence of such offset effects across corporate bonds depends on the relative excessiveness of current spreads for various maturities and qualities.

Exhibit 7 shows the history of option-adjusted spreads for various credit indices. Intermediate credit spreads are presently 115 bps, above a historical normal low of 60 bps. Long credit spreads are 189 bps, above a normal low of 80 bps, and high-yield spreads are 439 bps, above a historical low of 300 bps. So, long credit

Exhibit 6
TBond Yields and Fed Funds During 2003–2006 “Conundrum”

Source: Federal Reserve Board, Dept. of Treasury, Bureau of Economic Analysis
and high-yield have the most potential for spread compression in the event of a normalizing economy, and
the longer spread duration of long credit magnifies the benefits this sector would receive from a process of
normalization of the economy and of yields.

Investment Returns Under Different Yield Scenarios
We’ve seen that the current cash yield curve is so steep as to imply forward yields around 4.50% for maturi-
ties past seven years and forward curves three years and out. We’ve pointed out that such levels are at or
through the levels seen prior to the financial crisis, and we’ve argued that both long-run historical norms
and economic growth considerations suggest that long bond yields should settle at levels little different
from where they are, presently. We’ve also argued that the process of normalization should be accompanied
by compression of credit spreads, especially at longer maturities and lower qualities. The inference is that
long bonds—especially long corporate bonds—should actually outperform shorter maturities over the
next few years.

We present some specifics to this conclusion here under different hypothetical scenarios as to where yield
levels might eventually settle. Our analysis above focused on likely levels for long TBonds, but the eventual
slope of the yield curve matters as well. If the yield curve is normally, positively sloped when bond yields have
normalized then shorter maturities will hold up relatively better against longer maturities. However, if the
yield curve is flat or inverted when bond yields have normalized, that would obviously reduce prospective
returns on shorter maturity instruments relative to those on bonds.

Suppose long yields normalize in five years at a long TBond yield of 4.00%, with the yield curve holding a
normal, positive slope. Exhibit 8 portrays returns under this outcome for various maturities and qualities. With
long yields changing little in this scenario, it is not surprising that long bonds deliver the best returns across
Treasury maturities. And with long credit spreads also projected to narrow substantially, long corporates
provide the best overall returns in this event.5,6 Intermediate credit is in the “belly of the beast,” right in the
maturity range where Treasury yields are likely to rise most sharply, something that their modest potential
for spread compression does not much compensate for.
Note also that the table shows better returns for “buy and hold” 30-year TBonds, where maturity is allowed to wind down over time, than for “buy and roll” 30-year TBonds, where holdings are regularly rolled to maintain maturity/duration. The same results would hold for other maturities as well. So long as the yield curve retains a positive slope, letting maturities roll down the yield curve provides a boost to returns in a rising-rate environment, regardless of the maturity chosen.

What if bond yields should normalize at that same 4% level, but with a flat or inverted yield curve? In that event, holding period returns on long bonds would be the same as listed in Exhibit 8, while returns for all other assets would be lower, because of the higher projected levels for short and intermediate yields. Opposite eventual 4% TBond yields, long bonds offer the best prospective returns even with a positively-sloped yield curve, and they would be an even better bet with a flatter curve.

What if bond yields should rise higher, normalizing at 4.75%, and the yield curve holds a normal, positive slope? Exhibit 9 tells the story in this event. Long TBonds would not dominate other maturities, but neither would they be blown out of the water. Their return would fall only about 40 bps short of that of 5-year notes (that mature) and about 100 bps per year below that of 10-year notes (that roll down to 5-year notes).

What’s more, long corporates would still provide the best holding period returns—and still dominate intermediate credit—thanks to their potential for substantial spread compression. This scenario allows for bond yields rising back to pre-crisis trading ranges, and still long corporates provide the highest prospective returns, with long UST providing only a modestly lower return than intermediates.
Finally, with 4.75% bond yields and a flat or inverted curve, returns for long UST and corporates would be the same as those in Exhibit 6, but returns for short and intermediate maturities would be lower. Long duration fixed-income provided okay prospective results opposite 4.75% bonds and a positively-sloped curve. It would be a winner opposite 4.75% bond yields and a flatter curve.

The upward slopes assumed for the yield curve in Exhibits 8 and 9 serve mainly to understate the relative efficacy of long bonds versus other maturities. They also work in favor of buy-and-hold strategies versus buy-and-roll. The ultimate slope of the curve (versus the slope of the current forward curve) is important for curve plays or for choosing among various matched-duration positions across maturities. For the more basic issue of choosing between long and short maturities presently, the crucial factors are that current forward long bond yields are only modestly above current cash bond yields and that those forward yields are already at or above the “normal” levels suggested by history or economic growth considerations.

Should long Treasury yields level off at what we identified above as long-term historical norms, long maturity positions would appear to be the best place to invest presently. Even if bond yields rise to the pre-crisis trading ranges, long Treasuries would still not suffer a disaster, and long corporates would still be top performers. Our findings here held for a five-year holding period, but similar results accrue for any holding period beyond three years, given our analysis and the forward yield curve presently in place.

**Conclusions**

While we have found long bonds to offer attractive returns presently, they of course are not bulletproof. Project yields to 6%, and long bond returns become unfavorable. However, this raises the question of how long yields can get to 6%, a full percentage point above pre-trading ranges.

Accelerating inflation could obviously do it. But how is accelerating inflation going to break out in an environment of a severely depressed economy and monetary policy unable to stimulate growth in the economy or even the money stock, thanks to continuing dysfunction in the banking system? Without a credible inflation threat, we are left with an economy struggling to make headway in the wake of a severe recession and where the reality is substantially lower inflation than pre-crisis. In this environment, it makes sense to think that bond yields will be sustained at levels lower than was the case prior to the crisis, in which case it is hard to forcefully argue that long yields have much, if any, further upside potential over the next few years.

Clearly, markets have panicked in the wake of Fed remarks that quantitative easing tapering could begin soon, but it looks as though that panic has taken long yields to levels where subsequent increases, if any, will be very slight and where most of the incidence of further yield increases will be in the short and intermediate segments of the yield curve. And if long rates indeed hold relatively steady, long bonds’ much higher present carry and minimal potential for further price declines makes them attractive relative to other maturities. This is especially true for long corporate bonds.

Yes, yields are likely going to rise, but everybody knows that, and it appears to be fully reflected in the yield curve. In order for short maturity positions to make sense now, yields would have to rise faster and higher than what is reflected in current forward curves. While this is a possibility, it is one that is hard to square with current economic realities.

In coping with a rising rate environment, investors should consider the possible benefits of “roll down” strategies and of “rotations” out of UST into credit and high-yield. However, with respect to reducing maturities, possibly to cash, current market pricing argues against that being a profitable move.
Endnotes

1. All pricing stated in this paper is as of 13 September 2013. The calculations and resulting conclusions here are illustrative of how an investor might proceed given market pricing as of that date. Market pricing will have changed by the time the reader sees this material, and the relevant calculations for investors will then change commensurately with that movement.

2. To help clarify the analysis, we use spelled out numbers to refer to years out on a forward curve and numerals to refer to the maturity of an instrument on a forward curve. So, “three-year 5-year forward yield” refers to 3-year notes on the forward curve three years out, while “five-year 3-year forward yield” refers to 3-year notes on the forward curve five years out.

3. The FWCV page on Bloomberg calculates such forward yield curves and is the source for the forward curves in the exhibits here. Strictly speaking, Bloomberg’s forward yields pertain to swaps, not UST. Treasury forward yields could be determined from the Treasury cash yield curve or, alternatively, by subtracting spread swaps from forward swap yields. We use forward swap curves as per Bloomberg here because these same data can easily be obtained by the reader to check on forward curve pricing when this paper is actually read. As it happens, swap spreads for long-duration instruments are essentially zero at present, so for long duration instruments, forward swap yields and forward Treasury yields are essentially identical. And since comparing long bond yields to historical norms and to current forward yields is the dominant focus of this paper, the use of forward swaps curves here should not be an issue for investors.

4. This is the relevant issue not just for questions of which maturity to choose, but also for whether to short or long various instruments. Futures contracts are priced at discounts to cash markets that exactly reflect the path of forward curves such as those depicted in Exhibits 2 and 3. So, even if one knew for certain that bond yields were going to rise, shorting T-Bond futures would still not be profitable unless cash yields rose faster than indicated by forward rates. The situation is identical for futures contracts on other instruments.

5. Our calculations in Exhibit 8 allow for a 35 bps narrowing of intermediate spreads to 80 bps, a 69 bps narrowing of long credit spreads to 120 bps, and a 79 bps narrowing of high yield spreads to 360 bps. These projected OAS levels are actually still higher than pre-crisis norms/lows of 60 bps, 80 bps, and 300 bps for intermediate credit, long credit, and high-yield, respectively. A projected return of spreads to previous cycle lows would make the relative returns on long credit look even better than is portrayed here. The projected returns on credit also allow for ongoing credit losses on these instruments, due to the effects of downgrades and defaults. Projected annual losses from these effects are 40 bps per year for intermediate credit, 50 bps per year for long credit, and 150 bps per year for high yield.

6. A recent Western Asset white paper, “Keeping Up With Your Liabilities,” portrayed long credit as providing only meager excess returns historically. Those historical results are not inconsistent with the projected results here. Some of the historical hit to long credit’s excess returns came from spread widening over recent decades and some from annual credit losses of around 75 bps per year. With spreads especially wide presently, we project spread compression in the future, which will serve to boost excess returns on long credit. Meanwhile, the 50 bps per year of credit losses embedded in our results here—see Footnote 6—are below the 75 bps historical norm, reflecting improved financial conditions for corporations presently in the wake of the 2007 to 2009 crisis. But while future excess returns on long credit can be expected to surpass recent decades’ experience, the same can be said for defined-benefit pension liabilities and high-yield credit. So the “keeping up” issues analyzed in that paper for long credit would still be in play under the conditions discussed here.

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