



## **managing fixed income portfolios in an uncertain interest rate environment.**



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As interest rates have dropped to historic lows, concerns have begun to focus on how to manage fixed income portfolios through a potentially rising interest rate environment. Intuitively, it would seem that a shorter duration bond portfolio would outperform during a period of rising rates, and indeed rapid and severe increases in interest rates across the board would have a larger impact on a longer duration bond portfolio. However, when short rates rise, this does not necessarily mean longer rates will rise by the same magnitude (or even rise at all). In tightening cycles the circumstances which surround the rate hike are relevant, as illustrated in the last two rate tightening periods in 1994 and 2004. Given the current uncertainty about the direction of interest rates, fixed income investors should focus on three areas: (1) maintain a prudent duration, (2) utilize higher yielding bonds, and (3) emphasize portfolio diversification using senior loans and global bonds.

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## historical tightening cycles.

During the 1994 tightening cycle, the yield curve started out relatively flat. As the economy began to rebound following the 1992 recession, rates across the maturity spectrum shifted up in a parallel fashion, resulting in long-term bond underperformance relative to short-term bonds. This sort of parallel interest rate movement is the main risk facing a longer-duration portfolio today. In 1994 however, rates were raised to combat a rapidly growing economy and increasing prices. This stands in stark contrast to the current macro environment with low economic growth, high unused industrial capacity, persistent unemployment, and low capacity for expanded lending.

The current interest rate landscape instead seems to resemble that of 2004. In early 2004, the yield curve was relatively steep. During the tightening cycle over the next two years, interest rates across maturities converged (unlike the parallel movement in 1994) as short term rates moved up significantly

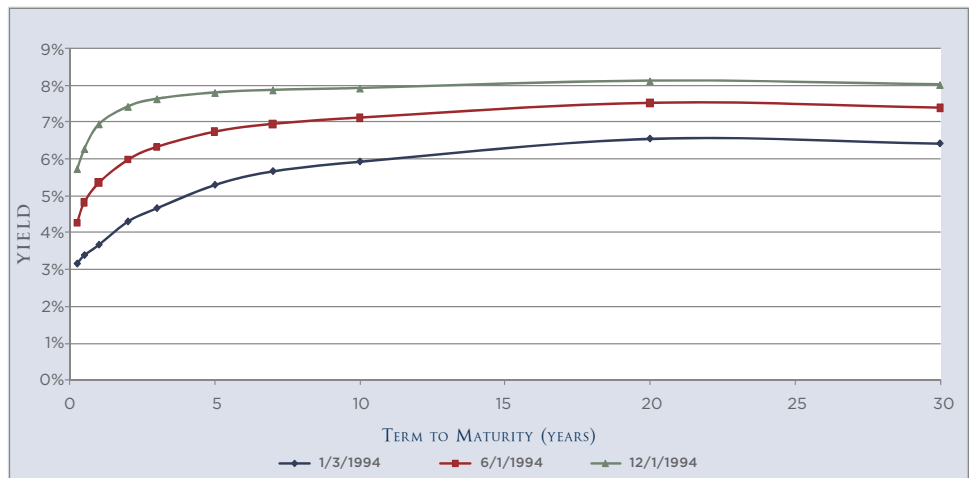
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YIELD RATE CHANGES ON 2 YEAR AND 10 YEAR TREASURY NOTES DURING PAST TIGHTENING CYCLES

	1994 TIGHTENING			2004 TIGHTENING		
	2 yr	10 yr	10 yr-2 yr	2 yr	10 yr	10 yr-2 yr
1 MONTH BEFORE HIKE	4.12%	5.64%	1.52%	2.54%	4.65%	2.11%
3 MONTHS BEFORE HIKE	5.74%	5.99%	0.25%	2.40%	4.12%	1.72%
12 MONTHS AFTER HIKE	7.24%	7.58%	0.34%	3.58%	3.98%	0.40%

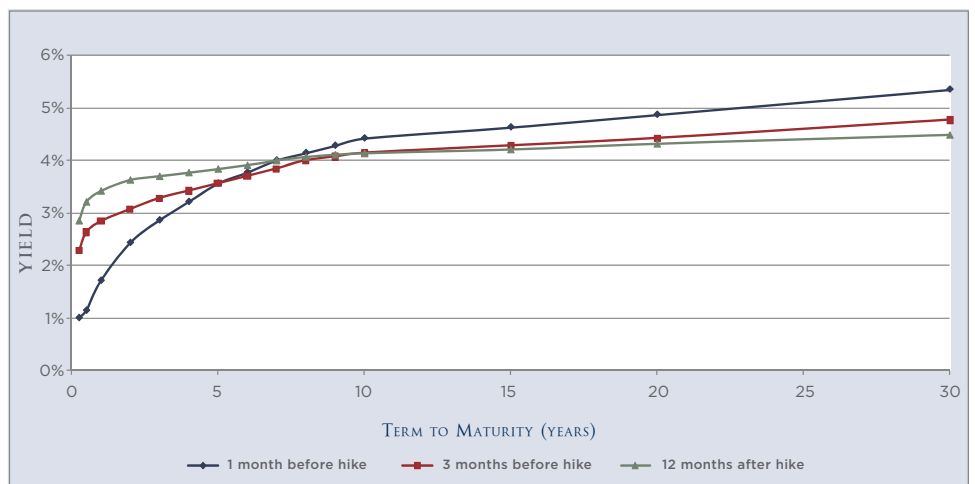
SOURCE: Barclays

YIELD CURVE MOVEMENT IN 1994 FED TIGHTENING



SOURCE: Earnest Partners Sourced from: U.S. Treasury

YIELD CURVE MOVEMENT IN 2004 FED TIGHTENING



SOURCE: Earnest Partners Sourced from: U.S. Treasury

and long-term rates fell slightly, resulting in a flatter yield curve and strong outperformance for longer duration bonds (see right graph). In 2004, the Fed tightening was partially preemptive. Due to a fair amount of slack in the economy and low inflation, the Fed was able to gradually raise rates at a measured pace without having to race ahead of an out of control economy. As long-term inflationary fears remained low, the Fed was able to make small rate increases at a measured pace, and long-term rates actually dropped despite the rise in short-term rates.

## long-duration bond outperformance.

While short-term interest rates are largely driven by the Fed Funds rate, long-term interest rate movements are linked more to assumptions about future inflation, market conditions, deficit spending and GDP growth, which are all built into the price of long-duration bonds. As a result, long-term interest rates tend to move less than short-term rates when the Fed Funds rate begins to rise. Thus, in a steep yield curve environment, longer term bonds tend to strongly outperform during tightening cycles. However, much depends on what type of tightening cycle the rates move through.

During the 2004 tightening, long-term rates actually fell as short term interest rates rose, resulting in a flatter yield curve 12 months after the hike. Today's yield curve displays a similarly steep slope to that of the yield curve before the 2004 raise, but that does not

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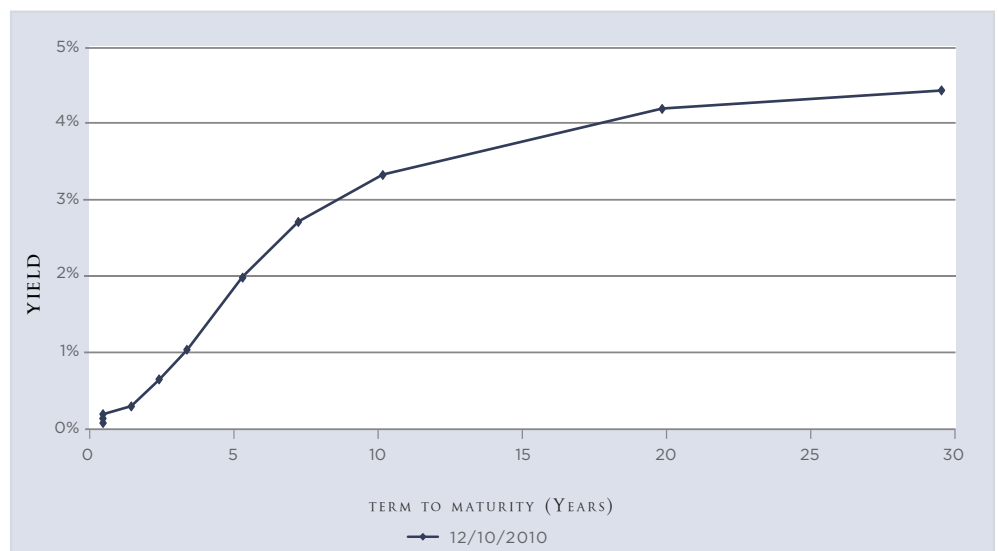
“ THE FINANCIAL MARKETS GENERALLY ARE UNPREDICTABLE. SO THAT ONE HAS TO HAVE DIFFERENT SCENARIOS... THE IDEA THAT YOU CAN ACTUALLY PREDICT WHAT'S GOING TO HAPPEN CONTRADICTS MY WAY OF LOOKING AT THE MARKET. ”

— GEORGE SOROS

TOTAL RETURN (ANNUALIZED)	BARCLAYS INTERMEDIATE TREASURY	BARCLAYS LONG TREASURY	LONG ADVANTAGE	INFLATION RATE	YEARS OF DATA
ALL MONTHS	7.75%	8.65%	0.89%	4.49%	37.08
YIELD CURVE < 0.72% (FLAT)	9.24%	9.55%	0.31%	5.80%	18.50
YIELD CURVE > 0.72% (NORMAL)	6.29%	7.75%	1.47%	3.20%	18.58
CURVE > 1.65% (STEEP)	5.17%	9.03%	3.86%	2.00%	8.92

SOURCE: Barclays

CURRENT YIELD CURVE (12/10/2010)



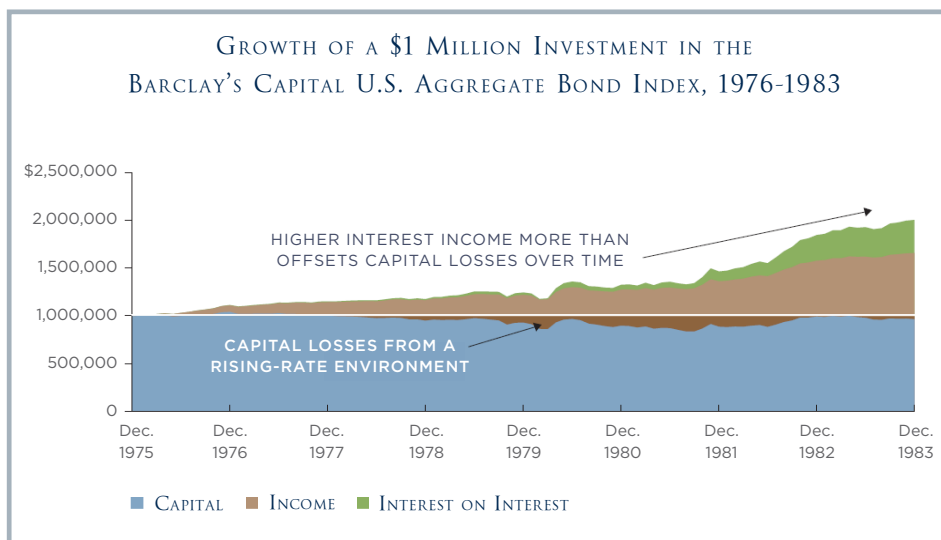
SOURCE: U.S. Treasury

guarantee a similar movement in yields. If short rates rise dramatically and concerns about long-term inflation mount, it is possible that long rates could move higher. However if rate hikes are gradual and preemptive in a slowly growing economy, long-term rates could again benefit from low inflation expectations and a steady economy. The circumstances surrounding the tightening cycle matter.

## the importance of interest income and yield advantage.

For many bond investors, interest income, and the reinvestment of that income, accounts for the largest portion of total returns in the long run. The impact of price fluctuation, even in an extreme rising-rate environment, can be offset by staying the course and reinvesting income. From 1976 to 1981, interest rates for the 10 year Treasury bond went from 6.9% to 15.3%, but an investment of \$1 million in 1976 would still have grown to more than \$2 million (just over \$1 million after adjusting for inflation) by 1983. Given the importance of interest income, capital losses resulting from shifts in rates can be partially blunted by investing in higher yielding securities to create a “yield advantage.” Treasuries are currently viewed as safe-haven investments, but their depressed yields offer little protection should rates begin to rise. Many high quality bonds, including investment grade corporate bonds and those offered by government agencies, are available with somewhat higher yields than Treasuries.

The benefit of a higher initial yield is apparent in the example in the table on the right. The two bonds shown have the same duration and the same initial price. The only difference is the initial yield; at 6%, the corporate bond has a 4.5% yield advantage over the 1.5% coupon of the Treasury bond. Since both bonds have the same duration, when



SOURCE: Vanguard research

### TREASURY AND CORPORATE BOND COMPARISON

	5 yr Duration US Treasury Bond	5 yr Duration BB-Rated Corporate Bond
INITIAL PRICE	\$100	\$100
INITIAL YIELD	1.5%	6.00%
INTEREST RATE INCREASE	+1%	+1%
ENDING PRICE (\$100 - (1% * 5yrs)) → (100 - 5)	\$95	\$95
INTEREST PAYMENT	\$1.50	\$6.00
CHANGE IN PRICE	(\$5.00)	(\$5.00)
<b>1-YEAR TOTAL RETURN</b>	<b>(\$3.50) -3.5%</b>	<b>\$1.00 1.0%</b>

SOURCE: Diversified Trust

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## IMPORTANT NOTES AND DISCLOSURES

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rates increase by 1%, the price of each bond decreases by \$5. This loss of \$5 of the principal is offset by the 6% yield of the corporate bond. The \$6 interest payment minus the \$5 principal loss results in a total gain of \$1 for the corporate bond. In the case of the Treasury however, the interest payment of \$1.50 is not enough to offset the \$5 loss, resulting in a total loss of \$3.50. Although the corporate bond investment entails a measure of additional credit risk, the higher initial yield provides a substantial cushion to offset the loss in principal when rates begin to rise.

### **portfolio diversification.**

While it is inevitable the Fed will ultimately raise short rates, the timing and magnitude of these increases and the economic circumstances surrounding them remain unclear. As a result, it is wise to maintain a diversified bond portfolio that includes securities not directly vulnerable to rising rates, in addition to being mindful of duration and yield advantage. Senior loans and global sovereign bonds offer attractive diversification properties as neither is directly impacted negatively by rising rates.

Senior loans are secured loans made to non-investment grade companies. These securities have floating rates that are typically linked to the London Inter-Bank Offered Rate (LIBOR), or another inter-bank loan rate, plus a fixed spread above that rate. As a result, these inter-bank loan rates tend to move with short-term interest rates, pushing coupons on senior loans upwards as rates rise. This makes senior loans one of the few investments that are a true inflation hedge. Because of historically low central bank rates, the interest rates on these bonds are already nearly as low as possible, although there is still credit risk associated with these securities.

Global sovereign bonds can also provide diversification to a bond portfolio. These bonds represent debt issued by foreign governments, similar to the U.S. government's issuance of Treasury bonds. Because these loans are denominated in a foreign currency, they are only indirectly impacted by rising rates in the U.S. However, sovereign debt can entail additional risks which include

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movements in foreign countries' interest rates or fluctuations in their currencies. Still, a well-managed global sovereign portfolio typically has a relatively low correlation to a domestic portfolio and typically assumes a modest level of risk.

## conclusions.

Although the Fed will likely begin to increase short-term interest rates at some point, it is unclear exactly when this will happen, what the state of the economy will be when it does, and what the exact effect on the yield curve and bond portfolios will be. However, some themes have emerged that can help investors position their portfolios for the uncertain future. Short-term bonds are generally favored over long-term bonds when rates rise faster than expected. Such circumstances typically arise as a result of the Fed's efforts to control inflation or rapid economic growth, as was the case in 1994. Conversely, longer duration bonds tend to outperform when rates rise slowly or if the economy stays in a slow growth/low inflation environment for an extended period of time as evidenced by the 2004 tightening cycle.

Treasury bonds are at an advantage if the economy slips back into a crisis and credit spreads begin to widen. However, investment grade and high yield corporate bonds are favored in nearly every other economic scenario as a result of their significant yield advantage over Treasuries. Senior loans and global bonds can help add diversification benefits to a portfolio in the event rates rise.

Although these strategies can be helpful in positioning a portfolio for rising rates, there is significant uncertainty in the bond universe about the immediate future of interest rates. It is therefore prudent to maintain a portfolio with market duration instead of switching towards a more "strategic" bond allocation with shorter duration. The portfolio should be well diversified with allocations to corporate bonds, global sovereign bonds and other floating rate securities. The goal is to maintain an "all-season" portfolio positioned to preserve capital, but also capable of producing favorable returns during periods of volatility and global uncertainties. ■

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