

MONTHLY

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WHAT DRIVES TREASURY YIELDS?

Introduction

The headline grabbing volatility of global equity markets has driven many investors toward more conservative strategies with a higher allocation to bonds. This has been observed in mutual fund activity, where equity funds have experienced net outflows and bond funds have experienced net inflows in recent years. Unfortunately for today's bond investors this flight to safety has helped to bring US interest rates to all time lows across the entire Treasury curve.

Some of the recent decline in interest rates has been attributed to efforts by the

Fed to spur economic growth through extraordinary policies. These policies included a second round of quantitative easing (QE2), where the Fed expanded their balance sheet by purchasing \$600 billion of Treasury securities. More recently, The Fed also announced that they would sell \$400 billion of short-term Treasuries and buy a like amount of long-term Treasuries. This policy has been dubbed "Operation Twist", because it is intended to twist the yield curve by bringing down long-term Treasury yields. While large purchase programs like these may have an effect on rates in the short-term, we be-

lieve that over time the variation in Treasury yields can better be explained by current and anticipated cash rates.

Because the Fed has been unusually explicit about their future policies over the past year, we have a unique opportunity to observe and quantify how market activity and expected future cash rates impact yields in the Treasury market. In this *Monthly*, we present an analysis of these recent policy events, along with a brief review of our methodology for predicting cash rates, and a discussion of the most common theories of absolute

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CURRENT TOPIC

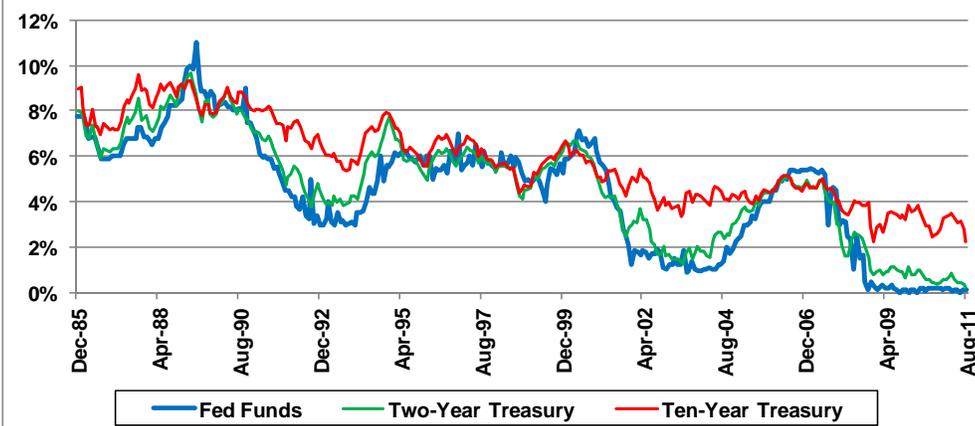
What Drives Treasury Yields?

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Strategy

- We increased exposure to high yield bonds for all portfolios.
- Portfolios remain modestly overweight developed market equity exposure and underweight bond exposure.

Figure 1 - Cash and Treasury Rates

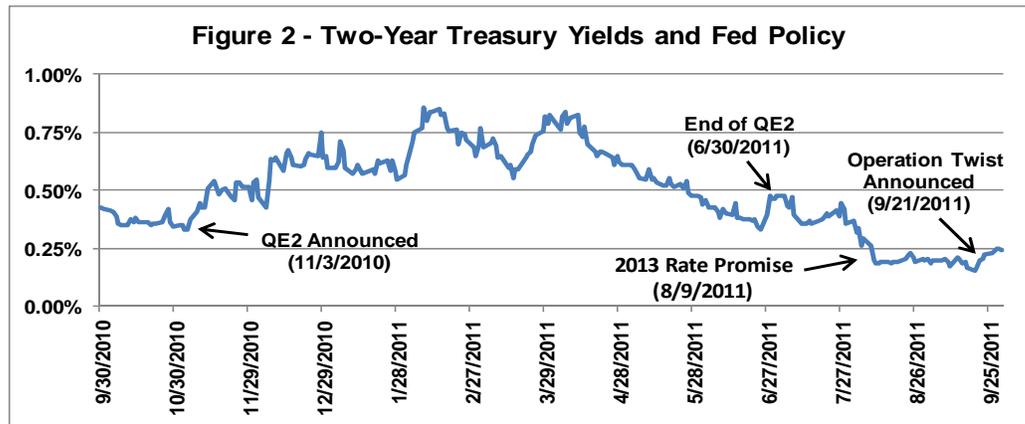


Source: Bloomberg

“CASH RATES EXPLAIN 92% OF THE VARIATION IN TWO-YEAR TREASURY YIELDS, BUT ONLY 72% IN TEN-YEAR YIELDS”

WHAT DRIVES TREASURY YIELDS? - CONT'D

“TWO-YEAR TREASURY YIELDS WERE RELATIVELY VOLATILE AND ACTUALLY ROSE OVER THE LIFE OF QE2, WHICH IS COUNTER TO THE ANTICIPATED EFFECT”



and relative yield levels.

Current and Expected Cash Rates

Before the Fed began their quantitative easing campaign in 2008, they reduced overnight lending rates to near zero and have maintained that historically low level through today. It is relatively easy to observe the profound effect that these low cash rates have had on short-term Treasury yields. However, determining how monetary policy affects longer-term Treasury yields is more difficult.

Although many factors affect market yields in the short-term, we believe that anticipated future cash rates are the best predictor of longer-term interest rates. This is because the yield that a buy-and-hold investor requires to purchase a bond of a given maturity reflects their view of what compensation they would likely receive if cash was held over the same time period. The idea that expected future cash rates drive bond yields is

not new. Indeed, *Rate Expectations* is one of the three main economic theories commonly used to explain why yields vary across the maturity spectrum. The Rate Expectations theory states that the yield for a given maturity is a function of the average expected cash rates over the life of the bond.

Over time, cash rates vary substantially. Looking back 25 years, cash rates have been as low as 0.01% and as high as 11%. These changes in cash rates generally have a greater impact on shorter term bonds, simply because current rates represent a larger portion of a shorter bond's life. Extreme levels of cash rates are also believed to revert back to more normal levels over time. Evidence of this relationship can be seen in Figure 1, which compares the level of cash rates to the levels of two and ten year Treasury yields. Looking back over this time period, cash rates explain 92% of the variation in two

year Treasury yields, but only 72% in ten year yields.

Predicting Future Cash Rates

Because future cash rates are a critical component of Treasury yields, it is important for bond investors to understand long-term Fed policies. We have written extensively about our methodology for analyzing Fed policy in the past, most recently in the April 2011 *Monthly* – “The Consistent Fed”. Over time, our model has been 97% effective in terms of its ability to describe Fed policy based on the current and past levels of key economic indicators. When we published “The Consistent Fed” in April of this year, we estimated that the Fed would hold cash rates near zero until the second quarter of 2013. Our estimate differed from market expectations at that time, which called for the Fed to raise cash rates by the end of 2011.

On August 9th of this year, in

another unprecedented action, the Fed committed to maintaining near-zero interest rates at least through June of 2013. Figure 2 shows the impact of the Fed's rate commitment, which effectively stabilized the two-year Treasury yield at roughly 0.25%. We believe that this market reaction provides evidence that the theory that rate expectations are a key driver of Treasury yields. The stabilizing effect of this commitment will likely decrease as the June 30th, 2013 date draws closer.

As discussed earlier, the yield on longer-maturity bonds relies heavily on long-term cash estimates, which can be difficult to estimate. We believe that over time the Fed's policy will gravitate to a 4% neutral cash rate. This neutral rate has a large impact on our long-term Treasury forecasts.

Other Factors Affecting Yields

(Continued on page 3)

About Stairway Partners, LLC

Stairway Partners was formed to provide our clients (starting with ourselves) with an effective and comprehensive solution for managing their wealth. Our disciplined and rigorous approach comes from our collective knowledge in serving large institutional clients over many years.

Our core investment belief is that asset allocation is the single most important determinant of success in any investment plan. The dominant amount of risk and return comes not from your choice of individual investments but from your asset class mix. Stairway Partners focuses our resources on risk management and asset allocation. This includes building your custom blue-print (investment policy and benchmark) and aligning your portfolio with our investment strategy utilizing the global capital markets.

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Another of the economic theories used to explain the shape of the yield curve is **the Preferred Habitat theory**, which is also known as the Market Segmentation theory. Proponents of this theory believe that rate differences across the curve can be explained by large buyers having a preference for particular maturities. The theory makes intuitive sense, since more demand for a given maturity should result in lower yields.

Again the Fed's recent policies give us a rather unique opportunity to observe how market interest rates respond to changes in demand. This is the result of the unusually explicit communications

about the Fed's purchase programs. Figure 2 shows that the effects of QE2 were not nearly as impactful as the 2013 zero rate commitment, discussed earlier. Two-year treasury yields were relatively volatile and actually rose over the life of the QE2 program, which is counter to the anticipated effect. Not enough time has passed to judge the effectiveness of Operation Twist, but \$400 billion of selling at the front end of the yield curve will most likely put upward pressure on two-year Treasury yields. However, we believe that the Fed's rate commitment will overwhelm the market impact of their selling of short-term debt, leaving two-year Treasury yields relatively stable in the coming months.

Extending rate forecasts further out the yield curve requires long-term cash projections and adjustments for the risk associated with longer-term bonds. Although we refer to this adjustment as a risk premium, it is analogous to the third and final economic yield curve theory known as **Liquidity Preference**. The Liquidity Preference theory explains why in normal environments the Treasury yield curve is positively sloped, with longer maturities having higher yields than shorter maturities.

Figure 3 combines our future cash rate and risk premium estimates to illustrate why we believe that current US Treasury yields do not adequately compensate investors

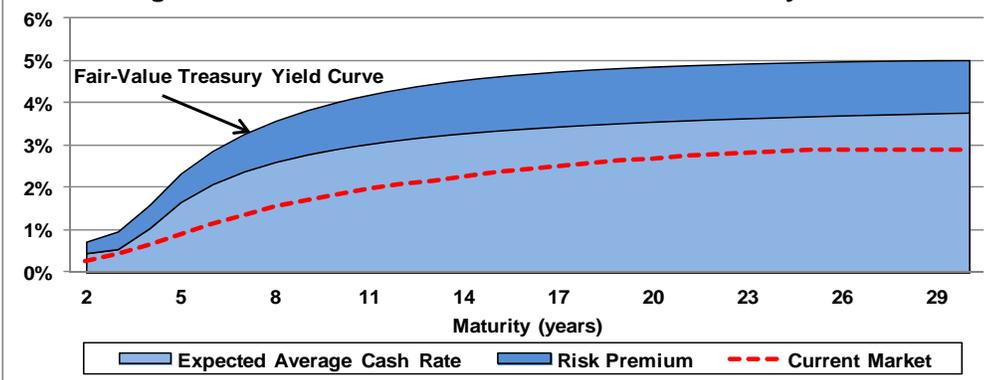
for opportunity costs and risk.

Conclusion

Recent Fed policies have given us a unique opportunity to observe how known future cash rates and large purchase programs impact Treasury yields. Observed Treasury rate movements reinforce our belief that cash rates have the largest and most predictable impact on market interest rates.

Currently, long-term Treasury rates are below our estimates of fair-value. As a result, we believe that Treasury yields will increase in the future as investors realize that they are not being adequately compensated for future cash rates and market risk.

Figure 3 - Current Fair-Value and Market US Treasury Yields



“CURRENT US TREASURY YIELDS DO NOT ADEQUATELY COMPENSATE INVESTORS FOR OPPORTUNITY COSTS AND RISK”

3 Year Annualized Return Estimates for Global Markets

10/3/2011	Total Returns			After-Tax Total Returns		
	Expected	Hurdle	Excess	Expected	Hurdle	Excess
Equities						
United States	14.8%	4.1%	10.7%	12.5%	3.9%	8.6%
Non-US Developed Markets	21.3%	4.6%	16.7%	18.1%	4.4%	13.7%
EMU	29.5%	5.0%	24.5%	25.0%	4.8%	20.3%
UK	27.5%	4.9%	22.6%	23.3%	4.7%	18.6%
Japan	10.8%	5.0%	5.8%	9.2%	4.8%	4.4%
Canada	-2.3%	4.4%	-6.6%	-1.9%	4.2%	-6.1%
Emerging Markets	21.4%	5.8%	15.6%	17.5%	5.6%	11.9%
Fixed Income						
US Aggregate	-1.0%	2.1%	-3.1%	-1.5%	1.9%	-3.4%
US Treasuries						
2 Year	-0.3%	0.9%	-1.1%	-0.6%	0.7%	-1.3%
5 Year	-3.1%	1.4%	-4.5%	-3.1%	1.2%	-4.3%
10 Year	-6.0%	1.9%	-7.9%	-5.6%	1.7%	-7.3%
30 Year	-10.1%	2.1%	-12.1%	-8.9%	1.9%	-10.8%
TIPS						
5 Year	-1.3%	1.4%	-2.7%	-1.6%	1.2%	-2.9%
10 Year	-4.1%	1.9%	-6.1%	-4.1%	1.7%	-5.8%
30 Year	-11.3%	2.3%	-13.6%	-9.9%	2.1%	-12.0%
Municipal	0.2%	1.5%	-1.2%	0.7%	1.3%	-0.6%
2 Year	0.1%	0.8%	-0.7%	0.3%	0.6%	-0.3%
5 Year	-1.3%	1.2%	-2.4%	-0.7%	1.0%	-1.6%
10 Year	-1.1%	1.6%	-2.7%	-0.4%	1.4%	-1.8%
20 Year	1.7%	1.8%	-0.1%	2.0%	1.6%	0.4%
High Yield	6.5%	3.0%	3.5%	3.9%	2.8%	1.0%
High Quality High Yield	5.7%	2.2%	3.5%	3.4%	2.0%	1.4%
Emerging Market (\$ denominated)	2.4%	3.3%	-0.9%	0.8%	3.1%	-2.3%
Foreign Aggregate	-4.6%	3.5%	-8.1%	-4.3%	3.3%	-7.7%
Foreign Aggregate (hedged)	-2.9%	1.8%	-4.7%	-3.2%	1.6%	-4.8%
Foreign Treasury	-5.1%	3.1%	-8.2%	-4.7%	2.9%	-7.6%
Foreign Treasury (hedged)	-3.3%	1.4%	-4.7%	-3.6%	1.2%	-4.8%
Cash	0.6%	0.6%	0.0%	0.4%	0.4%	0.0%
Currency						
Euro	-2.9%	2.3%	-5.2%			
British Pound	-0.9%	2.2%	-3.1%			
Japanese Yen	-1.8%	2.4%	-4.2%			
Canadian Dollar	-1.2%	1.4%	-2.6%			

Notes

1. Foreign market returns assume US dollar as the base currency and are unhedged unless otherwise indicated.
2. All hurdle returns are based on long-term asset volatility. Equity and fixed income hurdle rates include expected cash returns.
3. After-tax total returns assume that all gains and losses are long-term and can be realized within the investment horizon.
4. After-tax total returns only take into account Federal taxes based on the following tax rates:
 - 35.0% Ordinary Income, 15.0% Qualified Income, 0.0% Exempt Income, and 15.0% Capital Gains/(Losses)

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