

JULY 2013 SPECIAL FOCUS ISSUE

The 10-Year Treasury Rate in 2016: Our Forecast (and Yours)

Our regular quarterly report presents forecasts of the interest rate on 10-Year Treasury securities over the next 6 – 12 months. In this Special Issue we will provide a forecast for a longer time horizon—3 years into the future. But any forecast of interest rates is also a forecast of the key drivers of interest rates. Therefore, instead of simply putting out a forecast of the 10-year yield, we will present a simplified version of the model we use to make that forecast. Readers can then put in their own assumptions about the future values of the underlying drivers and make their own forecast of the rate on 10-year Treasuries.

Our analysis of the last 30 years of data has found that the three most important drivers of the 10-year Treasury rate are: 1) the average inflation rate over the prior three years; 2) the current level of the federal funds rate; and 3) the growth rate of real GDP. A simplified version of the basic model is:

10-Yr Treasury Rate =

$$1.0 + 0.8 \times \text{Average Inflation} + 0.5 \times \text{Federal Funds Rate} + 0.2 \times \text{Growth of Real GDP}$$

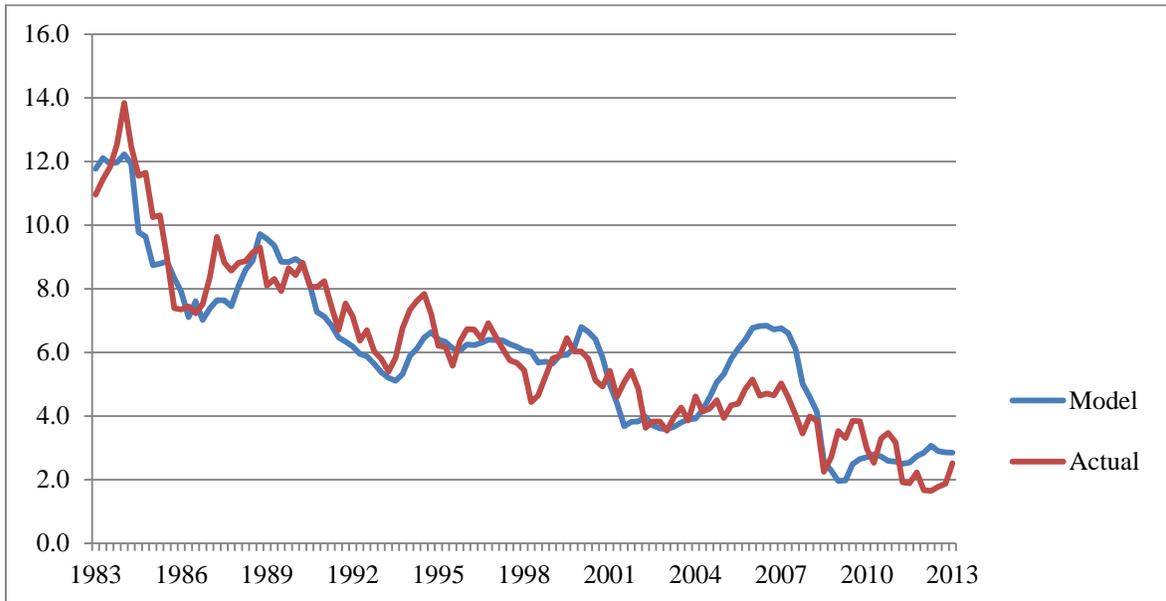
Of the three factors included in the model, inflation is the most important driver of interest rates. For every 1 percent increase in inflation, the 10-year yield rises by 0.8 percent. In fact, this probably understates the role of inflation because higher inflation often leads to an increase in the federal funds rate. If you assume that a 1 percent increase in inflation leads to a 1 percent increase in the fed funds rates, then the 10-year yield would increase 1.3 percent (0.8 percent coming from the direct impact of inflation and another 0.5 percent coming from the resulting increase in the fed funds rate). The model also shows that real GDP growth is the least important of the three main factors, with each 1 percent increase in the growth of the economy adding only 0.2 percent to the 10-year yield.

Chart 1 on the following page shows a 30-year comparison of the actual 10-year Treasury yield with the yield that comes from the model. As you can see, the model fits the data quite well, following the long-term decline in interest rates that has occurred over the past generation.

The one period where the model misses the mark was during the mid-2000s when the economic fundamentals suggested that interest rates should have been higher than they were. Of course, we know now that this period was a particularly unusual one for the credit markets. Another interesting observation from Chart 1 is that the recent rise in rates has brought the actual level closer to the rate implied by the model. Even so, the

model says that the 10-year yield should have ended 2013Q2 at 2.85 percent, about 35 basis points higher than its actual level. We chalk up that difference to the Fed’s bond-buying activities, something that is not included in the simplified model presented here.

Chart 1: Actual 10-Year Treasury Rate and RCF Interest Rate Model



Model r-squared = 0.846; average forecast error = 0.8 percent
 Source: RCF Economic & Financial Consulting

The value of the model is that it can be used to make a forecast of interest rates under different assumed values of inflation, the fed funds rate, and growth in real GDP. We will present our outlook for 2016, as well as some other possible scenarios. Beyond that, readers can use the model to make their own forecasts as well. Chart 2 lays out some examples we think are worth considering.

**Chart 2: 10-Year Treasury Rates under Different Economic Conditions
July 2016**

	Current Conditions	Fed Normalizes Rates	More Growth More Inflation	Stagflation	Recession	RCF Outlook
Inflation	1.8	1.8	3.0	5.0	1.0	2.4
Fed Funds	0.1	3.0	5.0	5.0	0.0	3.0
Real GDP	1.8	1.8	4.0	0.0	-1.0	2.8
Model 10-Yr Rate	2.85	4.42	6.84	7.69	1.67	5.06

10-year rate calculated from full RCF model instead of the simplified version presented above

As we mentioned, current conditions suggest a 10-year rate of 2.85 percent, just above the 2.50 rate that existed at the end of the 2013Q2. The first scenario is one in which the current low inflation, low growth environment continues but the Fed ends its bond buying and returns the fed funds rate to a more normal level, which we assume to be 3.0 percent. In this scenario, the end of the Fed’s near-zero interest rate policy pushes up the 10-year yield to 4.42 percent.

Our second scenario is one in which the Fed’s years of monetary stimulus leads to more growth but also higher inflation, forcing the Fed to raise rates even higher. In this case, the 10-year yield jumps to 6.84 percent, similar to the rate that prevailed during the 1990s.

A third possibility is that by 2016 the U.S. economy enters a period of mild stagflation with higher inflation but no economic growth. In this case, the model predicts that the 10-yr yield would jump to 7.69 percent showing clearly that inflation, not economic growth, is the key driver of interest rates. We also consider the possibility that the economy enters a recession in 2016, not especially unlikely given that by then the recovery would be entering its seventh year. In the recession-scenario rates drop down below 2.0 percent just as they did during the most recent downturn.

Finally, we present our forecasts which call for modest increases in inflation, a normalizing of the fed funds rate, and a pick-up in the growth rate of real GDP. Under these conditions, the 10-year yield rises to 5.06 percent by 2016, about double its current level.



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There is obviously a wide range of possible levels of the 10-year Treasury yield in 2016. In part this is because like all economic models, there is a degree of uncertainty as to whether the future will look like the past. But more importantly, the wide range of possible future levels of interest rates is because there is a wide range of possible scenarios for the economy three years from now. However, barring a recession, the analysis points to rates that are higher, perhaps much higher than today. Borrowers have benefitted from low financing costs for several years now but all good things eventually end. One conclusion is borrowers should not fret about missing a chance to borrow at record low rates, but instead recognize that rates today are still attractive compared to where they are likely to be in the future.