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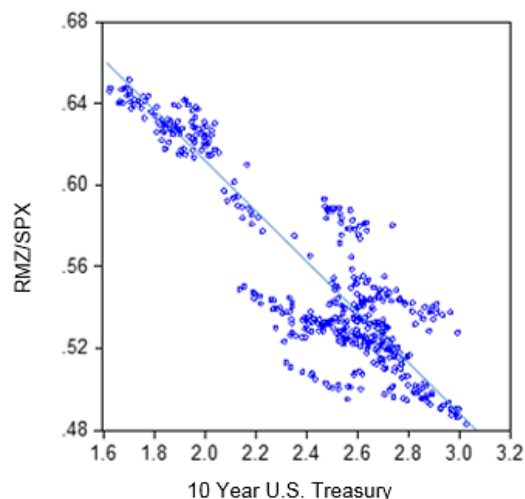
Monthly condensed analyses of crucial real estate and economic issues offered by the UCLA Anderson Forecast and UCLA Ziman Center for Real Estate. Here, David Shulman, Senior Economist for the UCLA Ziman Center for Real Estate and UCLA Anderson Forecast, analyzes the sensitivity of Real Estate Investment Trusts to interest rates.

Recent Evidence on the Interest Rate Sensitivity of REITs

By David Shulman, Senior Economist, UCLA Ziman Center for Real Estate and UCLA Anderson Forecast

Over the past few years investors and traders have anecdotally noted the high degree to which real estate investment trust (REIT) shares are sensitive to interest rates. Their instincts are correct. Over the period beginning January 2, 2013 to November 7, 2014, the daily relative price of REIT shares as measured by the MSCI U.S. REIT Index (RMZ) compared to the S&P 500 (SPX) was highly correlated to the yield on the 10-Year Constant Maturity U.S. Treasury Note.¹ (See Figure 1) To be clear: I am not directly measuring the sensitivity of REIT share prices to the 10-Year Treasury yield, but indirectly through REIT share prices relative to the S&P 500. Why? It is because I wanted to control for the overall stock market effects on REIT share prices. To my knowledge this formulation has not been used before.

Figure 1. RMZ/SPX vs. 10 Year U.S. Treasury Yield, Scatter Plot
January 2, 2013 – November 7, 2014, Daily Data



Source Data: Bloomberg

¹ The RMZ is the most widely used index by dedicated REIT managers to benchmark their returns.

The regression equation that defines the above relationship is noted below:

$$\text{RMZ/SPX} = .841 (122) - .117 \text{ Treasury Yield } (-42)$$

t statistic in parenthesis

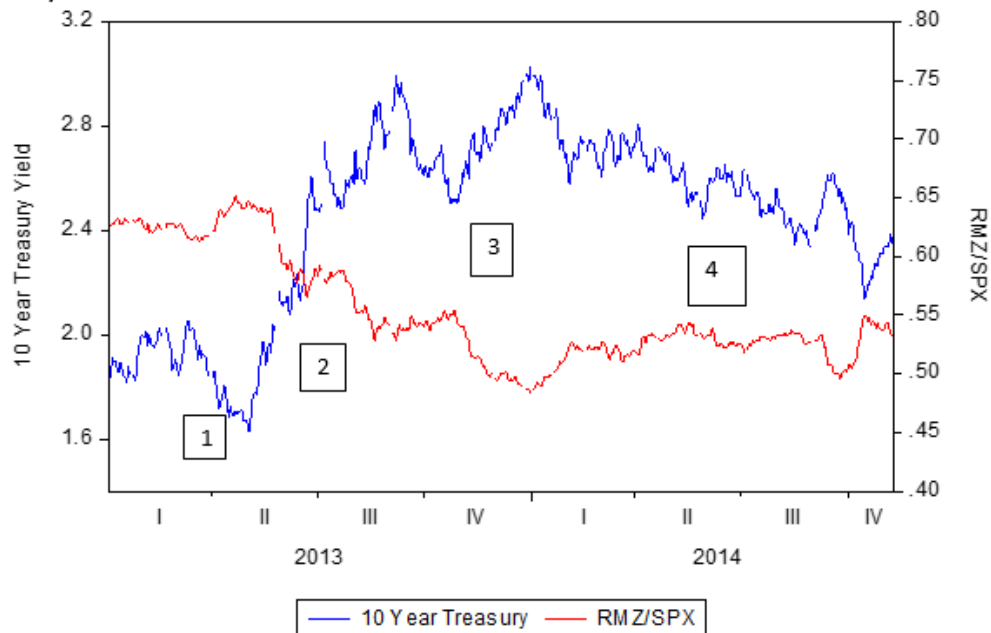
468 Observations

Adjusted R-squared - .79

This means that over a period of the past two years, 79% of the relative performance of REITs compared to the S&P 500 can be accounted for by the yield on the 10 Year U.S. Treasury and the constant term. Indeed, for every 100 basis points in the change in the treasury yield, REITs would either underperform or outperform the S&P 500 by a very large **1170** basis points. For a portfolio manager this degree of relative interest-rate sensitivity is huge.

Now let us look at the recent history directly. I have divided the interest-rate cycle over the past two years into four distinct periods (See Figure 2). In the first period REITs started 2013 with a relative price of .626 and gradually rallied to .652 by April 19 as the yield on the 10-year treasury gradually declined from 1.84% to 1.63% a few weeks later on May 2. However, in the second period, as the so-called “taper tantrum” in the bond markets spiked yields higher to 2.74% on July 5, REIT shares declined to a relative price of .58 on that same day. In the third period, bond yields embarked on a long climb to 3.03% and the relative price of REIT shares declined to its ultimate low of .483 on December 31. However, in Period 4 bond yields throughout 2014 steadily declined to 2.34% on November 7 and REITs rallied to .544.

Figure 2. RMZ/S&P 500 vs. 10-Year U.S. Treasury Yields, January 2, 2013 to November 7, 2014, Daily Data



Sources: Bloomberg and author

Why Should REITs be More Interest Rate Sensitive than Stocks Overall?

Real estate is a capital-intensive industry and as such the cost of capital figures prominently in its valuation. The typical REIT is far more leveraged than the average industrial company. For example REITs generally operate with a debt-to-earnings before interest taxes, depreciation and amortization (EBITDA) ratio of 5X to 10X. In contrast, the typical, investment-grade industrial companies that dominate the S&P 500 have Debt/EBITDA ratios of less than 3X.

Further, REIT shares are generally viewed as income vehicles for investors and hence compete with the bond market for funds. The typical REIT currently yields about 3.5%, well above the 2% yield of the S&P 500. Thus, changes in interest rates more readily affect valuations.

Lastly, for most institutional investors real estate is viewed as a substitute for fixed-income investments. Thus, other things being equal, (including inflation) the higher the interest rate, the less attractive is the underlying real estate that backs REIT shares.

Major Qualifications

This study represents a short time period and it also represents a period when the Federal Reserve was engaged in its very unconventional quantitative easing policy. We also know that during the 2007-2009 financial crisis, in contrast to the study period, both interest rates and REIT shares declined because credit spreads for debt in general and real estate in particular significantly widened. Moreover, during the run-up to the financial crisis, REIT shares outperformed the overall stock market in a stable interest-rate environment.

Further the regression results presented here should not be used as a highly calibrated valuation tool. As can be seen in the Figure 1 scatter plot above, there have been wide variations between the actual and estimated relative valuations of REIT shares that have been as wide as a 100 points on the RMZ Index indicating that the simple regression used herein may suffer from what econometricians call the omitted variable bias.

Nevertheless, we think much can be learned from the recent evidence demonstrating the interest-rate sensitivity of REIT shares. Thus we were not surprised how well REITs performed in early January given the correction in stock prices and the fall in treasury yields. On the other hand, we suspect that those investors who were pleased with the relative performance of REITs in 2014 might be disappointed this year should interest rates begin to rise.