

Rocaton

INSIGHTS

The Outlook for Treasury Inflation Protected Securities

November 2013

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EXECUTIVE SUMMARY

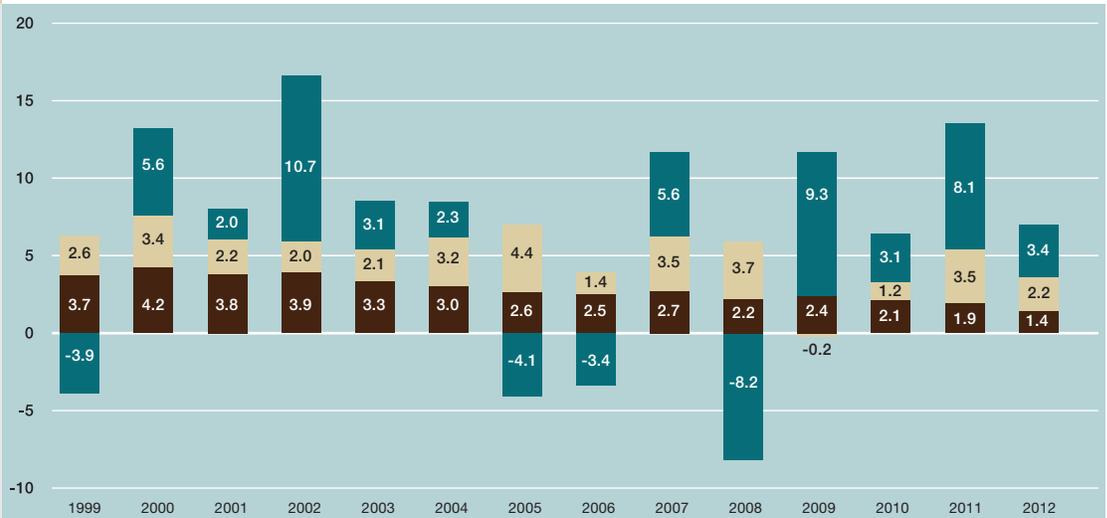
The continued expansion of the Federal Reserve’s balance sheet coupled with a zero interest rate policy has led many market pundits to speculate that inflation will come roaring back in the not too distant future. Investors have been purchasing Treasury Inflation Protected Securities (“TIPS”) as a way to hedge inflation since the inception of the asset class in 1997. Despite the fact that inflation (as measured by the Consumer Price Index) has remained modest for much of their existence, TIPS have continued to deliver strong performance. Given this backdrop, investors should recognize that TIPS may not perform as well going forward. Importantly, high inflation alone may not guarantee the success of the asset class. While this may seem like a non-intuitive point, after exploring the mechanics of TIPS, it should become clear that the asset class may experience headwinds.

Understanding the TIPS Market

TIPS were first issued by the U.S. Treasury in January 1997. Today, the Treasury issues 5-, 10- and 30-year TIPS and has approximately \$800 billion in debt outstanding. Each bond has a fixed coupon that is determined at auction and pays interest semiannually. The principal of the bond is adjusted upward or downward each month with changes in the Consumer Price Index (“CPI-U”). The coupon payment is applied to the inflation-adjusted principal and therefore also increases or decreases with changes in inflation. Finally, at maturity, the greater of par or the inflation-adjusted value is paid to the investor.

TIPS returns can be influenced by a number of factors and performance of the asset class can and will likely differ from nominal Treasuries. Two drivers of performance for TIPS are interest payments (i.e. coupons) and adjustments to the principal amount based on changes in inflation. Importantly, however, changes in real interest rates (i.e. real yields) will also impact the price of TIPS. For any passive or actively managed TIPS portfolio, changes in real yields are likely to drive a significant portion of the total return and asset class volatility. Chart 1 below decomposes the annual returns of the Barclays U.S. TIPS Index into its component parts including coupons, inflation adjustments and changes in real yields.

Chart 1:
Barclay’s U.S. TIPS
Index Annual Return
Decomposition



Source: Barclay’s Capital; J.P. Morgan

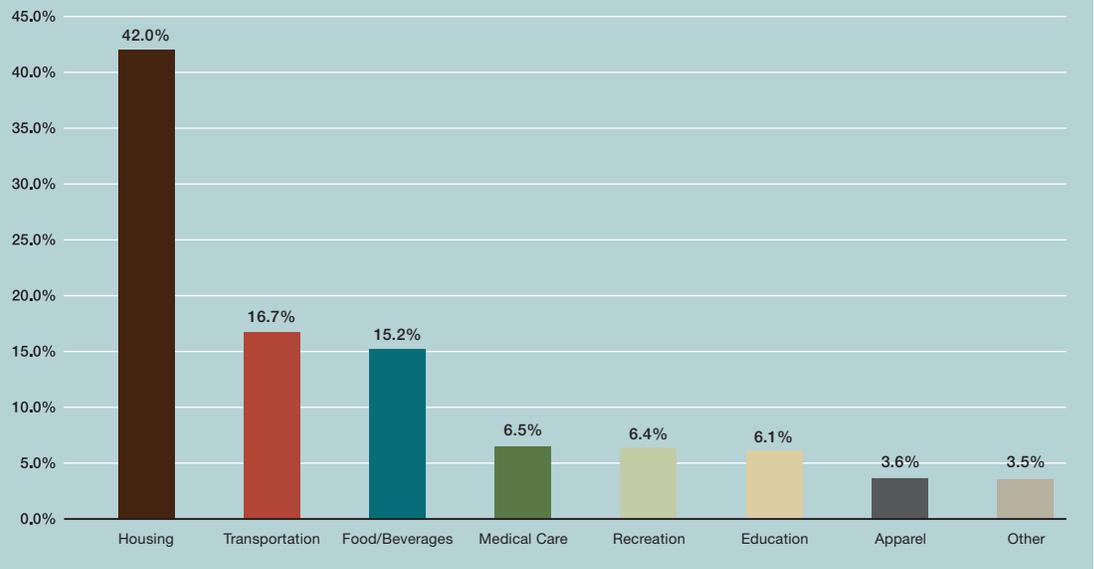
Before thinking about the future expectations for TIPS, investors should consider the historical performance the asset class has already generated and how these returns were achieved. From the inception of the asset class in 1997 to September 30, 2013, the Barclays U.S. TIPS index has returned 6.3% annualized (for comparison, the Barclays U.S. Aggregate Index returned 5.8% annualized over the same time period). These returns were achieved during a time when CPI was low and averaged just 2.4% annually. Further, the average 10-year real yield since TIPS were first issued has been 2.1%. As shown in the chart on the previous page, TIPS returns primarily have been influenced by changes in real interest rates. Importantly, this component also drives much of the volatility of the asset class as changes in both coupons and inflation adjustments have been more modest over time. Much of the strong performance that investors have enjoyed has been driven by a declining real interest rate environment.

How is CPI Calculated?

Understanding the calculation of CPI, a key driver of TIPS returns, is crucial to understanding the outlook for TIPS. The Bureau of Labor Statistics (“BLS”) is responsible for calculating CPI on a monthly basis. BLS data collectors visit or call thousands of retail stores, service establishments, rental units, and doctors’ offices, all over the United States, to obtain information on the prices of goods and services. Each month, collectors gather information on roughly 80,000 goods and services (see chart 2 for the composition of CPI). If an item no longer exists, a new item is selected. More importantly, items are also adjusted for changes in quality. The BLS uses a “hedonic modeling” approach to make these adjustments. This approach refers to a statistical procedure in which the market value of a feature is estimated by comparing the prices of items with and without that feature. For example, modern, flat panel televisions replaced traditional tube televisions in the calculation of CPI several years ago. Rather than simply taking the difference in price to calculate inflation, the BLS adjusts the price of the traditional television to account for the new technology of the modern television. These adjustments are made to create an “apples-to-apples” comparison between new and old items, while keeping the basket of items that the BLS uses up-to-date. While the methodological approach to hedonic adjustments and the rationale for the adjustments can be debated, in our view, these adjustments have helped to keep CPI low despite consumers’ feeling that prices are rising. This has led to our belief that TIPS compensate for a notion of inflation rather than the actual consumer experience.

As a final note on CPI calculations, seasonal adjustments may also be made to remove the effect of influences that occur at the same time and in approximately the same magnitude every year. Among these influences are price movements resulting from changing weather conditions, production cycles, changeovers of models and holidays. Notably, TIPS’ principal adjustments are made based on the non-seasonally adjusted version of CPI.

Chart 2:
Consumer Price Index
Component Weights



Source: Bureau of Labor Statistics

Forward Looking Expectations

With inflation and interest rates at low levels, it stands to reason that TIPS might have a hard time repeating their stellar performance of the last two decades. However, many investors holding TIPS might argue that they would be satisfied to simply match the rate of inflation over the next two decades. After all, one of the primary goals of TIPS is to protect against rising inflation. However, financial theory would suggest and empirical evidence confirms that nominal interest rates typically rise alongside inflation. Given their limited existence, it is less clear how real interest rate instruments will react in an inflationary environment. Should real rates rise with inflation, performance for TIPS could be challenged. While the inflation adjustments made to the principal and coupons will boost returns, this adjustment might not be enough to offset price declines from an increase in interest rates. Currently, the Barclays U.S. TIPS Index has a real interest rate duration of 7.6 years. From a simplistic viewpoint, a 1% rise in real interest rates would translate into a price loss of almost 8%. Inflation would need to far outpace any rise in real interest rates to make up for mark-to-market losses of this magnitude. To further highlight the concept that high inflation might not lead to high returns for inflation-linked securities, historical observations show that changes in inflation and TIPS returns have a low correlation. Since their inception, monthly TIPS returns have had a 0.1 correlation with monthly changes in CPI. Over rolling 12-month periods, the correlation improves only modestly to 0.3, demonstrating that changes in actual inflation are not the best predictor of TIPS returns.

Focusing on longer-term expectations, Rocatón's equilibrium (30+ year) return forecast for TIPS is 4.8%, driven by a long-term inflation expectation of 2.5% and a long-term expected real yield of 2.3%. Our expectations for the next 10-years, however, are more modest as both inflation and real yields are much lower in today's environment. As of September 30, 2013, Rocatón's Capital Market Assumptions forecast a 3.1% annualized return for TIPS over the next 10-years. Built into this assumption is a view that current inflation and real yields will return

to their equilibrium levels over the next 5-7 years. Of course, inflation above our equilibrium expectation could push these expected returns higher, as could a decline in real interest rates relative to our expectations.

Although it is not explicitly built into our assumptions, one potential driver of rates is the fact that the Federal Reserve owns more than \$100 billion in TIPS, which are currently being acquired via its quantitative easing program. With a current market value of roughly \$800 billion, the Fed's holdings amount to almost 12% of total TIPS outstanding. As the Fed ultimately reduces the size of its balance sheet, the sale of TIPS could push real interest rates higher. It is important to note, however, that current monetary policy in the U.S. could create a wide range of outcomes. For these reasons, investors should position their portfolios such that they are prepared for a wide range of inflationary outcomes.

Preparing for Inflation

There are a number of reasons why investors might want to maintain their current TIPS exposure. An environment in which inflation picks up meaningfully and rates remain at current levels or even decline further would likely lead to continued strong performance for the asset class. As noted above, from a diversification standpoint, TIPS have been virtually uncorrelated

with equities since their inception. Although the asset class has been susceptible to underperformance in times of stress, it has benefitted from being a "flight to quality" asset at other times.

While strategies tracking the broad Barclays U.S. TIPS Index have been the most widely adopted and have served investors well, given

the potential for rising rates, this index may not perform as well going forward. Should investors want to maintain an inflation-hedging exposure in their portfolios, there are ways to position both current TIPS allocations and broader portfolios to keep pace with inflation under a variety of scenarios.

Investors allocating to a broad U.S. TIPS strategy may want to consider shortening the duration of their TIPS portfolio. Growing TIPS issuance in recent years has led to product segmentation in the marketplace, with short (0-5 years), intermediate (1-10 years) and long (10+ years) duration strategies now available. As such, investors are able to better tailor their TIPS portfolio exposures to meet their objectives. For an investor looking for inflation protection with lower expected volatility, the 1-10 year segment appears to offer the best trade-off between inflation protection and return potential.

Given that no single asset class provides a perfect hedging solution, a more efficient means of protecting against inflation might be to create a "basket" of inflation hedging asset classes. This basket could include asset classes such as TIPS, master limited partnerships ("MLPs"), real estate (both public and private), timber, private energy strategies and commodities. Other asset classes which have inflation hedging properties include bank loans, emerging market local debt and infrastructure. When considering any of the aforementioned asset classes in a basket

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approach, the inflation hedging aspects of the asset class should be weighed against the potential return, risk and diversification benefits of that asset class. Clients have the ability to build a customized basket of asset classes or can choose among a number of off-the-shelf product offerings, many of which include only liquid asset classes.

Another solution for investors looking to protect against inflation might be to simply target a higher returning portfolio. By targeting a higher rate of return, investors would expect to outpace inflation under more scenarios. Of course, the most obvious challenge with this solution is that a portfolio with a higher expected rate of return almost always comes with a higher expected level of risk. Faced with the prospects of low returns in public fixed income markets, investors might want to consider illiquid investments that still appear to offer value.

Conclusion

We recognize that both inflation and interest rates may remain modest for years to come, particularly as the Federal Reserve has been adamant about maintaining a 2% inflation target. This may lead to continued outperformance for TIPS. However, we also recognize there is no “silver bullet” for fighting inflation and TIPS may not provide a robust inflation hedge in a variety of economic scenarios. One potential solution includes moving to a shorter duration TIPS exposure to potentially alleviate any declines in a rising rate environment. Further, while TIPS as an asset class offer significant diversification benefits to an investment program, given the factors noted above, we also believe investors should consider diversifying their TIPS exposure and explore a variety of solutions to help protect their investment portfolios against inflation.

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