BEACON POINTE ADVISORS

BEACON POINTE RESEARCH
WHITE PAPER

TIPS – TREASURY INFLATION PROTECTED SECURITIES
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Introduction

TIPS, introduced to the investment community back in September 1997, have been garnering increasing attention in the investment world. The attraction stems from the fact that it is ideal as an explicit hedge against inflation. As we know, inflation decreases purchasing power. The risk of long-term inflation has been covered traditionally through investments in equities. Equities tend to rise with economic growth that may cause inflation. However, recent gyrations in the stock market, in the aftermath of the stock bubble, have caused nervousness among investors compelling them to look for alternative asset classes. Further, the high volatility in the stock market raises the risk of owning stocks as a hedge against inflation.

Before we delve in to the world of TIPS, we thought it would be beneficial to our readers to get an introduction on inflation.

Inflation – A Primer

Since inflation can reduce the value of investment returns and affects all aspects of the economy, including consumer spending, business investments, government programs and tax policies, understanding inflation is critical to investing.

In simple terms, inflation is a sustained increase in overall price levels. Although economic growth is generally beneficial, high economic growth can spur inflation and quickly reduce one's purchasing power.

As the growth of an economic cycle picks up, demand typically outpaces the supply of goods and producers can raise prices. As a result, the rate of inflation increases. If the growth accelerates rapidly, demand grows even faster with the producers raising prices even more. An upward spiraling inflation can result in a phenomenon called hyperinflation.

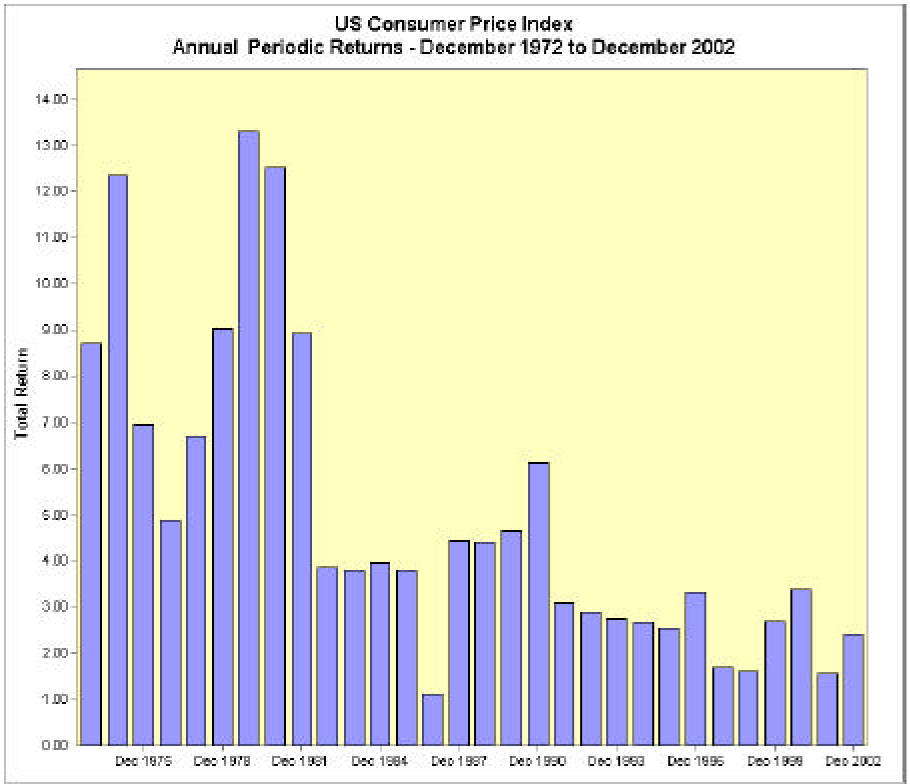
However, when economic growth begins to decline, demand eases and the supply of goods increases relative to demand causing the rate of inflation to drop. This is known as disinflation and has been observed through much of the 1990s in the US as a result of concerted effort by the government and the policy makers to control inflation.

The most common measures of inflation are Producer Price Index (PPI) and Consumer Price Index (CPI). The PPI reported monthly, measures prices paid to producers. Three quarters of the index measures prices of consumer goods, while capital goods prices account for the rest. The PPI picks up price trends early in the inflation cycle.

CPI, a more widely followed measure of inflation, reflects retail prices of goods and services, including housing costs, transportation, and healthcare. The value of the TIPS is also contractually linked to the CPI.

The chart below shows the trend of inflation as measured by US CPI and the reduction of inflation from a high of 13%-14% in 1979 to approximately 2.3% in 2002.

Figure 1



Source: Wilshire Compass

The causes of inflation have been a source of contention for economists. However, certain forces do contribute to inflation including rising commodity prices such as oil hikes and exchange rate movements. Rising commodity prices are the most visible indicators of an inflationary environment as the cost of basic goods and services generally increases. For instance, higher oil prices mean that gasoline prices are high which in turn means that all goods and services that are transported to their markets by truck, rail, or ship will also rise. Similarly, jet fuel prices will also rise raising airline ticket prices and air transport – hurting both consumers and businesses.

Exchange rates can also be a factor for inflation as depreciating currency makes it more expensive to purchase imported goods putting upward pressure on prices overall. Currencies of countries with higher inflation rates tend to depreciate relative to those with lower rates of inflation. This forces investors to shift capital to markets with lower inflation rates in their quest to preserve the value of their investments.

In order to preserve or increase long-term purchasing power, it is critical to have investment returns that exceed the inflation rate so as to increase real purchasing power. In particular, inflation can be harmful to fixed-income returns, as these assets

are owned because of their stable income stream in the form of coupons. However, because the coupons remain the same over the maturity term of the bond, the purchasing power of the interest payments declines as inflation rises. Similarly, inflation erodes the value of the principal of fixed-income securities.
This can be best illustrated by an example. Let us say we have a client that has a $10MM investable funds and that the spending policy is 5% and the rate of return on the investment is also 5%. Now, if the inflation is 2%, then the real purchasing power is reduced to 3%. Thus, we would, in a 2% inflationary environment, need the investment to return at least 7% in order not to dip into the funds principle.

Inflation can also affect fixed income securities in another way. When inflation rises, interest rates also tend to rise due to market expectations of higher inflation or because the Federal Reserve has raised the interest rates in an attempt to fight inflation.

Some assets rise in price as inflation rises. Equities in the long run tend to do well in a rising inflationary environment as companies can also raise their prices as costs increase. However, in the short term, equities have shown a negative correlation with inflation as uncertainties, due to unexpected inflation, can bring uncertainty about the economy, leading to lower earnings forecasts for companies and lower equity prices.

Commodities also do well in inflationary period. Commodity futures react positively to an upward change in expected inflation.

Fixed income portfolios *can* be protected from the effect of inflation by investing in those securities that are linked to changes in inflation. These include floating rate notes (FRNs) and inflation linked bonds. Floating rate notes offer coupons that rise and fall with key interest rates such as T-bills or LIBOR. FRNs have been known to correlate, although not perfectly, with inflation.

Inflation-linked bonds issued by many federal governments are explicitly tied to the changes in inflation. The US government introduced Treasury Inflation Protection Securities (TIPS) back in 1997.

Although commodity-based assets such as commodity indices help cushion a portfolio against the impact of inflation, commodity indices are influenced by factors other than commodity prices.

Central banks, including the US Federal Reserve, attempt to control inflation by regulating the pace of economic activity by raising or lowering short-term interest rates.

If the economy is heating up, the Fed tries to slow down the pace of economic growth and thus inflation by increasing short-term rates. Increasing short-term rates discourages borrowing, decreases the money supply, dampens economic activity and thus subdues inflation.

On the other hand, to stimulate the economy as seen in recent times, the Fed lowers the interest rate to spur economic activities. Lowering the short-term rates encourages companies to borrow and spend on capital expenditures and ultimately consumers to spend more.

Another way to control inflation is to raise or lower banks' reserve requirements. Raising the reserve requirements restricts banks' lending capacity, slowing economic activity, while lowering the reserve requirements stimulates economic activity. The last two techniques to control inflation are implemented through what are called monetary policies.
The Fed at times will attempt to fight inflation through fiscal policy that includes raising or lowering taxes and reducing or increasing spending. Raising taxes and lowering spending dampens economic activity while lowering tax or increasing spending stimulates economic activity.

TIPS – An Introduction

As mentioned earlier, TIPS offers inflation protection through a combination of adjusted principal and coupon payments. Adjustments to the TIPS are calculated based on the CPI.

In brief, TIPS work this way: a nominal bond pays a coupon semi-annually on a par amount while the TIPS also pays a coupon semi-annually on a par amount that is adjusted for inflation.

Since their inception in 1997, the TIPS market value has grown to nearly $200BB today with nearly $4BB of TIPS transacted everyday. The US Treasury has signaled its commitment to expand the market in TIPS, indicating its plan to conduct four auctions each year. This should improve liquidity and reduce the liquidity risk involved in TIPS.

TIPS – Background

Back in mid-1996, the Treasury, then headed by Secretary Robert Rubin, announced that the US government would engage in the business of selling of inflation-indexed bonds. Inflation indexed bonds are bonds that have their total annual yields adjusted for changes in inflation rates. While these inflation-indexed bonds are fairly new to the US investors, these bonds have been in existence in other developed countries such as UK (from 1981), Canada since (1991) and also in countries such as Australia, New Zealand, and Sweden.

As alluded to earlier, nominal bonds are those security investments that pay a fixed coupon or annual interest that do not change from the day you buy it until the day it matures. Inflation-indexed bonds are different, in that they change their annual payment and their ultimate principal value, based upon the changing inflation rate. If inflation goes up, investors are paid more, while the investors are paid less when inflation goes down. If actual inflation is greater than anticipated inflation, then investors are better off with inflation-indexed bonds. If actual inflation, however, is less than anticipated inflation, investors are better off with nominal rather or non-inflation-indexed bonds.

Due to the fact TIPS are contractually linked to the CPI Index and offer investors some protection against inflation, these instruments typically offer lower coupons than nominal bonds and tend not to be attractive in low or non-inflationary environments.

TIPS – Example

Here is a more detailed explanation how TIPS work. A 30-year 5% coupon TIP was issued on July 15, 2003. The first semi-annual coupon payment would fall on January 15, 2004. If the CPI had increased 1.5% over the six-month period, the principal value would have increased $15 for every $1000 of initial principal value (1.5% x $1000). Thus, the first 2.50% semi-annual coupon payment (5% divided by 2), would then be adjusted for the 1.5% inflation—from $25.00 to $25.37 [($25.00 + (1.5% x $25.00)].

TIPS – Impact on Investment Portfolios and Investors

One of the aspects of inflation-indexed bonds has already been addressed – as an inflation hedge since the coupon and the principal are linked to the inflation level. Hence, it acts as an effective inflation hedge in an investment portfolio. The other aspects that support its presence in an investment portfolio is their correlation with other assets including common stocks and nominal bonds. Its low correlation with these assets helps in diversification of the portfolio, lending some degree of balance to the portfolio in terms of return and risk.

Inflation-linked securities are suitable for those investors whose liabilities are a function of inflation such as companies with defined benefit plans and for endowments and foundations that have to same level of service or grant giving over time. Furthermore, investors that need principal protection are likely to benefit from inflation-indexed bonds. This is so because the principal value is adjusted for inflation and the security will be redeemed at its inflation-adjusted principal amount or its original par value, whichever is greater. *In the event of a deflationary environment, the final payment from the treasury cannot be less than the original par value.*

TIPS – Current State of TIPS Market and Future Prospects…

TIPS is a fairly new instrument introduced to the US Investors back in 1997 although it has been in existence in other countries for quite sometime. However, the US government has shown that it plans to grow the TIPS market and has backed their public statements with actual deeds to increase the market for TIPS. From a humble beginning of just over $30 billion of outstanding TIPS in 1997, the market has grown to over $200 billion outstanding TIPS in recent times (as of 3rd Quarter, 2003). The number of auctions for issuance of TIPS has grown from 2 to 4 and the US government has also increased the size of TIPS issuance by 100% year over year[1]. The government has shown a strong interest in expanding the market for TIPS and we believe the currently high liquidity premium for TIPS is likely to be driven down.

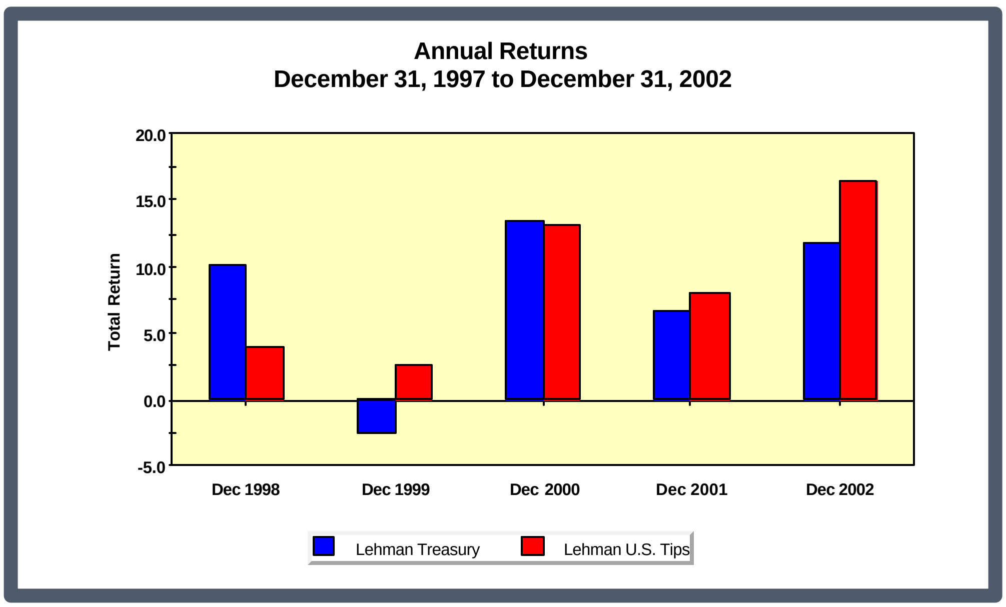
[1] Treasury Debt Management – Timothy Bitsberger, Deputy Assistant Secretary, US Treasury Department

TIPS – TIPS and Nominal Bonds – A Comparison

Investors should compare the difference in yields between TIPS and nominal bonds in relation to the actual rate of inflation to truly understand the difference between the two types of bonds. The difference in yields is referred to as *the breakeven inflation rate* and investors can make money investing in bonds depending on their inflation forecasts and departures of such forecasts from the actual rate

For example, let us assume that the 10-year nominal Treasury note is yielding 4.5% while a similar duration TIPS is yielding 2.5%. This implies that the breakeven inflation rate is 2%. The 2% represents the capital market's expectations of inflation over the next 10 years. Again, if an investor believes that actual inflation will be greater than expected inflation (*breakeven inflation rate*), and future inflation is greater than was the expected inflation, the investor should invest in TIPS, which would have provided higher returns compared to an investment in nominal bonds. On the other hand, if the breakeven inflation rate is higher than the actual inflation rate, then an investor is better off invested in the nominal bonds.

Figure 2

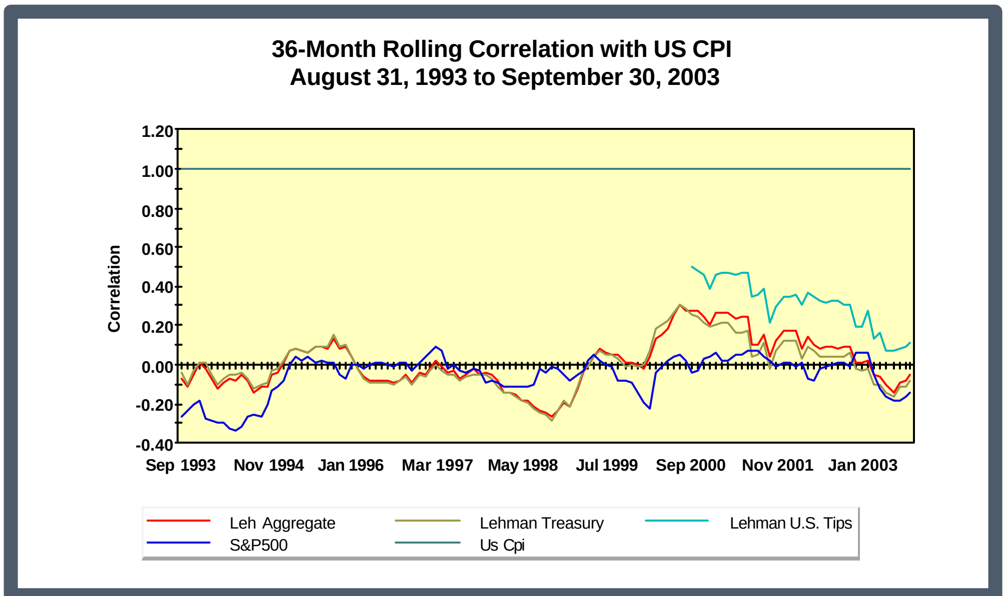


Source: Wilshire Compass

An examination of annual returns from 1998 to 2003 as seen in Figure 2 reveals that the inflation-indexed securities have performed better than the nominal bonds over the past 5-year period. This is because the breakeven rates embedded in the difference between the yields of TIPS and the nominal bonds were lower than the actual inflation rates. TIPS underperformed as interest rates fell in 1998. TIPS, however, stayed consistent with and/or outperformed the Lehman Treasury index as interest rates and inflation picked up in 1999 and 2000.

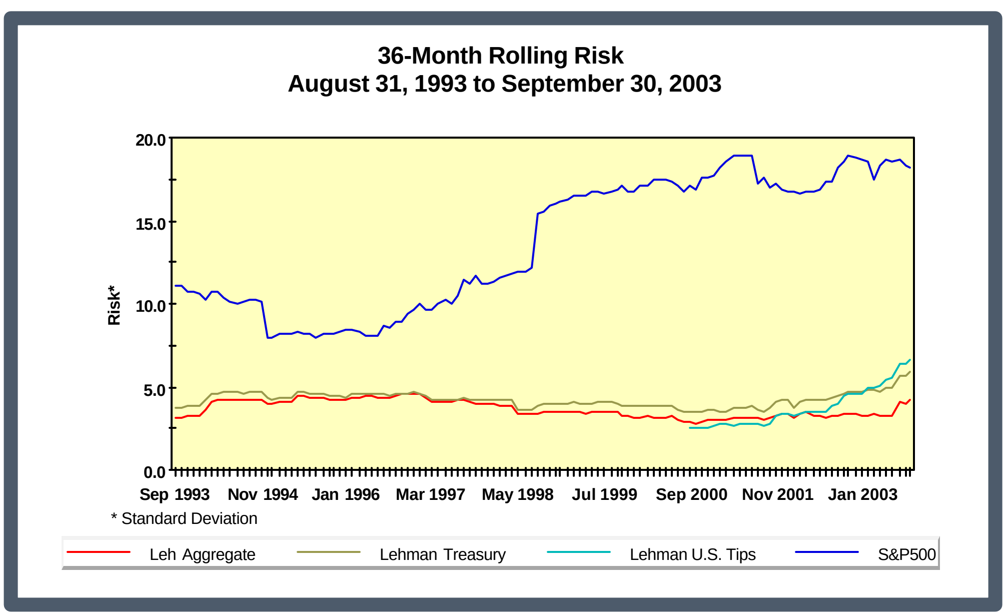
From an inflationary hedge point of view, as seen in Figure 3 on the following page, TIPS have a higher correlation to inflation than either the nominal bonds or the equities (reflected by the S&P 500 Index). The correlations have been drawn from a three-year correlation basis, as Beacon Pointe believes that behavioral patterns of "rolling" investment metrics are more consistent than annual comparisons. From a volatility (risk) point of view, it is apparent that the three-year annualized standard deviation is less for TIPS than it is for the equity markets. Figure 4 shows that although the volatility is slightly higher than that of the nominal bonds, primarily due to a higher duration for TIPS, the volatility for TIPS is significantly lower than that of the equity markets.

Figure 3



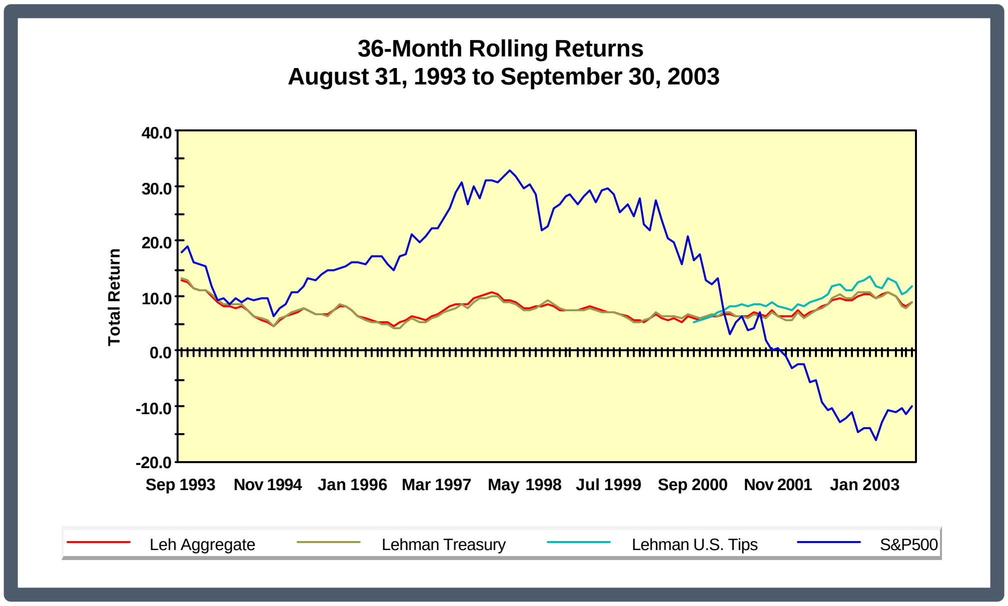
Source: Wilshire Compass

Figure 4



Source: Wilshire Compass

Figure 5



Source: Wilshire Compass

Figure 5 above identifies that the Lehman US TIPS index has outperformed the Lehman Treasury and Lehman Aggregate indices over the past 5-years using rolling 3-year periods. Beacon Pointe does note that the TIPS indices were created recently and significant historical performance is unavailable.

TIPS – Time to Invest Now?

Current differential between TIPS and nominal bonds calls for a muted inflationary environment – somewhere close to 2.3 percent[2] (*breakeven inflation rate*). Beacon Pointe believes that inflation may exceed this level due to several secular trends around the globe, especially in China leading to increased commodity prices and hence the overall inflation. Additional research, based on several publications as well as discussions with leading investment managers, also support this thesis.

If the actual inflation does indeed exceed this breakeven rate of around 2.3 percent, then it is beneficial if investors have some exposure to TIPS. We believe investors can enhance returns and mitigate the risk presently in the fixed income market (considering present interest rate lows) by having some exposure to TIPS in addition to nominal bonds for their fixed income allocation.

[2] Based on yields published for 10-year maturity on Wall Street Journal, dated 12/10/2003.

TIPS – Summary

- Beacon Pointe believes that TIPS, as an asset class, will become increasingly popular due to their attractive characteristics. The low correlation of TIPS to other asset classes and the inflation sensitiveness make this especially attractive to defined benefit plans and endowment and foundations who need predictable spending plans.

- TIPS offer protection when rates rise as well as offer the same credit risk as nominal Treasury bonds.

- We believe that increased liquidity driven by the Treasury to increase the number of auctions in a year to four will drive down costs and make it a more viable investment alternative.

- Earlier this year, Beacon Pointe cautioned our clients to expect lower returns from fixed income (increase in rates will result in a drop in bond prices) versus what has been enjoyed over the past few years.

- Beacon Pointe recommends that our clients consider TIPS as a supplement to the current fixed income part of their portfolio and use this class as an opportunistic hedge against inflation (given the amount of monetary and fiscal stimulus in the economy). Economic recovery may spark inflation and interest rates. TIPS will outperform in periods when actual inflation is greater than expected inflation.

  - Although Beacon Pointe recommends opportunistically implementing TIPS as a hedge against inflation, we do view TIPS as a *defensive* instrument.

    - TIPS have a high-quality rating. *TIPS are a US Treasury issue* and not a high-yield or junk bond.
    - The principal of TIPS *cannot be diminished by inflation* as the principal is linked to CPI and grows with inflation.
    - The coupon payments of TIPS *cannot be diminished by inflation* as the coupon rate is tied to the inflation-adjusted principal.
    - TIPS may underperform nominal Treasury bonds in periods of deflation, however, *the final payment from the treasury cannot be less than the original par value.*

- Please contact your Beacon Pointe consultant should you have any questions.