

The Long-Term Case for TIPS

Inflation Protection and Diversification for Multi-Asset Portfolios

By Allison Moran

Inflationary periods, even those marked by relatively modest inflation, can have two devastating effects on investment assets. First, as demonstrated in figure 1, there is the impact of rising prices on real spending power. If an investor retires at age 65 and lives to the age of 90, \$100 of savings at retirement would be worth \$53 at the end of that period assuming 2.5-percent inflation. If inflation averaged 5 percent, the \$100 would be worth just \$28. Second, notwithstanding the current environment of market and economic extremes, inflationary periods also typically are periods of equity-market underperformance. So as real spending power is declining, total portfolio value may be as well (figure 1). Treasury inflation-protected securities (TIPS) provide a solution on both counts by offering a hedge against inflation and improving a portfolio's diversification in down equity markets.

TIPS were designed to capture upside surprises in the consumer price index (CPI) and pass them through to bondholders. But TIPS also behave differently than traditional fixed-income securities in various market environments. During periods of negative equity returns, for example, TIPS have typically outperformed nominal bonds (bonds with yields unadjusted for inflation, such as Treasuries) as well as equities.

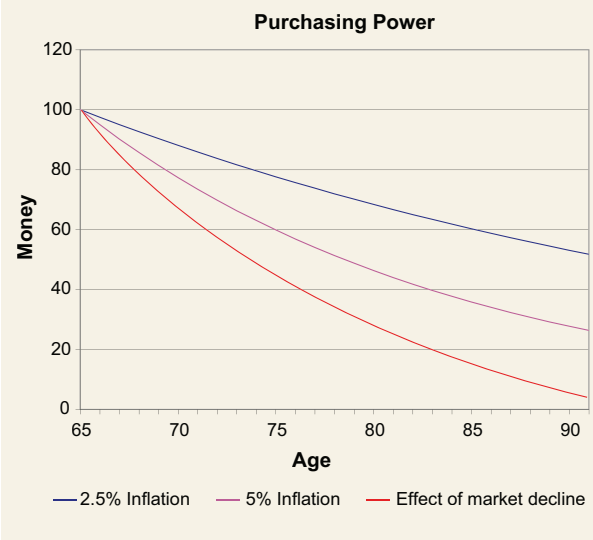
Given their dual inflation-hedging and diversification benefits, TIPS warrant strong consideration for multi-asset portfolios, particularly those targeted at long-term investors, such as lifecycle portfolios, and for equity-weighted portfolios, such as those held by endowments and foundations.

TIPS Refresher: How Do They Work?

TIPS have been in existence for more than 10 years, yet confusion remains regarding how they protect against inflation. Namely, how does the lower yield on TIPS effectively hedge inflation compared with nominal Treasuries that often have a higher yield? And how does the difference between the yield of the two bonds, known as the break-even inflation spread, compensate for inflation when it is at times lower than current levels of inflation?

TIPS pay a fixed coupon, or real rate, and have a principal amount that grows over time at the rate of inflation based on the CPI. Because the coupon is applied to the inflation-adjusted principal, the semi-annual payment may increase over time as well. The yield on a Treasury bond is fixed rate, reflecting both the real rate and inflation at the time of purchase, but the face value remains unchanged over the life of the bond.

FIGURE 1: TAKING A TOLL ON AN INVESTOR'S SPENDING POWER AND PORTFOLIO VALUE



While the yield on a Treasury bond most likely will be higher than the yield on an equivalent maturity TIPS, there is more to the story. Essentially, TIPS investors earn a fixed yield (real rate) in addition to the inflation rate. As shown in table 1, this full benefit of TIPS is realized at maturity (or upon sale on the secondary market) when TIPS investors are compensated for the bulk of any increase in inflation.

The difference between TIPS and Treasury yields is the implied inflation rate, commonly referred to as the break-even inflation spread. This is the rate of inflation an investor must earn each year on average until the bond matures in order for the investor to be indifferent about owning a TIPS or a Treasury. The break-even inflation spread often is compared to current levels of inflation and provides useful information about market expectations for future inflation.

When headline inflation is higher than the break-even inflation spread, TIPS investors enjoy the benefit, earning a higher rate of income. This incremental amount also is called the excess inflation accrual. For example, over the previous market cycle, the break-even inflation spread for five-year TIPS averaged approximately 2.5 percent. Over that same time period, the CPI was significantly higher (figure 2). The difference was passed through to TIPS investors in the form of higher monthly income.

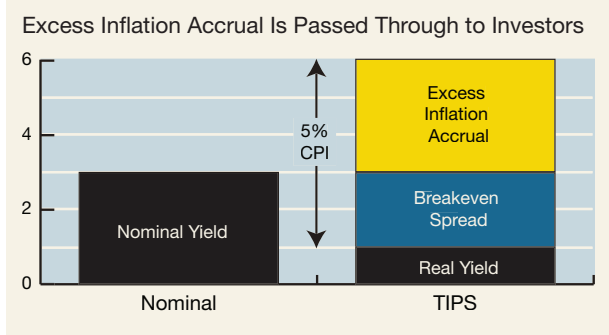


TABLE 1: FOLLOW THE CASH FLOWS

Assumes 1-percent TIPS yield, 3-percent Treasury yield, 1-year horizon, and 5-percent inflation				
	TIPS		Treasury	
	Face Value	Cash Flows	Face Value	Cash Flows
January 2008	\$100,000		\$100,000	
June 2008	\$102,242	\$511	\$100,000	\$1,500
December 2008	\$105,000	\$105,525	\$100,000	\$101,500
Total Cash Flows		\$106,036		\$103,000

Example is illustrative and not representative of any actual investment.

FIGURE 2: THE BENEFIT OF HIGHER INFLATION



TIPS vs. Treasuries

TIPS prices react to changes in interest rates differently than nominal bonds, depending on whether the rate changes are driven by a perceived change in inflation or growth expectations. Table 2 illustrates the expected performance of TIPS versus Treasuries in different market scenarios.

If the change in interest rates is perceived to be a result of an increase in inflation expectations, TIPS are expected to outperform maturity-matched Treasuries. This is because changes in inflation are captured by the structure of inflation-indexed bonds. In 1999, for example, nominal Treasury rates backed up as deflation worries turned into inflation fears. For the year ended December 31, 1999, TIPS handily outperformed maturity-matched Treasuries.

When the change in interest rates is due to growth-driven real rate adjustments, TIPS tend to trade more in line with nominal Treasuries. One example of this behavior was in the third quarter of 1998. Rates dropped dramatically in response to global and market events, and inflation expectations dropped as well. In fact, deflationary fears skyrocketed. During this quarter, TIPS lagged duration-equivalent Treasuries by a substantial margin.

TIPS are insulated from both the fears and the reality of higher inflation. Real rates can be thought of as a proxy for economic growth, where the faster an economy’s real growth rate is, the higher the required real rate of return needs to be. TIPS can be expected to outperform nominal Treasuries in environments of rising nominal yields driven by upward adjustments in inflation (rather than growth) expectations and, conversely, to suffer relative to standard bonds when nominal yields fall due to deflationary concerns.

TIPS vs. Equities

While the performance of TIPS often is compared to their nominal bond counterparts, their performance relative to equities also should be considered. Stocks have an important role in multi-asset portfolios; they historically have provided significant absolute returns while outperforming inflation. The role of bonds is to provide diversification and income while reducing the overall risk of the portfolio. While bonds typically return less than equities, their role is especially important when stocks are expected to underperform. Historically, bonds tend to perform better than stocks during periods of economic and equity weakness, lending to their diversification benefit. What’s more, periods of equity weakness tend to coincide with periods of rising inflation, making the inflation-protecting aspect of TIPS more attractive. Figure 3 highlights three such periods.

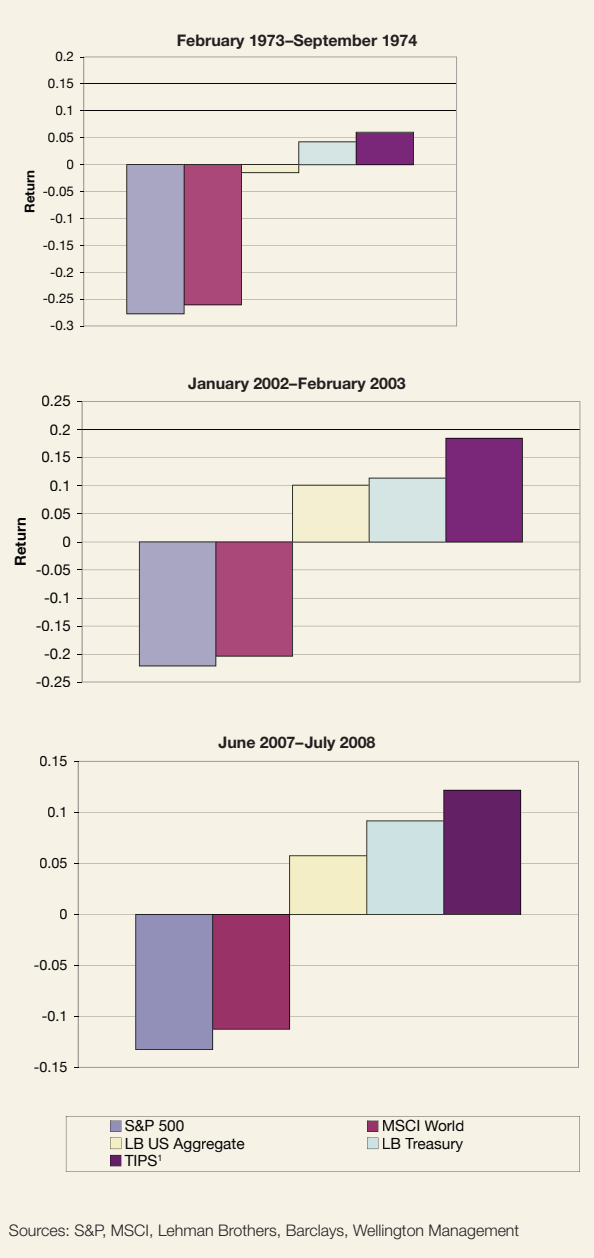
Over the past 35 years, TIPS and nominal bonds have had similar correlations to equities.¹ This might suggest that investors could be indifferent about TIPS and nominal bonds, but a closer look finds that during periods in which stocks have had extreme negative returns, TIPS substantially have outperformed nominal bonds—both Treasuries and the broad fixed-income market (figure 3). Specifically, we analyzed periods over the past 35 years in which there were significant equity market sell-offs that were accompanied by macroeconomic factors, particularly inflation.

TABLE 2: EXPECTED TIPS PERFORMANCE VS. TREASURIES PERFORMANCE

	Due to Changing Inflation Expectations	Due to Changing Growth Expectations
Interest Rates Rise	TIPS outperform	TIPS match Treasuries
Interest Rates Decrease	TIPS underperform	TIPS match Treasuries




FIGURE 3: TIPS OUTPERFORMED IN WEAK EQUITY MARKETS



Consider, for example, the downturn of the early 1970s, which was marked by debilitating inflation. The S&P 500 declined nearly 28 percent between February 1973 and September 1974, while Treasuries gained 4.2 percent and, by our calculations, TIPS would have gained 6 percent.¹ More recently, the S&P 500 lost 22.1 percent between January 2002 and February 2003. During that stretch, Treasuries gained a strong 11.4 percent, yet still were surpassed by TIPS at 18.5 percent. And between June 2007 and July 2008, when the S&P

500 declined 13.3 percent, Treasuries (+ 9.15 percent) again could not keep pace with TIPS (+ 12.16 percent).

Subsequent to this analysis, extreme market events in the fall of 2008 turned the focus from inflation to deflation concerns. The strong performance of TIPS experienced a reversal due to a combination of fundamental and technical factors. Pressure from the sell-off in commodities, a stronger U.S. dollar, and unfavorable seasonal factors all led to weaker TIPS prices.

But while we do expect inflation to decrease in the near term due to weakness in the economy, TIPS remain attractive for long-term investors. The extensive government measures to pump liquidity into the financial system raise inflation concerns, for example, and point to the value of TIPS as a key element of a well-constructed multi-asset portfolio. For investors near or in retirement, they offer substantial purchasing-power protection. And for investors holding heavy equity allocations, TIPS may be a better balance to stocks than traditional fixed-income securities over time. 

Allison Moran is a fixed income investment director at Wellington Management, where she works with U.S. investment-grade styles ranging from short to core duration strategies, as well as TIPS portfolios. She earned a B.S. in mechanical engineering from Worcester Polytechnic Institute and an M.B.A. from the MIT Sloan School of Management. Contact her at acmoran@wellington.com.

Endnotes

¹ A proxy of TIPS returns prior to inception (calculated as nominal bond yields less inflation) was used through February 1997. Barclays Global Inflation Index was used from March 1997 through September 1997. Lehman Brothers TIPS Index was used from October 1997 on.

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