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TIPS for Inflation Protection

Schwab Center for Financial Research

Key Points

- **Treasury Inflation-Protected Securities (TIPS) are U.S. Treasury bonds designed to keep up with the rate of inflation.**
- **TIPS are backed by the full faith and credit of the U.S. government and share many characteristics with traditional Treasury bonds.**
- **The decision to hold TIPS or traditional Treasuries depends on a number of factors, including the current level of inflation and inflation expectations.**

Are you worried that rising inflation will sap your portfolio's purchasing power? If so, you're not alone. One of the most frequently asked questions we hear is, "What do I do if inflation rises and starts to hurt my investment returns?"

If you're concerned, certain types of Treasury bonds can provide inflation protection today, like Treasury Inflation-Protected Securities, or TIPS.

What are TIPS?

First issued in 1997, TIPS are a type of Treasury security whose principal amounts are indexed to inflation, as measured by the Consumer Price Index for All Urban Consumers (CPI-U). Like regular U.S. Treasuries, TIPS are issued with a fixed coupon rate. However, unlike traditional Treasuries, the principal amount is adjusted to reflect the inflation rate.

If inflation goes up, the principal rises as well. This offers two benefits: a greater amount of principal due at maturity, as well as higher coupon payments. The coupon payments rise because the interest is calculated based on this higher principal amount. Even though the coupon rate is fixed, the actual coupon payment rises and falls with the changing principal value.

Let's look at an example of how this works. The table below shows the effect on a hypothetical 10-year Treasury Inflation-Protected Security if inflation grows at 2% per year until maturity. While the coupon rate is fixed, the coupon payments rise since the principal amount is adjusted higher due to the rise in inflation.

How principal adjustment works for a hypothetical 10-year TIPS

	At Purchase	One Year Later	Two Years Later		At Maturity
Date	1/1/2017	1/1/2018	1/1/2019		1/1/2027
Maturity Date	1/1/2027	1/1/2027	1/1/2027		1/1/2027
Coupon Rate	1.00%	1.00%	1.00%		1.00%
Inflation	-	2%	2%	Inflation continues to rise 2% per year until the bond matures	-
Adjusted Principal	-	$1,020	$1,040		$1,219
Annual Coupon Payments	-	$10.20	$10.40		$12.19
Principal Repaid at Maturity					$1,219

Source: Schwab Center for Financial Research. For simplicity, this examples an annual inflation adjustment for the principal value, although in reality the adjustment occurs twice a year. The annual coupon payment equals the fixed coupon rate multiplied the adjusted principal value. Note that the initial TIPS principal value is $1,000 and coupon payments are actually paid on a semiannual basis. **For Illustrative Purposes Only.**

If there's deflation, it works the other way around—the principal will be adjusted downward accordingly. But at maturity, investors receive the greater of the adjusted principal amount or the initial principal value, meaning that at maturity investors are still protected from the negative effects of deflation. However, securities purchased in the secondary market may not be completely protected from deflation. If a Treasury bond is purchased in the secondary market, the principal may have already been adjusted higher due to the effects of inflation. If deflation were to then occur, the principal value could fall, resulting in a loss for the investor. While the principal amount at maturity may be protected from the effects of deflation, the coupon payments are not—coupon payments are based off of the adjusted principal amount even if it dips below $1,000.

Many investments, like stocks and real estate, tend to generate returns that beat inflation over time—if they didn't, few investors would find them appealing at all. TIPS haven't provided returns that significantly exceed inflation, but their goal is to keep up with it. And they're typically less volatile than stocks and real estate.

That said, when interest rates rise, existing TIPS may still lose value, just like Treasuries or most other bond investments. Rising interest rates tend to have a more significant impact on TIPS prices in the secondary market, at least over the short-term, than the benefit of inflation protection.

TIPS versus Treasury bonds

So how do TIPS stack up against regular Treasuries? Both are backed by the full faith and credit of the U.S. government and can be purchased in a broad range of maturities, extending all the way out to 30 years.

It's also important to understand is that TIPS tend to offer much lower yields to reflect the potential for a rising principal amount (and interest payments). If you want to compare two securities with comparable maturities, you have to calculate how much inflation you'd need over the life of a TIPS for it to break even against a regular Treasury.

For example, if a 10-year TIPS offered a yield of 1% and a 10-year Treasury offered a yield of 3%, the 10-year breakeven rate (the difference between the two) would be 2%. If inflation averages more than the breakeven rate over the life of the TIPS, the return—assuming you hold the TIPS to maturity—would be higher than the return from a traditional Treasury with a comparable maturity.

Recent break-even inflation rates

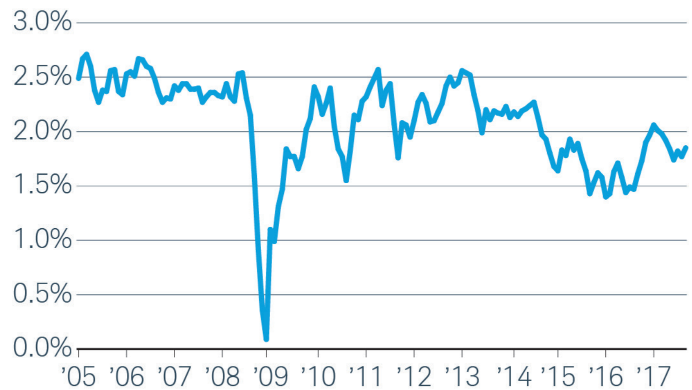
	Treasury yield	TIPS yield	Break-even inflation rate
5-year bonds	1.9%	0.1%	1.8%
10-year bonds	2.3%	0.5%	1.9%
30-year bonds	2.9%	0.9%	1.9%

Source: Bloomberg as of September 30, 2017. **Past performance is no guarantee of future performance.**

Note that the relationship between yields for TIPS and Treasuries is a good indicator of the market's expectations for inflation. This relationship varies over time, as you can see in the chart below. When the break-even inflation rate for TIPS of a particular maturity is less than what you believe inflation is likely to be in the future, TIPS could be a good choice compared to non-inflation-adjusted Treasuries.

Treasuries versus TIPS

10-year breakeven rate



Source: Bloomberg. Monthly data as of September 30, 2017. **Past performance is no guarantee of future performance.**

Who should buy TIPS?

TIPS generally make the most sense for investors who:

- Want to protect against inflation.
- Want to diversify their existing bond investments.
- Are increasing their portfolio's allocation to bonds, perhaps as they're nearing or living in retirement.
- Don't have wage-based income to live on.

This last point is particularly important. Inflation is one of the top risks in retirement, along with outliving your assets. While you're still working, your income generally grows with inflation. In retirement, your Social Security payments will grow with inflation, but most bond income and principal amounts do not.

TIPS can help you keep up with inflation. In general, we recommend investors hold up to 35% of their bond portfolio in TIPS or other inflation-protected investments.

How to invest

You can purchase individual TIPS as new issues or in the secondary market—the minimum investment at Schwab is $1,000. When shopping for individual TIPS, remember that the quoted yield to maturity is the promised return after inflation. So it will almost always be lower than, and not comparable to, the quoted yield on bonds that aren't adjusted for inflation.

It may be best to hold individual TIPS in your IRA or other tax-advantaged account because in addition to your interest earnings, the twice-yearly inflation adjustment to your principal (if any) is subject to ordinary federal income tax. Although you won't be paid for this increase until the bond matures, you do have to pay tax on it each year—unless you hold the bond in a tax-deferred account.

You can also invest in a TIPS ETF or TIPS mutual fund—clients can use Schwab's *Mutual Fund OneSource Select List®* and or the *ETF Screener* and look for Inflation-Protected Funds.

TIPS mutual funds and ETFs generally pay out both interest and any adjustments to principal in the form of annual dividends. So they may be a better choice for investors worried about tax implications (because they can deliver a cash flow to help pay tax bills), or for those looking for higher cash flow compared to what individual TIPS—which pay the inflation-adjusted principal at maturity—provide.

Have questions? For more information or help with TIPS, speak with your Schwab consultant or a Fixed Income Specialist at 800-626-4600.

Important Disclosures

Investors should consider carefully information contained in the prospectus, or if available, the summary prospectus, including investment objectives, risks, charges, and expenses. You can request a prospectus by visiting schwab.com/prospectus or by calling Schwab at 800-435-4000. Please read it carefully before investing.

Past performance is no guarantee of future results, and your investment value and return will fluctuate such that shares, when redeemed, may be worth more or less than original cost. See Schwab.com for more recent performance.

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All expressions of opinion are subject to change without notice in reaction to shifting market conditions. Data contained herein from third party providers is obtained from what are considered reliable sources. However, its accuracy, completeness or reliability cannot be guaranteed.

The Consumer Price Index (CPI) is a measure taken by the Department of Labor of the prices paid by U.S. consumers for a representative basket of goods and services. The CPI-U measures the CPI for urban consumers. Core inflation (Core CPI) is a measure of inflation which excludes certain items that face volatile price movements, notably food and energy.

Examples provided are for illustrative purposes only and not intended to be reflective of results you can expect to achieve.

Treasury Inflation Protected Securities (TIPS) are inflation linked securities issued by the US Government whose principal value is adjusted periodically in accordance with the rise and fall in the inflation rate. Thus, the dividend amount payable is also impacted by variations in the inflation rate, as it is based upon the principal value of the bond. It may fluctuate up or down. Repayment at maturity is guaranteed by the US Government and may be adjusted for inflation to become the greater of the original face amount at issuance or that face amount plus an adjustment for inflation.

Inflation protected bond funds typically invest at least 80% of their assets in inflation linked securities which can be issued by various types of organizations and whose principal value and resulting dividend yield are adjusted periodically in accordance with the rise and fall in the inflation rate. Treasury Inflation Protected Securities are guaranteed by the US Government, but inflation protected bond funds do not provide such a guarantee.

Fixed income securities are subject to increased loss of principal during periods of rising interest rates. Fixed-income investments are subject to various other risks including changes in credit quality, market valuations, liquidity, prepayments, early redemption, corporate events, tax ramifications and other factors.

Diversification does not eliminate the risk of market loss.

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