TIPS: Valuable but Widely Misunderstood

Knowing the ins and outs of TIPS will help you understand when to utilize them.

TIPS are U.S. Treasury securities whose principal amount increases with inflation and decreases in the event of deflation.

Inflation, as measured by the Consumer Price Index (CPI), hit its highest level in 40 years. The surge in prices has fixed-income investors looking for ways to protect their buying power and the value of their investment assets. This environment has prompted keen interest in Treasury Inflation Protected Securities (TIPS).

TIPS are U.S. Treasury securities whose principal amount increases with inflation and decreases in the event of deflation. That feature can make TIPS a useful hedge against unexpected jumps in prices like those in early 2022. The securities are commonly misunderstood, however, even among financial professionals. To help their clients benefit from TIPS, advisors need to understand how they work and their potential advantages, tradeoffs and risks.

HOW TIPS WORK

TIPS are currently issued in 5-, 10- and 30-year maturities. Like other U.S. Treasury securities, they have effectively no default risk, carry a fixed interest rate (coupon), and make fixed coupon payments every six months. Unlike conventional Treasury bonds, TIPS' principal is adjusted based on the monthly rate of inflation.

Those principal adjustments affect the securities' coupon payments as well as their payout at maturity, because payments are calculated as a percentage of adjusted principal. The table on page two demonstrates how changes in principal would affect the interest payments made by TIPS with a 2% coupon.

HOW INFLATION / DEFLATION CAN AFFECT COUPON PAYMENTS

TIME PERIOD	COUPON	INFLATION	PRINCIPAL	COUPON
0			$1,000.00	
1	2%	0%	$1,000.00	$20.00
2	2%	3%	$1,030.00	$20.60
3	2%	4%	$1,071.20	$21.42
4	2%	5%	$1,124.76	$22.50
5	2%	-1%	$1,113.51	$22.27

Source: Northern Trust. This is an sample example of how a TIPS issue with a 2% coupon will react over a 5 year time frame based on a mix of potential inflation adjustments.

Note that the principal amount is adjusted down in the event of deflation. Nevertheless, TIPS are guaranteed to pay at least their original principal at maturity.

It's important to note that the IRS considers increases in TIPS' principal, due to monthly inflation, to be taxable income in the year they occur. Investors who hold TIPS directly should be aware of this phantom income and plan accordingly.

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KNOW WHAT TO EXPECT FROM TIPS

The concept of adjusting principal to account for inflation is relatively straightforward. That said, the process by which TIPS account for inflation can cause the securities to perform differently than investors may expect. One common source of confusion: TIPS principal amount is adjusted based on the *non-seasonally adjusted* Consumer Price Index (CPI-NSA), not the seasonally adjusted CPI that media reports tend to focus on.

Headline CPI smooths out the impact of seasonal factors that affect the prices of items such as food and energy. For example, the prices of different foodstuffs can vary with harvest cycles, while gasoline tends to be more expensive during the summer travel season. Monthly headline CPI numbers are adjusted to account for those kinds of seasonal variations; non-seasonally adjusted CPI is not.

That system means TIPS' payments may not match the inflation numbers clients read in the news. For example, in December 2021, headline inflation increased at a monthly rate of 0.5%, while the non-seasonally adjusted index that determines TIPS adjustments rose just 0.3%.[1]

TIPS ADJUSTMENTS HAVE A THREE-MONTH LAG

Another common source of confusion: The inflation that happens in a given month isn't fully reflected in TIPS' coupon payments until three months later. The process for adjusting TIPS' principal proceeds as follows:

Month 1:
Inflation occurs

Month 2:
Inflation for month 1 is reported

Month 3:
TIPS' principal is increased throughout the month in daily increments to account for inflation in month 1

Month 4:
Unlike holding TIPS directly, a TIPS ETF or Mutual Fund can elect to distribute this income on a monthly basis, this addresses the problem of TIPS phantom income

This process means there will always be a lag between when inflation occurs and when TIPS' principal and coupon payments reflect it.

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To give a recent example, some investors holding TIPS in an ETF or Mutual Fund were surprised to see only small increases in their coupon payments in March 2022, after inflation hit multi-decade highs in February. The explanation: The increase in TIPS' March payments reflected the more-modest inflation three months earlier, from December 2021.

INTEREST RATES ARE CRITICAL TO TIPS RETURNS

TIPS investors often focus on inflation's impact on their income and total returns. They should bear in mind that changes in the level of interest rates also have major impact on performance, as they do with other fixed-income securities.

When interest rates rise, the value of fixed-income securities falls; when rates fall, fixed-income values rise. A given security's sensitivity to interest rate moves is measured by duration, the weighted average time until it repays the bondholders' initial investment. The longer a fixed-income investment's duration, the more its price will fall with each increase in rates.

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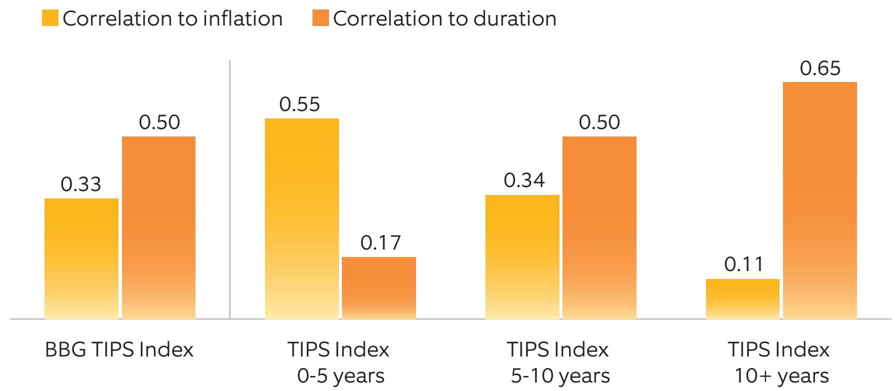
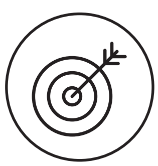
Rising real[2] interest rates have the potential to overwhelm inflation's effect on TIPS' returns, especially for securities with long durations. The chart below illustrates how much of TIPS' returns between 2003 and 2021 could be explained by inflation versus duration (that is, changes in real interest rates). For TIPS with durations of 10 years or longer, interest-rate moves affected returns almost six times as much as inflation did.

INTEREST RATES' IMPACT ON TIPS RETURNS



- The principal value of all TIPS is adjusted for changes in inflation – giving them their inflation protected properties.
- Shorter-duration TIPS have a stronger correlation to inflation given less dilution from interest rate risk.

Source: Northern Trust Investment Strategy. Bloomberg. Conditions are based on 12-month returns from 8/29/2003 through 12/312021. First appeared in New TIPS on Real Assets (2012).

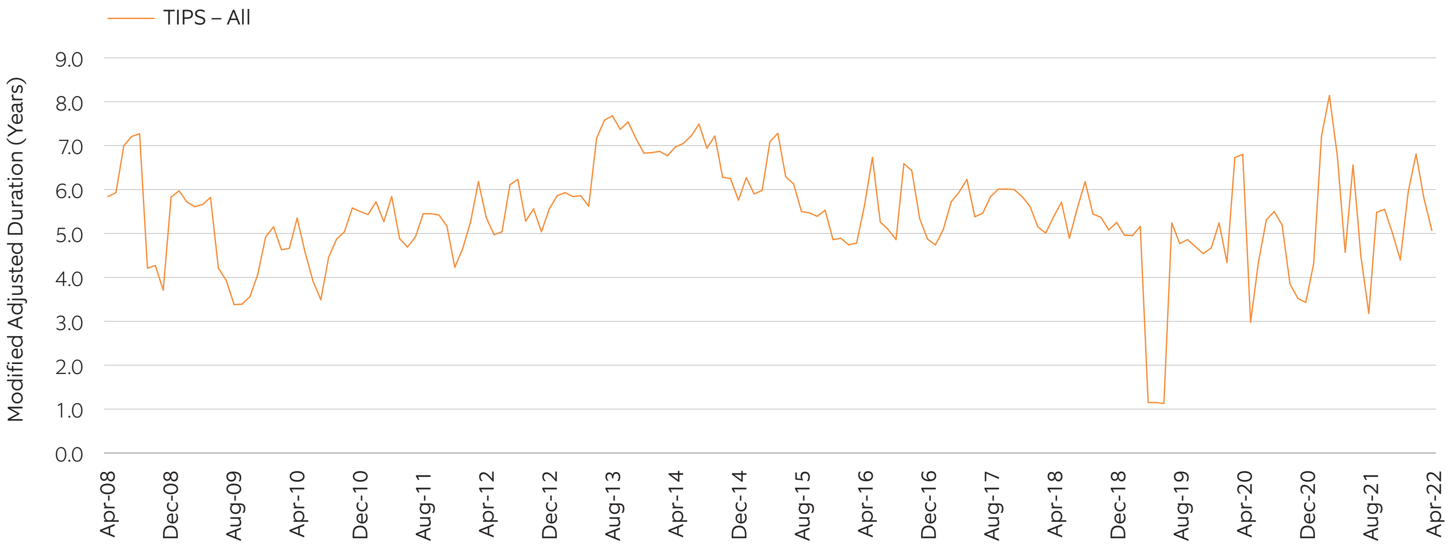


Moreover, duration for TIPS is a moving target. A fixed-income asset's duration is calculated based on its principal amount and expected cash flows. TIPS' principal changes virtually every month due to realized inflation and future cash flow estimates are impacted by future inflation expectations, therefore TIPS duration changes constantly. The resulting fluctuations in TIPS duration make it difficult to measure a TIPS portfolio's interest rate risk with any precision.

Modified Adjusted Duration (MAD) for TIPS is calculated using the Market's estimate of future inflation to arrive at a duration calculations that allows the interest rate risk of TIPS to be comparable to other fixed income securities. This is critical as duration plays such an important role in determining expected fixed income returns.

MODIFIED ADJUSTED DURATION

Bloomberg TIPs Index



Source: Bloomberg. Apr 1, 2008 – Apr 30, 2022. Not actual portfolio results. For illustrative purposes only. **Past performance is not indicative of future results**. It is not possible to invest directly in an index. Indexes are the property of their respective owners, all rights reserved.

EXPECTED INFLATION IS ALREADY PRICED IN

Like other Treasury securities, TIPS trade on the open market. To determine the yield they'll accept for a given TIP security, investors take the yield of a conventional Treasury of equal maturity and subtract the expected inflation rate over that time period. For example:

Nominal Market Yield on 5-year Treasury note:
2.5%

Expected annual rate of inflation over the next five years:
3.0%

Real Yield on 5-year TIPS:
-0.5%

Over time, if inflation matches the breakeven rate, TIPS offer no advantage over nominal (ie, non-inflation-adjusted) Treasuries with a similar duration.

The expected inflation built into TIPS' yield—3.0% in the example above — is called the *breakeven rate*. Over time, if inflation matches the breakeven rate, TIPS offer no advantage over nominal (ie, non-inflation-adjusted) Treasuries with a similar duration. In this example, both would pay a real, after-inflation yield of -0.5%. This dynamic holds no matter how high or low inflation may be: If the market accurately anticipates the inflation rate, TIPS' yield will account for it and investors would fare just as well in an ordinary Treasury bond with a like duration.

Put another way, TIPS don't help protect against *expected* inflation. They perform better than comparable nominal Treasuries only when inflation exceeds the breakeven rate, causing their principal to increase more than investors had priced in. If inflation falls short of the breakeven rate, the investor is better off in nominal Treasuries.

KEY CONSIDERATIONS FOR TIPS INVESTORS

The TIPS market historically has been very good at pricing in near-term inflation. TIPS' prices and yields typically start reflecting expectations for a given months' inflation about six weeks before it's reported,[3] and reflect 98% of the inflation figure by the time it's announced, on average. [4]

The upshot: By the time inflation is high, it's already priced in to TIPS and too late to act on. That said, TIPS can be a valuable strategic hedge against the kind of unexpected inflation we have seen since mid-2021.

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That spike in prices has drawn attention to the need to protect portfolios from inflation's impact on income and financial assets, especially fixed-income securities. TIPS can help protect against the risk that prices may continue to rise much faster than anticipated. But investors shouldn't count on TIPS to protect against inflation that's simply high, and they should be prepared for this distinctive asset's idiosyncrasies, such as its uncertain duration and the lag in reflecting monthly inflation.

A diversified portfolio that includes a range of inflation-hedging assets — including dividend growth stocks, natural resources and real estate as well as TIPS — can help clients provide the inflation protection they need while pursuing long-term investment objectives.

FIND OUT MORE

The FlexShares approach to investing is, first and foremost, investor-centric and goal oriented. We pride ourselves on our commitment to developing products that are designed to meet real-world objectives for both institutional and individual investors. If you would like to discuss the attributes of any of the ETFs discussed in this report in greater depth or find out more about the index methodology behind them please don't hesitate to call us at 1-855-FlexETF (1-855-353-9383).

FOOTNOTES

1 U.S. Bureau of Labor Statistics, Consumer Price Index News Release, January 12, 2022.

2 Real yield is the nominal market yield less inflation expectations for a given term

3 Simons, Howard, 2011, "TIPS React Very Prematurely to Commodity Movements." Arbor Research/Bianco Research Connections – Tying Markets Together, Vol. 8, No. 159

4 Chu, Quentin C., Pittman, Deborah N., Yu, Linda Q., "When Do TIPS Prices Adjust to Inflation Information?" Financial Analysts Journal, Vol. 67, No. 2

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DEFINITIONS

Bloomberg 1-10 Year U.S. Government Inflation – Linked Bond Index is designed to measure the performance of the inflation protected public obligations of the U.S. Treasury commonly known as "TIPS" that have a remaining maturity greater than or equal to 1 year and less than 10 years.

IMPORTANT INFORMATION

Before investing, carefully consider the FlexShares investment objectives, risks, charges and expenses. This and other information is in the prospectus and a summary prospectus, copies of which may be obtained by visiting www.flexshares.com. Read the prospectus carefully before you invest.

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FlexShares iBoxx® 3-Year Target Duration TIPS Fund (TDTT) and the FlexShares iBoxx® 5-Year Target Duration TIPS Index Fund (TDTF) are passively managed and primarily use a replication strategy to track their underlying index. Use of a replication strategy creates tracking risk where the Fund's performance could vary substantially from the performance of the underlying index along with the risk of high portfolio turnover. They may invest in derivative instruments. Changes in the value of the derivative may not correlate with the underlying asset, rate or index and the Funds could lose more than the principal amount invested. The Funds are subject to fluctuation of yield risk, income risk, inflation protected security risk and interest rate/maturity risk. The Funds are non-diversified meaning the Funds' performance may depend on the performance of a small number of issuers because the Funds may invest a large percentage of its assets in securities issued by or representing a small number of issuers.

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