The Bond Market Faces 4 Big Risks

Lessons from the worst US bond market in modern history on its one-year anniversary.

Alec Lucas and Maciej Kowara • Oct 31, 2024

Securities In This Article

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Bad markets may not be fun, but they have a lot to teach investors. That's why Morningstar in October 2024 published new research on the anniversary of the end to arguably the worst US bond market in modern history.

This article summarizes our research on that bad bond market. It details the four big, interrelated risks faced by bond investors who stick to USD-denominated debt: price risk, interest-rate risk, inflation risk, and credit risk. The bond market tumbled so badly prior to October 2023 because three of these latent risks came to the fore, especially in 2022. Understanding the drivers of that drawdown can put investors in a better position to endure future bond market volatility and even to mitigate at least some of these risks.

Price Risk

Industry practitioners often speak as if changes in interest rates, or what investments yield, drive bond prices. The reverse, however, is true: Only bond prices are directly observable in the market and adjustments up or down in those prices as investors buy and sell cause changes in each bond's yield, which is a derived figure that reconciles a bond's market price with its coupon payments plus the eventual principal repayment at maturity.

For a standard fixed-rate coupon bond with semiannual payments, yield moves in the opposite direction of price. An investor who must sell such a bond will drop its price until a buyer emerges, but because the coupon payments do not change, the bond's yield increases as the price decreases. On the other hand, an investor determined to buy such a bond will bid higher and higher until a seller emerges, but again because the coupon payments do not change, its yield decreases as the price increases.

Price and interest-rate risk can be thought of as two sides of the same coin. They are distinct, however, because they almost never have a one-to-one correspondence. Two bonds whose prices drop by the same amount, such as from $100 to $95, would see their yields change differently if their respective coupon payments and/or remaining maturities differ. Conversely, the same magnitude of a yield change may result in varied price changes if two bonds' coupon payments and/or maturities differ.

While any number of triggers can cause investors to rethink the right price for a bond, interest-rate risk, inflation risk, and credit risk are foremost among them.

Interest-Rate Risk and Duration

In a very low interest-rate environment, modest coupons and long maturities amplify bond market volatility. The Morningstar US 10+ Year Treasury Bond Index's cumulative 47.61% loss between March 10, 2020 and Oct. 19, 2023, when the 10-year Treasury yield increased to 4.98% from 0.54%, illustrated what Martin Leibowitz warned of many years prior: "When rates can only go up, and when the price sensitivity of any given cash flow is near its maximum, it's a pretty toxic combination."[1]

Calculated in years, option-adjusted duration, also known as effective duration, is an estimate of a bond portfolio's price sensitivity to a 1% move up or down in the market's required yield. A portfolio with a duration of 3.0 years, for example, would lose about 3% if interest rates rose by 1%, all else equal, while a portfolio with a duration of 5.0 years would lose 5%. A higher number, in other words, indicates greater sensitivity.

This important risk metric flashed another warning signal about how exposed the investment-grade bond market was to an increase in yield leading up to the 2022 market storm. Morningstar's Eric Jacobson made this point in September 2020, and the signal subsequently grew louder.[2] Whereas from 2000 to late 2016, the Morningstar US Core Bond Index's option-adjusted duration oscillated between about 3.5 and 5.5 years, it crossed the 6.0-year mark in July 2020 and consistently stayed above that threshold through most of 2023, often even exceeding 6.5 years in late 2021 and 2022's first half.

During the depths of what proved to be the worst US investment-grade bond market since modern indexing began nearly 50 years ago, the benchmark peak-to-trough lost 18.4% cumulatively between Aug. 7, 2020, and Oct. 24, 2022, putting it on the verge of bear-market territory for equities, typically a much more volatile asset class than investment-grade bonds.

The Worst Bond Market and Inflation Risk

Throughout most of 2023, the investment-grade bond market stood to lose about 6% if market yields were to rise 100 basis points, and the Morningstar US Core Bond Index came close to a new low on Oct. 19 that year. As it turns out, the bond market rallied to close out 2023 amid the 10-year Treasury yield's nearly 100-basis-point drop.

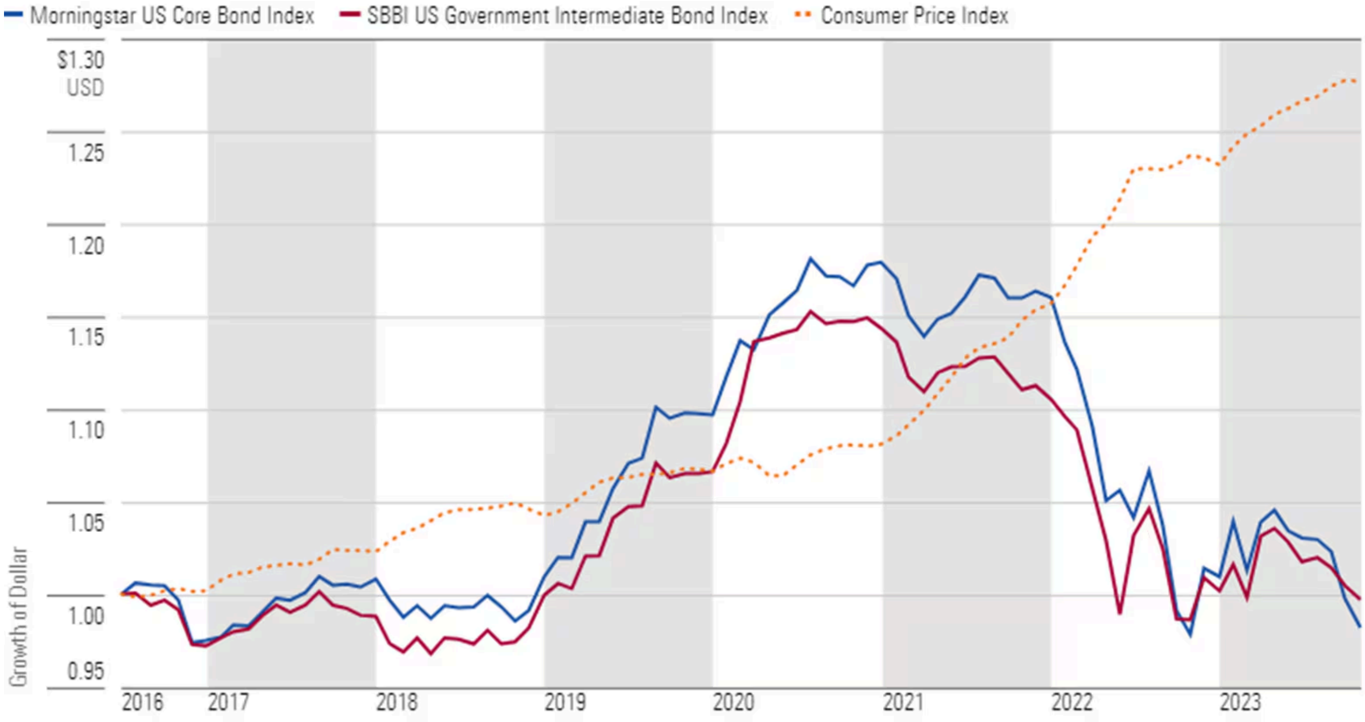
Looked at another way, however, October 2023 turned out not to be the near miss of a new low but the end to the worst US bond market in nearly 100 years. Peak-to-trough performance may be the industry standard for assessing the depth and extent of a bear market, but one can also assess the longest market stretch with a negative cumulative return. Even if there is an interim period within that stretch when returns turn positive, if they subsequently fall again to such an extent that from beginning to end one loses money, then it counts as a negative return. The longer the period, the worse the market.

From this perspective, the more than seven-year stretch between July 1, 2016, and Oct. 31, 2023, was the worst investment-grade bond market since 1976 and the worst intermediate government bond market dating to 1926, when the Morningstar Ibbotson Stocks Bonds Bills Inflation (SBBI) return series begins. For every US dollar invested at the start of that period, core bond investors had only about 98 cents at the end; intermediate government bonds fared better but still fell short of even by a fraction of a penny.

That was in nominal terms, though. The picture is darker still when looking at real, or inflation-adjusted, returns. Simply put, inflation occurs whenever too much money chases too few goods and services. The combination of years of the Federal Reserve buying Treasuries and agency mortgage-backed securities (so-called *quantitative easing* in which securities go onto the Fed's own balance sheet) to inject money into the financial system, three rounds of direct government stimulus payments, and pent-up demand following supply-chain bottlenecks led to an inflationary surge, beginning in 2021, unseen in the United States since between the late 1970s and early 1980s.

As a result, the purchasing power of a dollar over that seven-year, four-month stretch between July 1, 2016, and Oct. 31, 2023, eroded significantly. Just to keep pace with the rising cost of goods and services, as measured by the Consumer Price Index, an investor would have needed about $1.28 at the end. In other words, core bond investors would have needed 30% more purchasing power to buy what a dollar could in mid-2016.

Bond Market Longest Underperformance Period Vs. Consumer Price Index Inflation

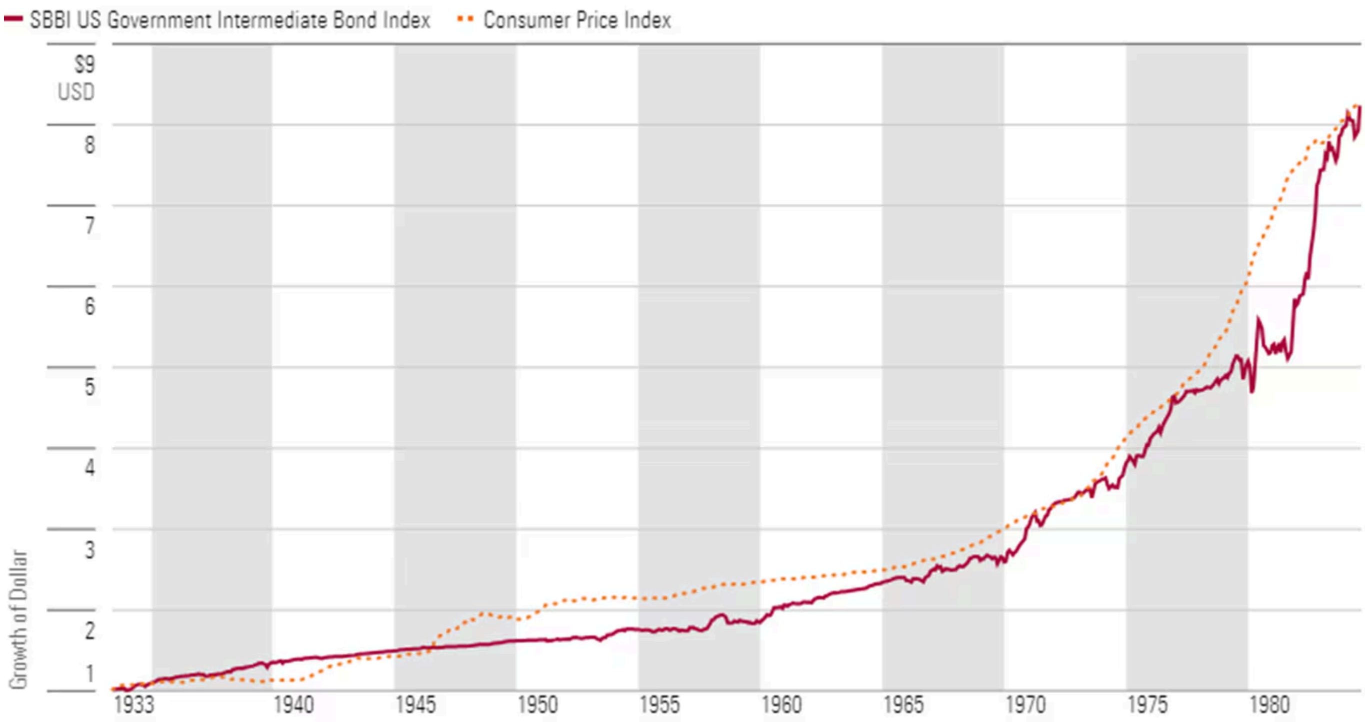


The Fed had regarded signs of inflation in early 2021 as likely to be transitory but became more concerned about its potential persistence as that year progressed. In March 2022, the central bank implemented the first of what became 11 increases to its Fed-funds overnight lending rate, raising it 5.25 percentage points in total by July 2023. Meanwhile, the Fed had also begun to drain excess money from the financial system (so-called *quantitative tightening*) by letting its mortgage and Treasury holdings mature, and not reinvesting their interest payments starting in June 2022.

The speed and magnitude of the Fed's combined actions seem to have proved successful. Year-over-year inflation reached 9.06% in June 2022, its highest level since 1981, but it has steadily declined since to levels where it was before the coronavirus pandemic began. That's what gave the Fed confidence to cut its overnight lending rate by 50 basis points at its September 2024 meeting, which market participants now expect to be the first in a series of cuts.

Still, it would be a mistake to dismiss the threat of inflation simply because of the Fed's recent success. If the period between July 1, 2016, and Oct. 31, 2023, is the longest negative stretch for nominal US government intermediate bond returns in data dating to 1926, made worse by incorporating inflation into the picture, it falls far short of the longest negative stretch for real, or inflation-adjusted, returns of US government intermediate bonds. That honor belongs to the 51-year, two-month period between June 1, 1933, and July 31, 1984, when an initial US dollar invested in US government intermediate bonds grew cumulatively to about $8.21, just shy of the $8.26 that would have been required to maintain purchasing-power-based inflation as measured by the Consumer Price Index. Thus, investors in those bonds failed to get a positive inflation-adjusted return for over 50 years.

Longest Inflation-Adjusted Underperformance Period for Intermediate US Government Bonds



Credit Risk and Option-Adjusted Spread

Credit risk concerns a debtor's ability to make timely interest and principal payments. Credit rating agencies assign grades based on the borrower's ability to pay, and the more certainty surrounding the timely fulfillment of those payments, the higher a debtor's credit rating; the more uncertainty—or potential to default on any payments—the lower the rating. Although credit risk incorporates default risk, it is more than that. If the market becomes concerned about the likelihood of a bond's future payment of cash flows, then it will pay less for that bond even if all payments end up being made in a timely manner. That may not be a problem if you hold that bond to maturity, but it becomes a problem if you must sell that bond when the market is worried.

Option-adjusted spread is a point-in-time measure of the market's perception of credit risk. It represents how much more yield the market requires from a bond over a Treasury security whose cash flows align with those of the bond. For example, if the yield to maturity of a fixed-rated, option-free corporate bond is 6% and a Treasury with matching cash flows has a 1% yield to maturity, that bond's spread is 5%. Whereas the market regards the Treasury's cash flows as risk-free because the full faith and credit of the US government backs them, the degree of risk the market associates with the bond's cash flows are what the option-adjusted spread primarily encapsulates.

As the market changes its perception of risk associated with a set of bonds with the same credit rating or a segment of the bond market, such as high-yield corporates, option-adjusted spreads alter accordingly. Spreads widen in heightened risk environments and tighten as risk perceptions lessen. Widening spreads lead to underperformance relative to Treasuries. In a static interest-rate environment, for example, non-Treasury bond prices go down and their yields up, while Treasury prices and their yields stay the same. By contrast, tightening spreads in a static rate environment lead to outperformance because non-Treasury bond prices go up and their yields down, while Treasury prices and their yields remain the same.

Option-adjusted credit spreads across the bond market widened significantly in 2020's first quarter owing to the coronavirus pandemic and again from 2022 to 2023 amid rising interest rates. Spreads did not widen nearly as much as in 2008, however. Consider very credit-sensitive high-yield bonds and leveraged loans. The option-adjusted spread for high-yield bonds widened to 10.74 percentage points on March 23, 2020, but that was only about half the financial crisis' Dec. 12, 2008, peak of 19.97 percentage points. Likewise, leveraged loans' spread-to-maturity, the conventional metric for valuations in this market, hit 10.71 percentage points in early 2020, versus 16.62 in late 2008.

Credit Spreads: High-Yield Bonds and Leveraged Loans

Downgrades across investment-grade and high-yield corporate bonds tell a similar story. By mid-2009, a third of corporate bonds had been downgraded over the prior year, about twice the percentage of corporate bond downgrades over the course of 2020. Recovery rates on defaulted debt were also much lower during the financial crisis than in the aftermath of the coronavirus pandemic.

Peak-to-trough performance of various bond market sectors offers yet another vantage point, one that highlights the difference between credit and interest-rate risk. Whereas credit-sensitive assets fared the worst during the financial crisis and struggled in early 2020 as well, interest-rate risk predominated in 2022 and surrounding years. That's most apparent by contrasting the performance of leveraged loans. They are extremely sensitive to credit markets, but their floating-rate debt structure means they're relatively insulated from interest-rate volatility because their coupons rise when interest rates go up. Leveraged loans lost 32.1% and 20.7% when credit markets cratered from mid-2007 to late 2008 and in early 2020, respectively, but only 5.55% peak to trough in 2022.

Bond Sectors: Peak-to-Trough Cumulative Losses Across Three Market Periods

	2007-2008			Early 2020			2020-2023		
	Peak Date	Trough Date	Cumulative Loss	Peak Date	Trough Date	Cumulative Loss	Peak Date	Trough Date	Cumulative Loss
US Core Bonds	9/15/2008	10/31/2008	–4.71	3/9/2020	3/19/2020	–5.98	8/6/2020	10/24/2022	–18.38
US Corporates	1/23/2008	10/30/2008	–15.31	3/8/2020	3/20/2020	–15.57	9/14/2021	10/21/2022	–22.11
US High-Yield	5/29/2007	12/12/2008	–33.44	2/20/2020	3/23/2020	–21.30	12/28/2021	9/29/2022	–14.81
US Leveraged Loans	6/24/2007	12/17/2008	–32.10	1/26/2020	3/23/2020	–20.73	1/23/2022	7/6/2022	–5.55
US MBS	9/15/2008	10/14/2008	–3.27	3/9/2020	3/19/2020	–2.45	2/9/2021	10/19/2023	–17.65
US CMBS	5/20/2008	11/20/2008	–36.84	3/8/2020	3/24/2020	–9.21	8/3/2021	11/7/2022	–14.37
US ABS	9/15/2008	11/24/2008	–6.22	3/9/2020	3/24/2020	–7.52	8/3/2021	11/3/2022	–6.78
Emerging Mrkts Bond	5/20/2008	10/24/2008	–26.13	3/4/2020	3/19/2020	–20.06	1/4/2021	10/21/2022	–26.71

Lessons From the Worst Bond Market

This most recent period of bond market volatility offers key lessons related to each of the four major risks for USD-denominated bond investors.

Interest-Rate Risk

Starting with interest-rate risk, investors who stick to US investment-grade bonds should evaluate the duration approach of actively managed intermediate core bond Morningstar Category funds that they buy or hold. Indeed, the disparity between the Morningstar US Core Bond Index’s 4.7% peak-to-trough loss in 2008 versus its 18.4% peak-to-trough drop amid rising interest rates from August 2020 to October 2022 shows how much more damaging a misplaced interest-rate bet could be for a high-quality portfolio. Conservative bond investors should either chose an active manager who keeps duration differences from their benchmark within a constrained range, such as half a year, or a manager who matches its benchmark’s duration, as does the team behind Baird Aggregate Bond BAGIX, which has a Morningstar Medalist Rating of Gold.

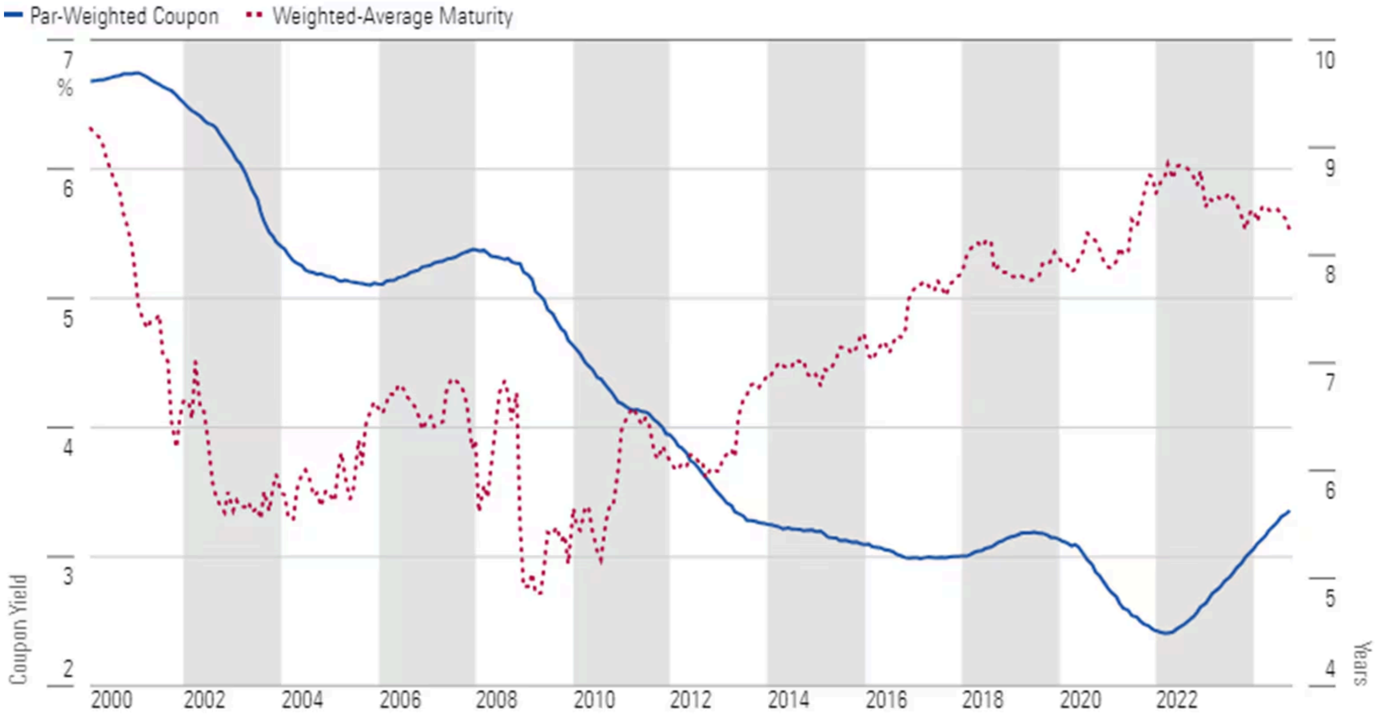
Price Risk

In the current market environment, however, investors have less reason to worry about price risk in the face of another surge in interest rates. There’s not just more yield than in the past but higher coupons to go along with those yields. For fixed-rate debt, higher coupons provide additional cushion since they lose less than their lower coupon counterparts, all else being equal, when rates increase.

That coupons are higher across the investment-grade bond universe than a few years ago is evident in the Morningstar US Core Bond Index's par-weighted coupon, a point-in-time average of new issue yields. In March 2022, it fell to a 20-plus-year low of 2.395%. Through September 2024, however, it had since climbed to 3.343%, an increase of two fifths. And with Treasury yields across maturities now in the 3.5% to 4.9% range, the bond market's par-weighted-coupon will inch higher with each new issue, if rates remain unchanged or even if they fall some.

As its par-weighted coupon moves higher, the investment-grade bond market should prove more resilient than in 2022 to another surge in yields, if it occurs, all else equal. Granted, greater issuance of longer-term bonds could offset the impact of higher coupons because, all else equal, longer maturity bonds are more sensitive to interest-rate changes. But that hasn't happened. Its weighted-average maturity fell to about 8.2 years from 8.8 between March 2022 and September 2024.

Investment-Grade Bond Market: Morningstar US Core Bond Index



Credit Risk

Turning to credit risk, investors willing to court it should consider a multisector approach that could include an allocation to leveraged bank loans. They have commonality to the high-yield market but have floating rates, they aren't regulated in the same way as stocks and bonds, and trades can take longer to settle. They can also be as or more vulnerable than high-yield bonds to narrow market shocks, as in early 2020. As 2022 showed, however, the floating-rate nature of leveraged loans provides some protection to a portfolio against rising interest rates, provided the credit environment does not deteriorate too much.

That last qualification is important. Investors should be wary of managers whose records are built by loading up on credit risk because years of outperformance can evaporate in a single downturn. The Morningstar US High Yield Bond Index's peak-to-trough 33.4% loss from mid-2007 to late 2008, for example, meant that investors on average lost everything they had gained in that asset class since early 2003.

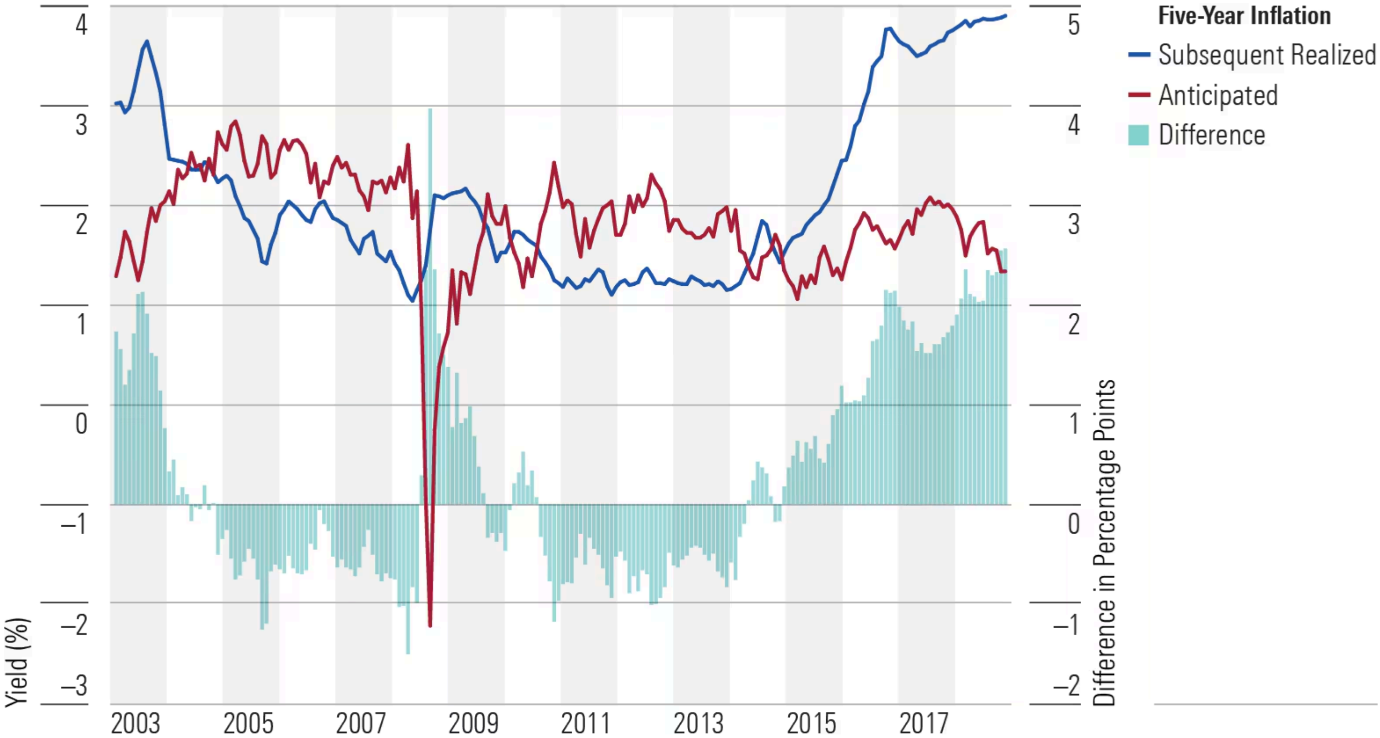
Inflation Risk

Even if the Fed seems to have proved successful in taming the latest outbreak of inflation, the more than 50-year period between 1933 and 1984 when inflation kept the return of US government intermediate bonds from increasing purchasing power offers a cautionary example. At the very least, bond investors should allocate a portion of their portfolio to strategies or assets that can withstand if not benefit from inflation.

Granted, the recent record of funds within the inflation-protected bond Morningstar Category is not encouraging. The median return in 2022 for the cheapest share class of the roughly 50 distinct funds within this category was a 12% loss, almost certainly due to the heightened interest-rate sensitivity of the long-term Treasury Inflation-Protected Securities held by most of those funds. Although a 12% median loss is still a bit better than the Morningstar US Core Bond Index's 13% drop, inflation in 2022 as measured by the Consumer Price Index eroded the purchasing power of a dollar by 6.45% over the same period.

Another option for fund investors is to pick a manager with a broad remit and an approach that includes protecting against inflation as part of it. Bronze-rated American Funds Strategic Bond RANGX is an example. This intermediate core-plus bond strategy aims to generate most of its excess returns via interest-rate and credit default swaps as well as betting on inflation, largely with TIPS. The strategy did not distinguish itself in 2022, but shifts within its macroeconomic positioning led to a category-leading 18.5% gain in 2020.

Anticipated Five-Year Inflation based on Breakevens versus Realized Inflation



Investors can also invest directly in TIPS themselves to guard against inflation. Breakevens between Treasuries and TIPS may not be a perfect measure of inflation expectations, but they do suggest that the market has at times seriously underestimated ensuing inflationary pressures. From 2003 through September 2024, the market's five-year estimates of inflation, as measured by breakevens, were too low a little less than half the time based on subsequent realized inflation. The skew, though, has been in favor of investors who sought protection via TIPS. On average, TIPS investors made 1.2% when inflation outpaced expectations, versus a 0.6% opportunity cost when inflation fell short of expectations. In the latter case, it wasn't that investors lost money—just that they did not make as much as they would have based on the same investment in five-year Treasuries.

These results suggest that most bond investors should consider a rolling allocation to TIPS in their portfolios. Ideally, that rolling allocation should be made in tax-sheltered accounts since inflation-adjustments to the face value of TIPS are taxed as ordinary income in the year they occur.

Endnotes

[1] Leibowitz, M.L. 2004. "Some Topics that Didn't Make It into the 1972 Edition," P. 139 in Homer, S. et al. 2013. "Inside the Yield Book: The Classic that Created the Science of Bond Analysis" (3d ed.; Hoboken: John Wiley).

[2] Jacobson, E. 2020. "A Brave New Bond World.," Morningstar. Sept. 4, 2020. https://www.morningstar.com/funds/brave-new-bond-world

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