MORNINGSTAR®

Morningstar Insights

How and Why to Invest in Bonds
A Morningstar View

Morningstar Inc.
June 2019

(Estimated Reading Time: 25 mins)

Tom Lauricella
Editorial Director

Christine Benz
Director of Personal Finance

Many investors feel they should have bonds somewhere in their portfolios. But most don't know how to address their fundamental questions about how to do so. How much of their portfolios should be invested in bonds? Individual bonds or bond funds? What mix of different kinds of bonds is best over time?

In early 2019, Morningstar conducted a series of forums with people interested in bond investing and found that, from the get-go, bond investing can be confusing for many individual investors. Confusion often starts with the fact that bad economic news is generally good news for bond prices and vice versa. In other words, if greed makes stocks go up and fear makes them go down, it is the opposite for bond prices.

Rising bond prices also mean lower yields (and vice versa!). So, in a time of crisis, investors are willing to pay more, and accept a lower yield, in exchange for the relative safety of bonds. And yet, for an investor looking to invest in a bond fund for income, it can be good news when bond prices are falling and yields are rising. Also confusing? High-yield corporate-bond funds may act more like stock funds than government-bond funds.

But a smart allocation to bonds can make the difference between a portfolio with scary ups and downs that spook long-term investors out of the stock market, leaving a retiree short on the money needed to pay bills, and a more stable and diversified portfolio that can deliver the outcome an investor needs to pay expenses.

For this report, we've turned to a wide range of Morningstar's experts, from our veteran personal finance columnists to our investment management team. For beginner investors, we've explained the basics of bond investing step by step, in plain English. But more experienced investors will also find valuable insights on building bond portfolios based on Morningstar's independent research and commentary.

- What role do bonds play in a portfolio?
- How much of a portfolio belongs in bonds?
- How do you know if the bond market is cheap or expensive? Does it matter? Where are we now?
- What factors should be considered when deciding among different kinds of bond investments?
- What strategies make the most sense in different market and economic environments, such as rising inflation and bond yields?

A Very Short Primer on Bond Terminology

There are two main terms that will come up again and again with bonds: duration and credit quality.

For a bond market pro, duration can be a complex variable. For most everyone else, it is easiest to think of duration as a bond's maturity. Bond investments are generally broken into three segments: short--less than two years, intermediate--two through 10 years, and long-term--bonds maturing in more than 10 years. In general, long-term bonds are more prone to wider swings in price than short-term bonds.

Credit quality boils down to the ability of the bond issuer to make good on interest payments. Government bonds are generally the highest quality because governments, including municipalities, can use taxes to generate revenue to pay off debt, while a corporation's ability to pay debt depends on its business prospects.

What Role Do Bonds Play in a Portfolio?

One of the great features of holding bonds is diversification--they bring something different from equities to the table in terms of performance. For instance, during a steep stock market decline, government bonds tend to appreciate, serving as a valuable offset for those losses. While a seasoned long-term investor may well ride out the ups and downs in the markets, a well-diversified portfolio can help smooth out bumps on the way to meeting a desired goal.

There's a fundamental reason for the diversification feature of bonds: When an investor or fund buys a bond, that bond issuer is promising to pay bondholders a stream of income in the form of interest (aka yield.) The value of that income contract typically acts as an anchor for the price of that bond even during times of uncertainty.

The primary risks to bonds are inflation, which erodes the value of those fixed payouts, and default, when the issuer is unable to make good on the promised interest or principal repayment.

It is critical to differentiate between government bonds and corporate bonds when it comes to the degree of diversification they can add to a portfolio.

Government bonds tend to be the more protective of the two during market panic for three key reasons: 1) they are considered to have little to no default risk and are generally very actively traded, therefore prices can rise during market turmoil as investors make a "flight to safety," 2) the yields tend to be tightly linked to the health of the economy, so prices benefit if interest rates get cut, and 3) they often involve longer holding periods, which increases the sensitivity of their price and yield to changes in the economy.

Meanwhile, corporate bonds share some of the same risks as stocks. For example, if a company goes bust, both the stocks and the bonds of that company will fall in value. High-yield bonds--often called

junk bonds--are those issued by companies considered to be at higher risk of default. Performance trends in the high-yield market typically move in the same direction as the stock market.

These relationships show up in the statistic called correlation, which is essentially the relationship between returns on two sets of investments. For a bond investment to provide diversification to a portfolio, it requires it to not move in lock step with other investments. (Morningstar's director of personal finance, Christine Benz, highlighted how to assess diversification efforts in this article.)

Using this statistic, a correlation of 1 indicates that two assets move in lock step--hence the statement that "all correlations went to 1" during the financial crisis. At the other extreme, a correlation of negative 1 indicates a perfect inverse relationship; if one asset goes up, the other goes down. Finally, a correlation of 0 indicates no correlation at all. The readings in between reflect the varying tendencies to move in relation to each other.

To find the correlations between key Morningstar mutual fund categories and what that means for how bonds can diversify a portfolio, we turned to the Morningstar Direct database.

We can start with the correlations between U.S. and non-U.S. large-blend stock funds. These categories of funds hold the stocks of companies with large market capitalization but don't favor a growth or value style. They include popular broad market index funds. Correlations between the U.S. and non-U.S. stock categories have been very high over the past 10 years, suggesting that they provide very little portfolio diversification to one another. High-yield bond funds, too, have a very high relationship to large-blend stocks.

Exhibit 1 Long Term Investment Correlations. Time Period: 5/1/2009 to 4/30/2019

Investment	1	2	3	4	5	6	7
1 Large Blend	1.00						
2 Foreign Large Blend	0.94	1.00					
3 High Yield Bond	0.78	0.74	1.00				
4 Corporate Bond	0.65	0.74	0.72	1.00			
5 Intermediate Core Bond	0.63	0.70	0.71	0.98	1.00		
6 Intermediate Government	0.19	0.31	0.16	0.68	0.75	1.00	
7 Short Government	0.05	0.16	0.08	0.58	0.69	0.94	1.00

Legend: 1.00 to 0.80; 0.80 to 0.60; 0.60 to 0.40; 0.40 to 0.20; 0.20 to 0.00; 0.00 to -0.20; –0.20 to –0.40; –0.40 to –0.60; –0.60 to –0.80; –0.80 to –1.00

Source: Morningstar Direct. Data as of dd/mm/yyyy.

Returns on funds in the intermediate core bond Morningstar Category--which holds a mix of high-quality government and corporate bonds--have very little relationship to the returns on large-blend stock funds. Government-bond funds, meanwhile, tend to move in the opposite direction, adding a greater amount of diversification. In other words, this data shows that when large-blend stock funds are losing money, government-bond funds are poised to make money.

The following table shows correlations as global financial markets were under the severe stress of the financial crisis. This was an extreme set of conditions--recognized by most analysts as the worst economic downturn since the Great Depression--so investors can think of this as a worst-case scenario. During the financial crisis, core bond funds became more highly correlated with large-blend stocks. It was only government bonds that provided diversification, though less than in more-normal market conditions.

Exhibit 2 Financial Crisis Correlations. Time Period: 10/1/2007 to 2/28/2009

Investment	1	2	3	4	5	6	7	8
1 U.S. Large Blend	1.00							
2 Foreign Large Blend	0.88	1.00						
3 High Yield Bond	0.75	0.81	1.00					
4 Corporate Bond	0.30	0.45	0.69	1.00				
5 Intermediate Core Bond	0.14	0.30	0.52	0.95	1.00			
6 Intermediate Government	-0.26	-0.14	0.02	0.62	0.82	1.00		
7 Short Government	-0.15	-0.02	0.13	0.64	0.82	0.94	1.00	
8 Money Market–Taxable	-0.02	-0.03	-0.06	-0.04	-0.04	0.01	0.10	1.00

1.00 to 0.80
0.80 to 0.60
0.60 to 0.40
0.40 to 0.20
0.20 to 0.00
0.00 to -0.20
–0.20 to –0.40
–0.40 to –0.60
–0.60 to –0.80
–0.80 to –1.00

Source: Morningstar Direct. Data as of dd/mm/yyyy.

Why Not Just Hold Cash?

As seen in the long-term correlation table, cash also acts as a diversifier in a portfolio. So, why not just hold cash?

As Karen Wallace wrote in this article, the "right" asset allocation depends on an investor's or household's specific time horizon and risk capacity. An investor who will need funds in the very near term might be better off holding cash or a cash-equivalent investment.

It is important to remember that cash yields have been so low in recent years that investors are losing purchasing power when factoring in inflation, which over time averages between 2% and 3% per year. In other words, cash loses its value over time.

So for investors who have a little more time--say, at least three years--a short- or intermediate-term bond fund can make more sense, even if rates are expected to rise.

Christine Benz notes that, in normal environments, investors should be able to pick up a higher yield than on cash instruments with just a little bit more volatility. (Of course, unlike true cash instruments, principal is not guaranteed in bonds.)

Another consideration is portfolio diversification. Cash won't lose money during an equity-market shock, nor will it gain. As discussed above, though, bonds can have a negative correlation with equities and can gain in price during stock market declines.

Bonds Vs. Bond Funds

Some brokerage firms like to tell clients they should buy bonds instead of bond funds, but for many investors, that is rarely a good idea. There are several possible advantages to investing in a mutual fund's portfolio of bonds rather than buying bonds directly.

The primary reason is the ease of diversification.

Bonds are typically issued with face values of $1,000, but you may need to buy a block of several bonds to obtain decent pricing. To assemble an individual-bond portfolio that's reasonably diversified across market sectors, $100,000 is often cited as the minimum threshold at which a portfolio of individual bonds could make sense over a bond fund. By contrast, bond-fund investors assemble a very broadly diversified portfolio of bonds for a low cost--corporate bonds, government bonds, and bonds backed by assets like mortgages--thereby aiming to reduce the damage that any one holding can inflict on their overall portfolios.

In a related vein, individual-bond buyers, particularly those without a lot of money to invest, can face high trading costs when transacting in individual bonds, which can make a real dent in returns.

Morningstar Research Services' senior analyst Eric Jacobson says that U.S. Treasury bonds are an important exception. The U.S. Treasury market is extremely large and liquid, its structures are as simple as they come, and most brokerages charge modest fees to buy and sell them at very fair prices. For pretty much everything else, the cards are stacked against you.

Professional management is also a key virtue of mutual funds, and this is arguably even more important in the realm of bonds than in stocks. That is because, in addition to evaluating bonds' interest-rate sensitivities, bond-fund managers also spend time evaluating bond issuers' creditworthiness as well as other features of the issuers and their bonds.

To Index Bonds or Not?

Much of the advantage that index-tracking equity funds can have over actively managed funds, where portfolio managers are choosing individual securities, comes from lower costs. For bond funds, where returns are generally lower over time than stock funds, fees can have a substantial impact on an investors' outcome.

However, many corners of the bond market are much less actively traded than the stock market and information on issuers can be harder to come by. That's one big reason that the U.S. municipal-bond

fund universe is largely the domain of actively managed funds. But in the most actively traded other corners of the market, index funds have increasingly become the foundation of many portfolios thanks to their low costs.

And, as Morningstar columnist John Rekenthaler wrote, the advantage among core bond funds over the long term could still go to the index funds thanks to the head start they get from low expenses, which have outperformed recently thanks to their bigger holdings of riskier debt while shunning more-conservative bonds, such as U.S. Treasuries:

"Which is better: Index funds or the active managers? For a complete market cycle, probably the indexer. I don't see why the answer should vary according to the investment sector. Over time, the decisions of a group of portfolio managers have a roughly neutral effect, which means that the indexer leads by the size of its cost advantage. The analysis becomes more complicated if the index fund holds a somewhat different portfolio than the category average, as in this instance, but the general point remains."

Ben Johnson, Morningstar Research Services' director for passive research, says, when it comes to making a fund-by-fund decision to go with an index or active manager, the first stop should simply be the Morningstar Analyst Ratings. But more broadly, Ben says Morningstar prefers index-tracking funds that are underpinned by indexes that capture the full breadth of a broad category rather than ones that are more narrowly focused. For example, an investor looking for an intermediate bond investment may be better served with an index fund tracking the Bloomberg Barclays U.S. Aggregate Bond Index than one just focused on the high-yield bond market.

How Much of a Portfolio Should Be Invested in Bonds?

Knowing the right bond allocation at a portfolio level is complex, but it should always be tightly linked to the investor's goals. Jack Bogle famously said a bond allocation should roughly equal your age, which assumes an investor's risk tolerance reduces over time and bond holdings rise.

That may seem simplistic, but off-the-shelf asset-allocation guidance provided by many advisors and fund companies doesn't vary significantly for people who are still accumulating assets for retirement. Sure, there are human capital considerations: A worker with a more volatile earnings trajectory, such as a commissioned salesperson, should typically have more-conservative assets than a tenured college professor. Similarly, the worker with a secure pension should generally be investing more aggressively than the investor who will rely exclusively on her own savings, plus Social Security, in retirement. Beyond variations like those, however, allocations for those still putting money away for retirement tend to look pretty similar: stock-heavy at the outset and well into middle age, transitioning to more bonds and cash as retirement approaches.

Closing in on retirement, however, one-size-fits-all recommendations won't cut it. Some retirees should have 50% (or even less) of their portfolios in stocks, while others should hold portfolios that are much more aggressive. From Christine Benz's vantage point, the gold standard for setting an asset allocation is

to employ a financial advisor who can recommend an appropriate mix of assets given factors such as proximity to retirement, the amount of retirement savings, and comfort level with volatility.

There are other resources, as well, that investors can turn to for allocation templates:

Target-date funds, often available in U.S. employer-sponsored retirement plans, are designed as one-stop investments appropriate for a given retirement date and can provide an additional, professional view of appropriate asset allocations throughout the different time horizons to retirement. It is valuable to take a look at target-date offerings from a couple of different fund companies--funds for the same retirement date can vary substantially based on glide-path philosophy and types of holdings.

Morningstar's Target-Date Fund Series reports do a good job of summarizing the glide paths, as well as the pros and cons, of various target-date series. Some target-date programs maintain very high equity allocations before and even during retirement, a stance informed by the view that longevity risk--that is, the chance that you'll outlive your assets--should outweigh concerns about short-term fluctuations in an investor's principal. Others maintain more-conservative allocations: If a fund limits volatility, the thinking goes, investors are more likely to stick with the program in good markets and bad.

Morningstar's Lifetime Allocation Indexes, informed by the research of the Morningstar Investment Management LLC team, provide another vantage point on the asset-allocation question. In addition to providing separate asset allocations for various time horizons, the indexes also allow customization by risk profile for each age band: conservative, moderate, and aggressive. In addition, the indexes show allocations for various asset classes--they include percentage weightings in Treasury Inflation-Protected Securities and emerging-markets equities, for example.

Here's a look at returns on the five indexes, which have allocations to bonds ranging from 5% in the Morningstar Aggressive Target Risk Index to 73% for the Conservative Target Risk Index.

The 10-year returns through 2018 tell the story of a bull market for stocks. The performance of the Aggressive index over the decade may settle the case for investors in it for the long haul. But even investors who can white-knuckle through the rough spots aren't always going to get a worthy payoff. The final column of the exhibit shows how each index fared during the stock market’s so-called “lost decade” from 1999 to 2009.

Exhibit 3 Stacking Up Risk and Returns

Index	10-Yr Annlzd Ret %	Std Dev	Sharpe Ratio	Sortino Ratio	"Lost Decade" * Annlzd Ret %
Morningstar Aggressive Target Risk Index	10.61	13.63	0.78	1.25	2.06
Morningstar Moderately Aggressive Target Risk Index	9.48	11.45	0.82	1.32	3.01
Morningstar Moderate Target Risk Index	7.97	8.61	0.89	1.47	3.90
Morningstar Moderately Conservative Target Risk Index	6.26	5.93	0.99	1.68	4.52
Morningstar Conservative Target Risk Index	4.37	3.56	1.10	1.93	5.17

Source: Morningstar Direct. Data for the 10-year period ending Dec. 31, 2018. Indexes are not available for direct investment. Past performance is not a reliable indicator of future results. * The "lost decade" spans January 1999 through December 2008.

With an annualized return of 2.1%, the Aggressive index was more or less on track with inflation. That is not even close to the kind of return that equity investors expect over the long term. Investors who chose a middle ground fared far better than equity-heavy investors, as evidenced by the 3.9% return of the Moderate index. Meanwhile, the Conservative index returned a not-too-shabby 5.2%.

What Kind of Bonds Should I Hold?

It is useful to remember that a bond's classification as short-, intermediate-, and long-term isn't just an abstraction. As Christine Benz notes, investors could also reasonably match their time horizons for each part of a bond portfolio to the appropriate bond type. Money needed for very short-term expenditures (within the next one to two years) is likely best held in cash, whereas assets needed for purchases within the next several years may be OK in high-quality shorter-term bonds. And if that money isn't needed for four or five years or more, intermediate-term bonds and bond funds may look like a reasonable bet. In this regard, duration can be a helpful tool; if a fund's duration is substantially longer than the intended holding period, there's a mismatch at work.

One common rule of thumb for gauging a bond fund's interest-rate sensitivity is that for every 1-percentage-point increase in Treasury yields, an investor could expect to lose an amount of their investment equal to the fund's duration.

But that isn't the only variable. The yield that an investor earns off the fund is also part of the equation; the investor receives that yield regardless of what happens to bond prices.

Thus, to estimate how much an investor could lose during a 12-month period if Treasury yields increased by 1 percentage point during that same 12 months, subtract a fund's SEC yield from its current duration.

Here's how it works using a current (and widely held) bond fund example: Vanguard Total Bond Market Index (VBTLX) currently has an SEC yield of 2.8% and an average duration of 6.0 years. That means if yields increased by 1 percentage point over a one-year period, one could expect the fund to lose roughly 3.2% during that same time frame--the 6% expected loss of principal would be partly mitigated by the fund's yield.

Meanwhile, the projected losses for long-term U.S. Treasury bonds amid a period of rising rates look a lot more alarming. Vanguard Long-Term Treasury (VUSUX) has a 17-year duration and a yield of just 2.6%. That means that shareholders could expect to lose almost 14% of their principal during a one-year period if Treasury rates were to jump by 1 percentage point during that same time frame. Thus, while long-term Treasuries have historically been a good diversifier for equities, their interest-rate-related volatility may make them difficult to own.

For more on how to assess a fund's duration, visit this article by Miriam Sjoblom.

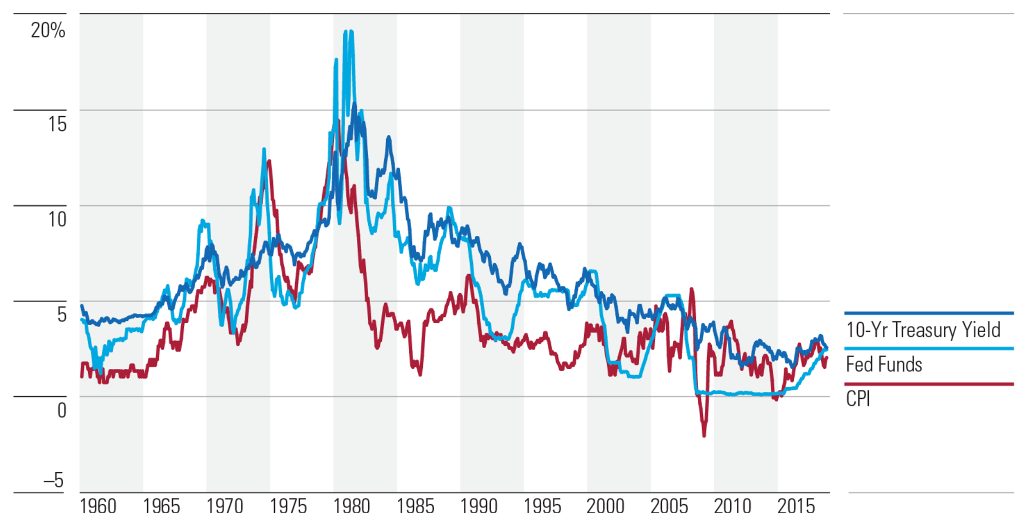
At the same time, duration--and the interest-rate sensitivity stress test discussed--will only take you so far. Just because credit-sensitive bond types such as bank loans and junk bonds have limited durations, they're not appropriate for short time horizons. They may have limited interest-rate sensitivity, but they are sensitive to changes in the economy and the credit cycle. Thus, investors buying such bonds should have an intermediate-term or even longer holding period in mind.

Bonds: Where Are We Now?

Bond markets have enjoyed one of the greatest 30- to 40-year bull markets on record.

With bond yields falling from highs of over 15% in the early 1980s to lows of around 1% today, the asset class has delivered outsize returns by historical standards for investors on a risk-adjusted basis and on an overall basis. That's been good news for bond investors. But that rally has left yields at historically low levels.

Exhibit 4 Interest Rates and Inflation

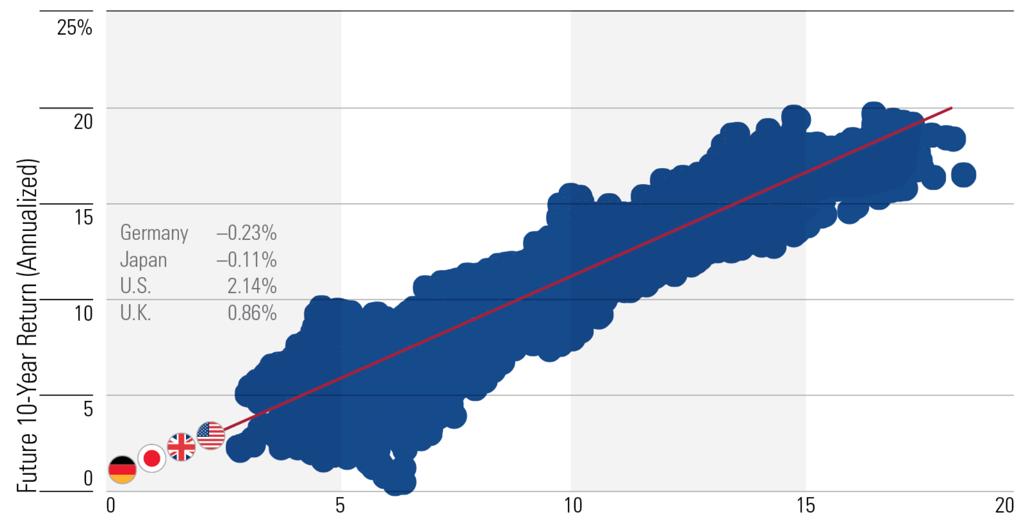


Source: Federal Reserve. Data as of dd/mm/yyyy.

Why does this matter? Because bond markets have a curious feature: The yields today on government bonds tend to be a good predictor of what returns will be for the next 10 years.

The following chart from Morningstar Investment Management shows the tight connection.

Exhibit 5 The Relationship Between The Starting Yield And Future 10-Year Returns Are Incredibly Strong. Using IMF Data Since 1957 For U.S., U.K., Germany, Canada, Australia, Belgium, and South Africa.



Source: Morningstar Investment Management calculation at 31/12/2016. Refers to IMF 10-year government bond yield and total return data sourced from Morningstar Direct, from Jan-1957 to Dec-2016. Past performance is not a reliable indicator of future results. Current yields are represented for illustrative purposes only and are not a reliable indicator of future performance.

For government bonds, the starting yield has been an incredibly powerful determinant of future returns. This is in part because default risk is considered to be very low and thus the contributors to risk and return become simplified.

There are other ways to assess value in the bond market, similar to the ways that stocks are valued. The Morningstar Investment Management group notes that, at a high level, valuation-driven investing is built on two clear principles. First, investors need to believe an asset has a "fair value" that can be estimated through careful analysis. Second, they need to believe that, while the price of an asset may deviate significantly from fair value in the short term, it tends to return to fair value over the long term.

The Morningstar Investment Management group refers to this deviation from "fair value" as "valuation-implied returns," which can be assessed using four key conviction pillars.

Absolute Valuation

Understand clearly what each asset can be expected to deliver over a 10-year time horizon.

Relative Valuation
Understand how well the asset ranks compared with other markets.

Contrarian Sentiment
Identify whether current sentiment is supportive to our conviction in a long-term context.

Fundamental Risk
Understand clearly the range of possible scenarios, as well as any risk that would cause our base case to be inaccurate over the investment horizon.

How Should Bond Investors Position for What Comes Next?

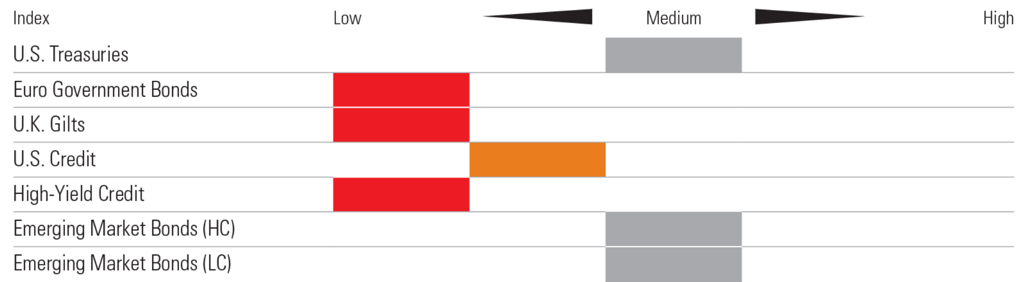
A properly constructed, long-term investment strategy, by definition, shouldn't require portfolio changes in response to market swings. But some investors with shorter-time horizons may decide to make tilts within their broader allocations.

Investors should remember that timing ups and downs of the bond market is hard, as it is with any investment. Sarah Bush, director of Morningstar Research Services' fixed-income manager research, notes that big bets on changes in the economy, especially significant adjustments to portfolio interest-rate sensitivity, can be difficult for even professional investors to get right consistently. For much of the postcrisis period, many intermediate core and core-plus fund managers ran their portfolios with a tilt toward defending against rising interest rates--meanwhile, rates fell for most of the period. Some bond shops, including Fidelity and Baird, avoid interest-rate calls altogether while many manage duration within a fairly limited range around a benchmark.

Still, investors can see what some of these big fund managers are expecting from the economy and markets. PIMCO, for example, offers its annual Secular Outlook, an overview of key economic and market trends. Vanguard publishes an annual outlook that includes long-term return expectations. In its May 2019 report, Vanguard felt that fixed-income markets were generally fairly valued and that bond investors should expect 2.5%–4.5% returns over the next decade.

Here's the Morningstar Investment Management group's long-term outlook as of April 2019:

Exhibit 6 Asset Class Conviction List



Source: Morningstar Investment Management calculation at 30/04/2019. Forecasts are not a reliable indicator of future performance. The goal of assigning a conviction level to an asset class is to distill the attractiveness of an investment opportunity into a single rank. The term "conviction" derives from the Latin verb "convincere," which means to argue. In assigning an asset class conviction, an analyst trades off the aspects of an investment opportunity that argue for and against it, culminating in the expression of a conviction level. The conviction level is expressed on a five-point scale (Low, Low to Medium, Medium, Medium to High, and High). Our conviction scoring system is based on four criteria: absolute valuation; relative valuation; contrarian indicators; and fundamental risk.

Government Bonds

Incredibly low yields hint that government bonds are significantly overvalued and poised to deliver low future returns. This is especially true in the United Kingdom, Europe, and Japan, where yields are at or around zero. U.S. Treasuries offer better relative value but still look expensive in a historical context, especially after recent moves. That is, investors are being forced to accept lower yields on these bonds, even though they have a longer time to maturity. This is a poor trade-off, as it reduces future income while increasing the risk of capital loss.

High-Quality Corporate Bonds

U.S. investment grade corporate isn't a compelling asset class to own, as more than half of it is rated in the lowest BBB rated tier, which presents a greater credit risk. Given the high concentration of BBBs and internal and external beliefs that as much as 20% of BBBs could be downgraded during the next credit wave, we feel the near-record level of risk in this space far exceeds the level of reward currently being offered.

High Yield

The two biggest challenges the Morningstar Investment Management group sees for high yield are 1) a possible sell-off contagion from the loans space and 2) a credit downgrade wave overwhelming the market. However, the group believes that overall fundamentals appear constructive. Companies don't appear overly leveraged, defaults are low, earnings growth has been a nice tailwind, and credit quality has been improving. In fact, late-cycle financial "misbehaving" seems mostly relegated to the loans market, possibility further bolstering this view. But many concerns remain, and valuations (spreads) aren't exactly compelling.

What Are Some Key Scenarios to Consider?

Given the very long bull market for bonds, many bond investors have been eyeing the exits for a while, only to have some geopolitical news or other hiccup cast their plans into disarray.

Heading into the end of 2018, bond markets were braced for the Fed to continue a path of long-awaited interest-rate increases, which would be bad news for the bond market. But the global economy ran into a speed bump, thanks in part to trade tensions between the United States and other major economies. As 2019 got underway, the Fed signaled it was putting additional rate increases on hold. Bond markets rallied, especially in riskier areas such as high-yield bonds. As this article was written, investors were expecting the Fed to cut rates.

With a firm eye on their goals and cash flow situations, investors should consider these four scenarios that may unfold in the near to medium term:

Scenario 1: Federal Reserve Lowers Rates

When the Fed lowers interest rates, it is primarily via the federal-funds rate, which is the overnight borrowing rate the Fed charges banks. The Fed-funds rate is a short-term rate, so short-term fixed-income investments are the ones most directly affected. So in a period of interest-rate easing, the value of shorter-term bonds will rise more than long-term bonds. In fact, at times, long-term bond funds may struggle when the Fed is easing because the goal of the Fed lowering rates is to boost the economy, which tends to increase inflation, which is bad for long-term bonds.

John Rekenthaler tackled investing in bonds during periods of low inflation—often periods when the Fed is lowering rates. Rekenthaler wrote that one form of defense is to stick with short-term bonds:

“Three-month Treasuries now pay 2.3%, more than 10-year notes and almost as much as the long bond. At least for government-guaranteed securities--corporates are a different matter--bond investors can have their cake and eat it, too. They can match their income by swapping from bonds to bills, while being largely immune from inflation spikes.

"The catch, of course, is that things change. Short-term yields are competitive today, but they may not be competitive tomorrow. Also, that seemingly free lunch often comes with a hidden cost, because it signals that bonds will soon rally. In which case, those who swapped bonds for bills sold for relatively low prices, and if they later wish to lengthen their portfolios, they will need to buy high.”

Scenario 2: Federal Reserve Increases Rates

After a few decades' worth of declining interest rates, rates have much more room to go up than they do to go down further. That could spell trouble for bond prices if rates head up and continue to spike.

The Morningstar Investment Management group notes that multiple factors have been keeping a lid on bond yields. Demographic changes like the aging population and longer life expectancies, higher savings

rates in emerging-markets economies, and technological advances have all been cited in studies to justify rates staying lower for longer.

Still, bond yields will eventually trend higher and revert to their estimated fair value levels, but the path and timing of such moves are unclear. The danger for investors, the group says, is trying to time the market by exiting bonds and then attempting to re-enter when interest rates normalize at higher levels. Additionally, even with a muted return outlook, investors should remember that bonds play a valuable role in a diversified, multi-asset portfolio. Therefore, it may be appropriate to maintain bond allocations but to hold investments that might be less affected by rising rates.

It is not as though rising bond yields are a universal negative--for investors, it all depends on their time horizon. True, a spike upward in rates will tend to lead to short-term losses in high-quality bonds of all maturities. For retirees dependent on portfolio withdrawals to pay the bills, a short-term loss could throw their finances off track.

But for a saver with a longer time horizon, the higher yields that can come with a bond market sell-off should pass through to the investor, eventually making up for the near-term drop in principal value. A 2010 research paper from Vanguard shows how a 3-percentage-point interest-rate hike would play out on a year-to-year basis. For a portfolio invested in long-term bonds, the rate increase would lead to a devastating loss that would take eight years to recover from--even though the investor would also partake of the newly available higher yields as long as he was reinvesting in the market. But a broadly diversified bond portfolio would recover much more quickly: Because of higher yields in the years following the rate shock, the investor who bought and held the portfolio would have recouped her losses and moved back into the black on the investment within three years of the rate shock.

In general, investors worried about central bank interest-rate increases should tilt their bond portfolios toward shorter-term bond funds. But even these carry risks. Many investors piled into bank-loan funds during the 2018 series of Fed rate increases only to see losses at the end of the year thanks to a sell-off in the low-quality loans those funds tend to own.

Scenario 3: Widening Credit Spreads

The Morningstar Investment Management group argues that the importance of focusing on bond quality should not be underestimated in current markets. It notes that BBB rated issuers--those just one notch above so-called junk status--now account for around half of the whole investment-grade market in the U.S. and Europe. There are several reasons for this. To name a few: Firms are using debt to fund acquisitions, carry out stock buybacks, and make dividend payouts. Meanwhile, Federal Reserve officials having begun issuing warnings about the overall rise in corporate debt.

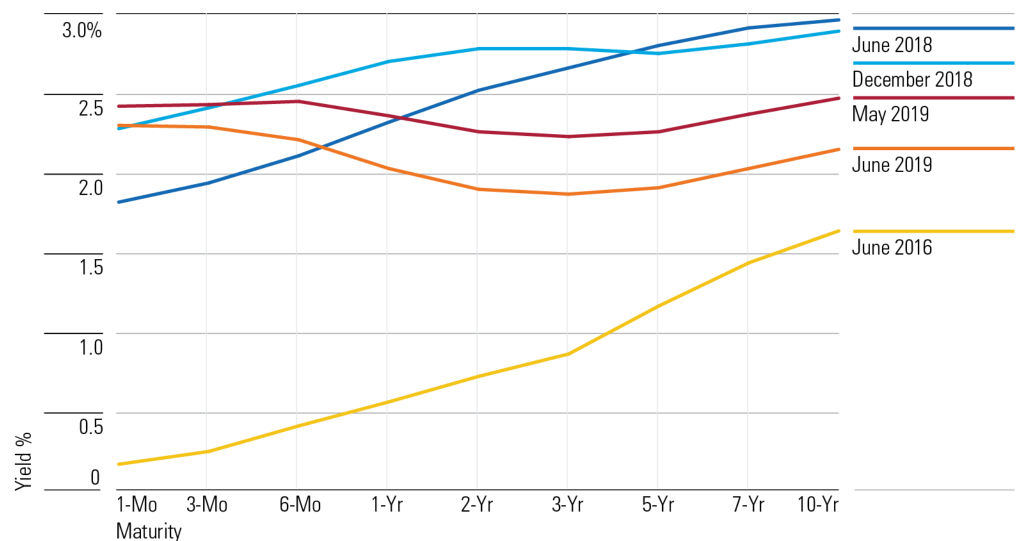
For bond investors worried about this trend, that means applying prudence when buying corporate-bond funds and tilting portfolios toward funds that have higher-quality debt and fewer high-yield bond holdings. For example, that could include swapping out a fund that lands in the core-plus bond

Morningstar Category for one in the intermediate core bond category, which tends to have higher-quality portfolios.

Scenario 4: Yield-Curve Inverting

Recent headlines have been dominated by the concepts of yield-curve inversion and recession risk. Normally, long-term interest rates are higher than short-term rates. An inverted yield curve is when the picture goes in the opposite direction--that is, long-term interest rates are lower than short-term ones. In early 2019, the yield on the U.S. Treasury 3-month bill moved above the yield on a U.S. Treasury 10-year note, the first time this alignment took place since before the financial crisis.

Exhibit 7 Historical U.S. Treasury Yield Curve



Source: Federal Reserve. Data as of dd/mm/yyyy.

This may seem like wonky bond market talk. Even if this bond market signal has a pretty compelling track record of predicting recession, for the Morningstar Investment Management group, the focus is on the opportunity set in the market. In the case of the inverted yield curve, that means investors can earn just as much in yield on low-volatility short-term debt as they could on longer-term debt.

The real question here is whether bond investors have predictive abilities over the economy or markets. When it comes to managing a portfolio, we only really care about the markets, where the relationship is tenuous at best. It is useful to understand risk, but it is not something that directly affects our investment decision-making. The better approach is to think about duration, where an investor is typically not rewarded for holding longer-term bonds.

Conclusion

Bonds have their own sets of risks that are important to understand, but they can provide both an anchor in times of market and economic uncertainty and an opportunity for additional returns.

As with any investment, choices around bond investments should be made in the context of a broad financial plan and meeting financial goals. Investors can consider other factors across their investment portfolio that can help meet those goals, such as keeping investment costs low, not chasing after hot corners of the market, and not bailing on a long-term plan in the face of short-term losses. M

Since its original publication, this piece may have been edited to reflect the regulatory requirements of regions outside of the country it was originally published in.

About Morningstar, Inc.

Morningstar, Inc. is a leading provider of independent investment research in North America, Europe, Australia, and Asia. The company offers an extensive line of products and services for individual investors, financial advisors, asset managers, retirement plan providers and sponsors, and institutional investors in the private capital markets. Morningstar provides data and research insights on a wide range of investment offerings, including managed investment products, publicly listed companies, private capital markets, and real-time global market data. The company has operations in 27 countries.

www.morningstar.com

Important Information

The opinions, information, data, and analyses presented herein do not constitute investment advice; are provided as of the date written; and are subject to change without notice. Every effort has been made to ensure the accuracy of the information provided, but Morningstar makes no warranty, express or implied regarding such information. The information presented herein will be deemed to be superseded by any subsequent versions of this document. Except as otherwise required by law, Morningstar, Inc. or its subsidiaries shall not be responsible for any trading decisions, damages or losses resulting from, or related to, the information, data, analyses or opinions or their use. Past performance is not a guide to future returns. The value of investments may go down as well as up and an investor may not get back the amount invested. Reference to any specific security is not a recommendation to buy or sell that security. There is no guarantee that a diversified portfolio will enhance overall returns or will outperform a non-diversified portfolio. Neither diversification nor asset allocation ensure a profit or guarantee against loss. It is important to note that investments in securities involve risk, including as a result of market and general economic conditions, and will not always be profitable. Indexes are unmanaged and not available for direct investment.

The analysis within this report is prepared by the person(s) noted in their capacity as an analyst for Morningstar, Inc. or a subsidiary. The opinions expressed within the report are given in good faith, are as of the date of the report and are subject to change without notice. Neither the analyst nor Morningstar, Inc. commits themselves in advance to whether and in which intervals updates to the report are expected to be made.

Morningstar believes its analysts make a reasonable effort to carefully research information contained in their analysis. The information on which the analysis is based has been obtained from sources which are believed to be reliable such as, for example, the fund’s prospectus and shareholder reports (or their equivalents), fund company website, interviews with fund company personnel, and relevant and appropriate press sources as well as data, statistics and information within Morningstar’s own database. Morningstar does not perform an audit or seek independent verification of any of the data, statistics, and information it receives.

Unless otherwise provided in a separate agreement, Users accessing this report may only use it in the country in which the Morningstar distributor is based. Unless stated otherwise, the original distributor of the report is Morningstar Inc., a U.S.A. domiciled financial institution.

This commentary may contain certain forward-looking statements. We use words such as “expects”, “anticipates”, “believes”, “estimates”, “forecasts”, and similar expressions to identify forward-looking statements. Such forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results to differ materially and/or substantially from any future results, performance or achievements expressed or implied by those projected in the forward-looking statements for any reason. The information, data, analyses and opinions presented herein are not warranted to be accurate,

correct, complete or timely. Unless otherwise provided in a separate agreement, Morningstar makes no representation that the report contents meet all of the presentation and/or disclosure standards applicable in the jurisdiction the recipient is located.

The report and its contents are not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or which would subject Morningstar or its subsidiaries or affiliates to any registration or licensing requirements in such jurisdiction.

This report may be distributed in certain localities, countries and/or jurisdictions ("Territories") by independent third parties or independent intermediaries ("Distributors"). Such Distributors are not acting as agents or representatives of the analyst or Morningstar. In Territories where a Distributor distributes our Report, the Distributor, and not the analyst or Morningstar, is solely responsible for complying with all applicable regulations, laws, rules, circulars, codes and guidelines established by local and/or regional regulatory bodies, including laws in connection with the distribution third-party research reports.

Please note that investments in securities (including mutual funds) are subject to market and other risks and there is no assurance or guarantee that the intended investment objectives will be achieved. Past performance of a security may or may not be sustained in future and is no indication of future performance. A security investment return and an investor's principal value will fluctuate so that, when redeemed, an investor's shares may be worth more or less than their original cost. A security's current investment performance may be lower or higher than the investment performance noted within the report. Morningstar's Risk, Return and Star Rating serves as useful data points with respect to evaluating a fund's risk profile.

Bonds are subject to interest-rate risk. As the prevailing level of bond interest rates rise, the value of bonds already held in a portfolio declines. Portfolios that hold bonds are subject to fluctuations in value due to changes in interest rates. A change in interest rates will not have the same impact on all fixed-income securities. Generally, the longer the maturity or duration of a fixed-income security, the greater the impact of a change in interest rates on the security's value. Additionally, different interest rate measures, such as short- and long-term interest rates and international interest rates, or interest rates on different types of securities or securities of different issuers, may not necessarily change in the same amount or in the same direction. When interest rates go down, the income received by the fund, and the fund's yield, may decline. If an issuer or guarantor of a security held by the fund, or counter-party to a financial contract with the fund, defaults or is downgraded, or if the value of the assets underlying a security declines, the value of the investment will decline. Junk bonds are considered speculative and have higher risk of default. A default or downgrade will have a greater effect on subordinated securities. The investor should be aware of the possible higher level of volatility and increased risk of default.

A current yield percentage is not a reflection of the actual return an investor will receive in all cases, as market prices for securities are constantly changing due to such things as market factors. Where a security is denominated in a different currency than an investor's currency, changes in rates of exchange may have an adverse effect on the value, price or income of or from that investment.

Indexes noted within the report are unmanaged, their returns do not include payment of any sales charges or fees an investor would pay to purchase securities, and cannot be invested in directly.

Investment research is produced and issued by subsidiaries of Morningstar, Inc. including, but not limited to, Morningstar Research Services LLC, registered with and governed by the U.S. Securities and Exchange Commission. This report is for informational purposes only and has no regard to the specific investment objectives, financial situation or needs of any specific recipient. This publication is intended to provide information to assist investors in making their own investment decisions, not to provide investment advice to any specific investor. Therefore, investments discussed and recommendations made herein may not be suitable for all investors: recipients must exercise their own independent judgment as to the suitability of such investments and recommendations in the light of their own investment objectives, experience, taxation status and financial position.

22 West Washington Street
Chicago, IL 60602 USA

©2019 Morningstar. All Rights Reserved. Christine Benz's Talking Points is produced and offered by Morningstar, Inc., which is not registered with the U.S. Securities and Exchange Commission as a Nationally Recognized Statistical Rating Organization ("NRSRO"). Unless otherwise provided in a separate agreement, you may use this report only in the country in which its original distributor is based. The information, data, analyses and opinions presented herein do not constitute investment advice; are provided solely for informational purposes and therefore are not an offer to buy or sell a security; and are not warranted to be correct, complete or accurate. The opinions expressed are as of the date written and are subject to change without notice. Except as otherwise required by law, Morningstar shall not be responsible for any trading decisions, damages or other losses resulting from, or related to, the information, data, analyses or opinions or their use. The information contained herein is the proprietary property of Morningstar and may not be reproduced, in whole or in part, or used in any manner, without the prior written consent of Morningstar. To order reprints, call +1 312-696-6100. To license the research, call +1 312-696-6869.