

# Total-return investing: A smart response to shrinking yields

Vanguard Research

April 2021

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- Historically low yields on fixed income assets can put pressure on retirees who want to support spending with income from their portfolio.
- Low yields can prompt income-oriented investors to tilt their portfolio toward higher-yielding assets, potentially compromising their original risk profile.
- We recommend a total-return approach to investing that can help minimize portfolio risks and increase portfolio longevity, while allowing investors to meet spending goals with a combination of portfolio income and capital.

*Acknowledgments:* This paper is a revision of the 2012 Vanguard research paper *Total-Return Investing: An Enduring Solution for Low Yields*, by Colleen M. Jaconetti, Francis M. Kinniry Jr., and Christopher B. Philips.

## Introduction

After the COVID-19 pandemic roiled financial markets in March 2020, the already low yields on fixed income investments moved even lower. At its 2020 low, the 10-year U.S. Treasury note yielded 0.52%, a fraction of its historical levels.

The low-yield environment poses a challenge to income-focused investors who hope to use portfolio income to support spending. In the past, as illustrated in **Figure 1**, a broadly diversified portfolio of equity and fixed income could generate a “natural yield” equal to 4% or 5% of the portfolio’s value, consistent with conventional guidelines for spending from a portfolio.<sup>1</sup> Today, that is no longer the case.

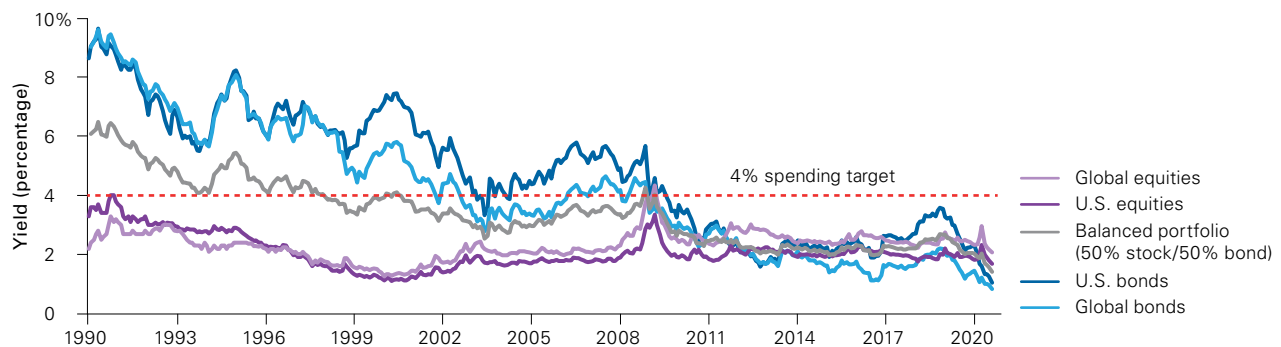
Unless investors are willing or able to make radical cuts in spending, there are two broad options to address the shortcoming of portfolio yields in meeting spending goals during this low-yield environment:

- Alter the portfolio asset allocation in search of higher-yielding and potentially riskier assets.
- Spend from capital returns in addition to the portfolio income yield.

In this paper, we look at the unintended consequences of shifting the portfolio asset allocation to higher-yielding assets—namely, changes in the portfolio’s risk profile and diversification.

The alternative is a total-return strategy that aims to support spending through both portfolio yield and capital appreciation. This approach allows an investor to meet spending needs without relying entirely on portfolio yield. The total-return strategy addresses portfolio construction in a holistic manner, with asset allocation driven by the retiree’s risk-return profile through diversified domestic and global fixed income and equity.

Figure 1. Yields on traditional asset classes continue to fall below 4% spending target



Notes: Yields are from January 1, 1990, to August 1, 2020. Asset classes and their representative indexes are: for global bonds, Bloomberg Barclays Global Aggregate Index USD Hedged; for U.S. bonds, Bloomberg Barclays US Aggregate Index; for global equities, MSCI World Index USD; and for U.S. equities, MSCI USA Index. The balanced portfolio is made up of a combination of the indexes for U.S. bonds (35%), global bonds (15%), U.S. equities (30%), and global equities (20%).

Sources: Vanguard calculations, using data from Thomson Reuters Datastream.

### Advantages and challenges of income investing

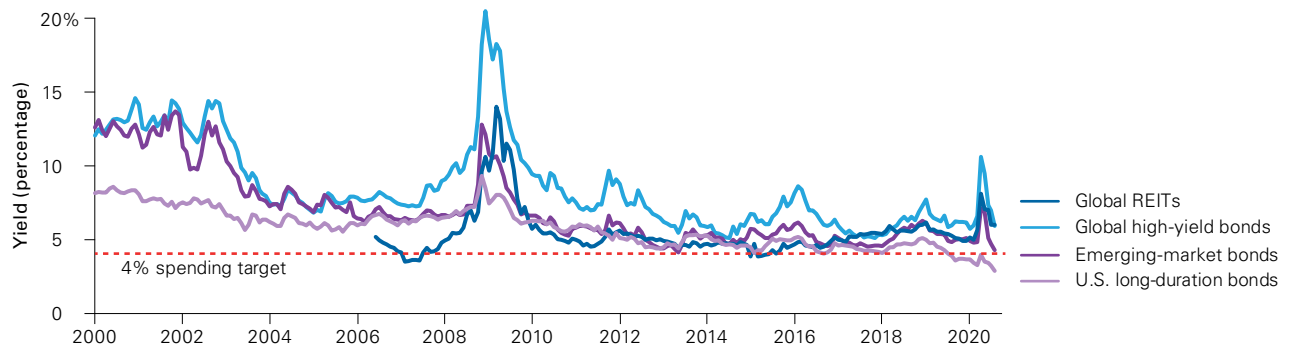
Investors looking for spending discipline and administrative ease have traditionally favored an income-focused investing approach. With this method, spending is directly dependent on the portfolio's natural yield, so a complex spending strategy does not need to be created. Portfolio withdrawals are timed to coincide with the payout of dividends or coupons. This strategy is based on the belief that the portfolio will have a better chance of maintaining longevity and a positive balance throughout the retiree's life because spending comes strictly from portfolio yield rather than from the portfolio's principal or capital gains. Theoretically, the portfolio's principal could be depleted only by poor market returns rather than by spending.

However, because of today's low-yield environment, many retirees with a diversified portfolio of traditional bonds and equities would have a difficult time matching yield with a hypothetical spending target of 4% using this strategy. Instead, they would need to make adjustments in their asset allocation. Yield-chasing asset strategies may result in higher yields, but they also bring increased portfolio risk. **Figure 2** displays the historical yields of some higher-yielding assets over the last 20 years, in comparison to a 4% spending target.

Yields on higher-yielding assets have declined in recent years but generally still remain above a 4% spending target. We examine four market segments with yield premiums to traditional equity and fixed income:

- Nontraditional bonds (high yield and emerging markets)
- Long-duration bonds
- Real Estate Investment Trusts (REITs)
- High-dividend-paying equities

Figure 2. Despite decline in yield, high-yield assets have mostly remained above 4% spending target



**Notes:** Yields for global high-yield bonds, emerging-market bonds, and U.S. long-duration bonds are from January 1, 2000, to August 1, 2020. Yields for global REITs are from the benchmark index's inception date in April 2006 through August 2020. Asset classes and their representative indexes are: for global high-yield bonds, Bloomberg Barclays Global High Yield Index; for emerging-market bonds, Bloomberg Barclays EM Aggregate Index; for global REITs, MSCI ACWI Diversified REIT Index; and for long-duration bonds, Bloomberg Barclays Long U.S. Corporate Bond Index. All indexes are in USD.

**Sources:** Vanguard calculations, using data from Thomson Reuters Datastream.

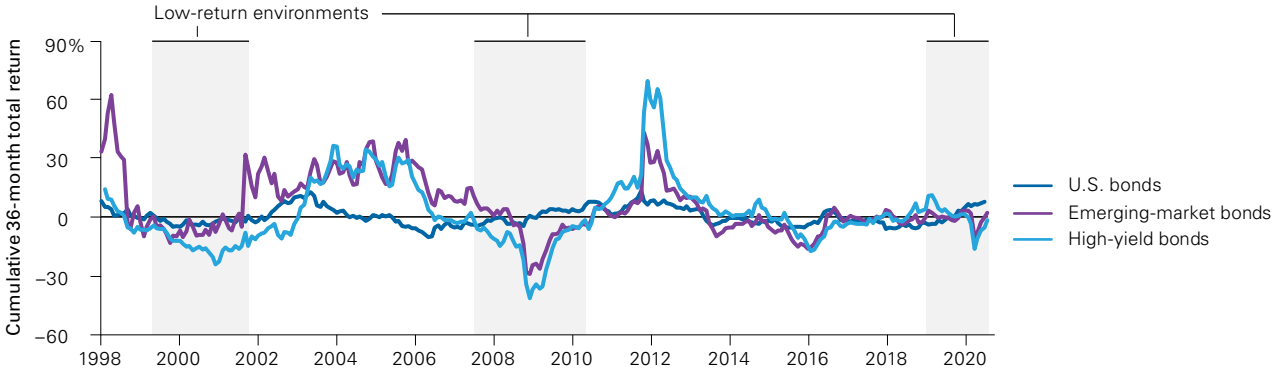
We also look at how a total-return approach can mitigate the unintended risks that outsized exposure to these narrower sub-asset classes presents.

**Allocating to high-yield and emerging-market bonds**

One option for an income investor looking to increase portfolio yield in order to support spending needs would be to move a portion of the portfolio from traditional investment-grade bonds into riskier, higher-yielding fixed income instruments. High-yield and emerging-market bonds offer a yield premium compared with investment-grade bonds because of the additional risks attached.

For high-yield bonds (also known as junk bonds), the sub-investment-grade rating indicates a higher probability of default. For bonds issued by emerging-market governments and corporations, investors face other risks stemming from less developed political systems and fluctuations in emerging-market currencies. In addition to the added risks, high-yield bonds and emerging-market bonds lack the diversification benefit that investment-grade fixed income can provide a portfolio during market downswings. **Figure 3** shows the cyclical total returns of high-yield and emerging-market bonds since 1998.

**Figure 3. Riskier bonds prove more cyclical during recessionary periods**



**Notes:** Cumulative 36-month total returns are from January 1, 1998, to August 1, 2020. Asset classes and their representative indexes are: for U.S. bonds, Bloomberg Barclays U.S. Aggregate Index; for emerging-market bonds, Bloomberg Barclays EM Aggregate Index; and for high-yield bonds, Bloomberg Barclays Global High Yield Index. All indexes are in USD.

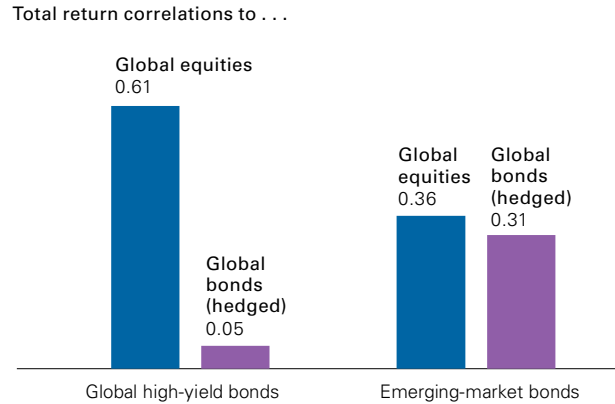
**Sources:** Vanguard calculations, using data from Thomson Reuters Datastream.

The figure shows that during various recessionary periods of the last 20 years, the total return on high-yield and emerging-market bonds was much lower than that of traditional U.S. bonds. Compared with their investment-grade counterparts, these bonds tend to behave more like equities. And when equities tumble, higher-yielding bonds fail to provide the cushion that investment-grade bonds do. **Figure 4** shows that the performance of both high-yield and emerging-market bonds is more correlated with the stock market than with the bond market.

### Extending duration on investment-grade bonds

Investors may also seek additional portfolio yield by opting for longer-duration investment-grade bonds. Under normal circumstances, extending the duration on bonds will increase the current yield as well as the volatility of a portfolio. With a longer duration, there is a greater decline (or increase) in bond prices when interest rates rise (or fall). A portfolio that is more heavily concentrated among longer-duration bonds is less diversified than one that is allocated across the yield curve, so it is subject to greater volatility. **Figure 5** illustrates the volatile nature of long-term-duration bonds from 2005 through 2019.

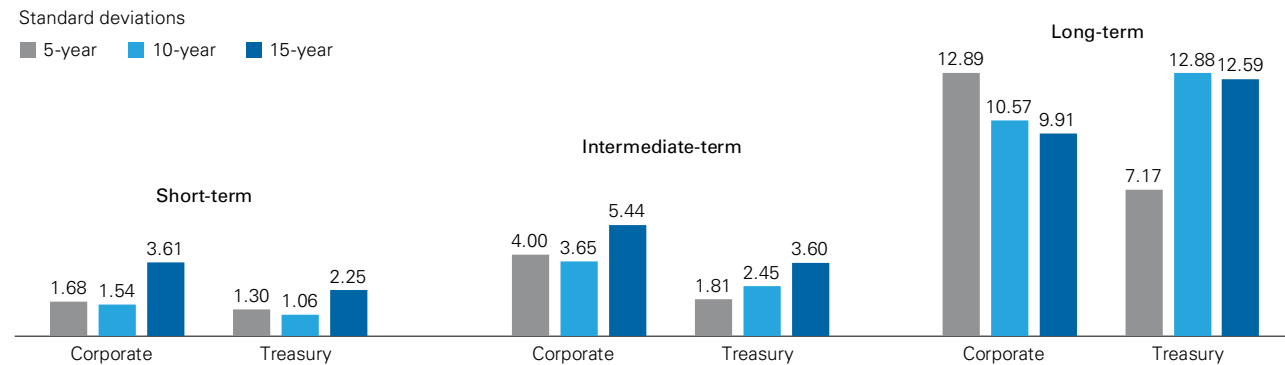
**Figure 4. Nontraditional bonds remain highly correlated with equities**



**Notes:** Returns are from August 31, 2005, to August 31, 2020. Correlations are on a 0–1 scale. Asset classes and their representative indexes are: for global high-yield bonds, Bloomberg Barclays Global High Yield Index; for emerging-market bonds, Bloomberg Barclays EM Aggregate Index; for global equities, MSCI AC World Index, and for global bonds, Bloomberg Barclays Global Aggregate Index USD Hedged. All indexes are in USD.

**Sources:** Vanguard calculations, using data from Thomson Reuters Datastream.

**Figure 5. Extending bond duration can introduce volatility**



**Notes:** Annual standard deviations are calculated for 2005 through 2019. Asset classes and their representative indexes are: for short-term Treasury, Bloomberg Barclays 1–3 Year U.S. Treasury Index; for short-term corporate, Bloomberg Barclays U.S. Corporate 1–3 Year Index; for intermediate-term Treasury, Bloomberg Barclays Intermediate U.S. Treasury Index; for intermediate-term corporate, Bloomberg Barclays Intermediate Corporate Index; for long-term Treasury, Bloomberg Barclays Long Term U.S. Treasury Index USD; and for long-term corporate, Bloomberg Barclays Long U.S. Corporate Index. All indexes are in USD.

**Sources:** Vanguard calculations, using data from Thomson Reuters Datastream.

### Exposure to real estate

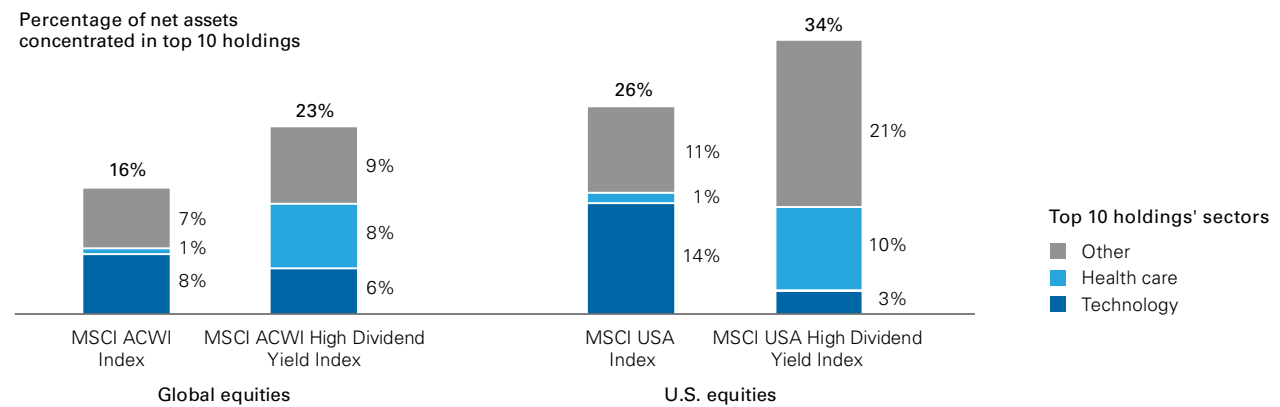
REITs are also commonly used to increase a portfolio's yield. REIT funds are a low-cost way to invest in companies that purchase office buildings, hotels, and other real estate portfolios. REITs are appealing because they typically distribute higher dividend income than a traditional stock or bond fund. But the excess income comes with additional risk. A broadly diversified equity fund already has some exposure to real estate. By allocating additional assets to REITs, an investor amplifies exposure to the risks—and potential returns—of a narrow sector of the stock market and the economy.

### Higher-dividend-paying equities

Higher-dividend-paying equities allow portfolios to generate more yield, but this comes at the cost of less diversification. Equity funds that pay high dividends have different compositions than broadly diversified equity funds.

Both the global and domestic high-dividend-yield indexes tend to overweight defensive sectors such as consumer staples, health care, and utilities and underweight more cyclical sectors such as consumer discretionary and technology. Equity funds that pay higher dividends also tend to be more concentrated among their top 10 holdings. **Figure 6** displays this asset concentration, as well as the sector composition among the top 10 holdings. Investors should be aware of the concentration risk introduced by a portfolio that is tilted toward dividend-focused equity. The consequences of less portfolio diversification include the possibility of lower returns during stock market shocks.

**Figure 6. High-dividend-yielding indexes are highly concentrated among top 10 holdings**



Source: MSCI, as of September 30, 2020.

### Downside risk in market shocks

One of the benefits of having a diversified investment portfolio is the downside protection it offers during market shocks. Tilting a portfolio toward higher-yielding assets and away from traditional asset classes only magnifies losses during times of market stress.

Figure 7 displays the maximum drawdown and cumulative total return of various asset classes during the market swings of early 2020 caused by the onset of the COVID-19 pandemic.

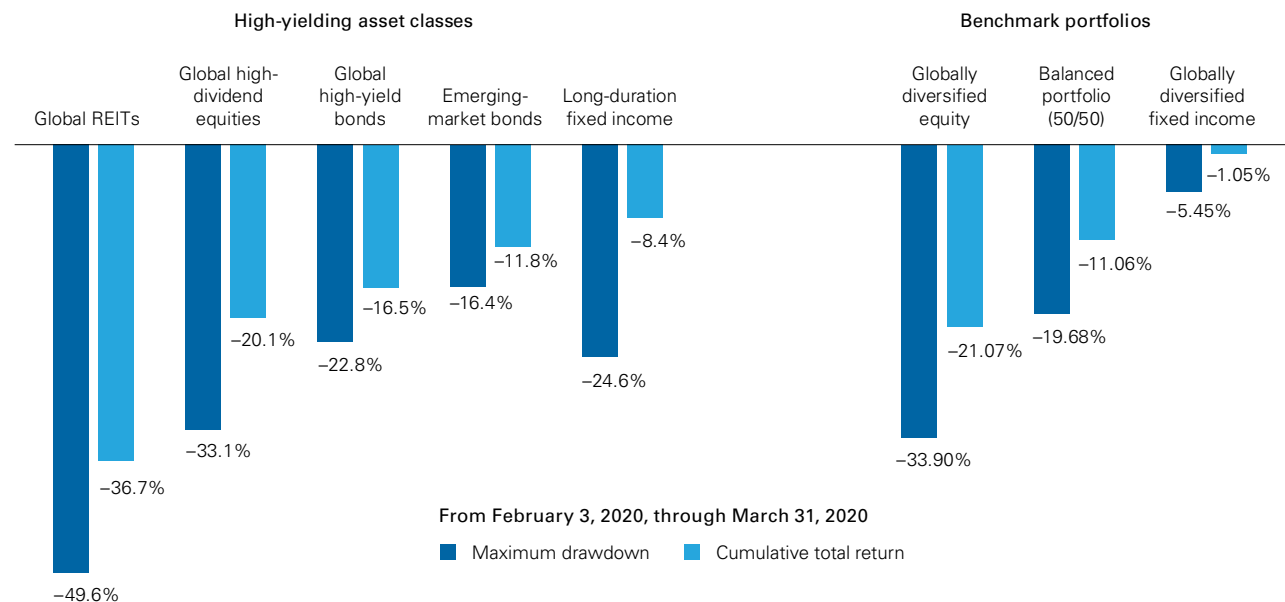
The figure illustrates the negative effects that a tilt toward higher-yielding assets can have on portfolio returns during market stress. Emerging-market and high-yield bonds experienced a lower cumulative return and drawdown compared with a globally diversified fixed income portfolio, more closely resembling the returns of equities. Global REITs had an even larger drawdown and lower cumulative return than a globally diversified equity portfolio. High-dividend equity, by contrast, performed similarly to the broad equity market during this period.

### Yield chasing: A portfolio perspective

As yields on traditional assets currently remain low, we project that they will continue to remain below historical highs well into the future. Because of the continued low-yield forecast, investors seeking to maintain an income strategy may aim to tilt their portfolio toward some of the higher-yielding assets previously mentioned. These higher-yielding assets come with additional risks. In the following simulations, we analyze a broadly diversified balanced 50% stock/50% bond base portfolio and four portfolios with a modest 20% allocation toward high-yield assets:<sup>2</sup>

- 20% high-yield bond tilt
- 20% REIT tilt
- 20% domestic long-duration credit tilt
- 20% emerging-market bond tilt

Figure 7. High-yield assets carried additional downside risk early in the pandemic



**Notes:** Returns are from February 3, 2020, through March 31, 2020. Asset classes and their representative indexes are: for Global REITs, MSCI ACWI Diversified REIT Index; for emerging-market bonds, Bloomberg Barclays EM Aggregate Index; for global high-dividend equities, MSCI World High Dividend Yield Index; for global high-yield bonds, Bloomberg Barclays Global High Yield Index; for long-duration fixed income, Bloomberg Barclays Long U.S. Corporate Index; for globally diversified equity, MSCI AC World Index; for globally diversified fixed income, Bloomberg Barclays Global Aggregate Index Hedged; and for balanced portfolio, 50% equity/50% bond allocation from MSCI AC World Index and Bloomberg Barclays Global Aggregate Index Hedged, respectively. All indexes are in USD.

**Sources:** Vanguard calculations, using data from Thomson Reuters Datastream.

<sup>2</sup> Portfolio asset allocations are as follows: base portfolio—30% domestic equity, 20% international equity, 35% domestic bonds, and 15% international bonds; 20% high-yield bond tilt—30% domestic equity, 20% international equity, 21% domestic bonds, 9% international bonds, and 20% high-yield bonds; 20% REIT tilt—18% domestic equity, 12% international equity, 35% domestic bonds, 15% international bonds, and 20% U.S. REITs; 20% domestic long-duration credit tilt—30% domestic equity, 20% international equity, 15% domestic bonds, 15% international bonds, and 20% long-term domestic corporate bonds; 20% emerging-market bond tilt—30% domestic equity, 20% international equity, 30% domestic bonds, and 20% emerging-market government bonds.

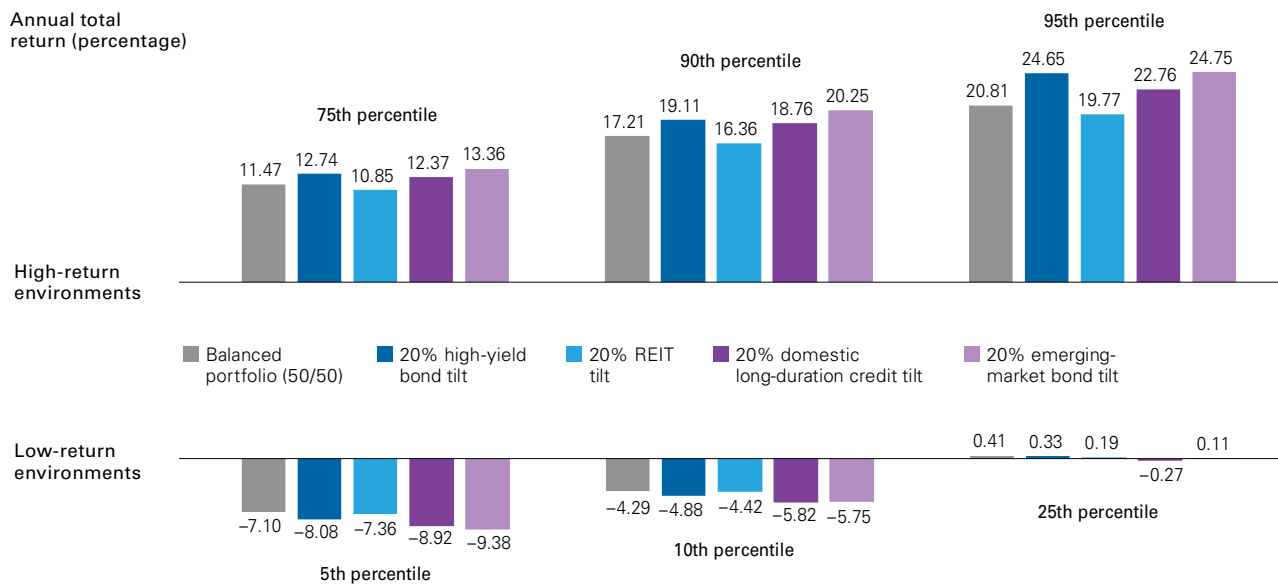
In this simulation, we use a June 2020 Vanguard Capital Markets Model® (VCMM) forecast to project portfolio returns across a variety of percentiles using a 30-year time horizon.<sup>3</sup> A total of 300,000 simulations were assessed (10,000 across each of the 30 years). (See the Appendix on page 11 for the full asset class return lineup.) **Figure 8** displays the total returns of the portfolios across various environments.

The figure shows three of the lower market percentile returns—the 5<sup>th</sup>, 10<sup>th</sup>, and 25<sup>th</sup>—as well as three of the higher market percentile returns—the 75<sup>th</sup>, 90<sup>th</sup>, and 95<sup>th</sup>. For the three lower-return environments, the broadly diversified balanced portfolio offers more downside

protection than the portfolios tilted toward higher-yielding assets. However, the portfolios tilted toward high-yielding assets generally performed better in the higher-return environment, with the exception of REITs.

It is not surprising that portfolios with higher allocations to riskier assets can be expected to earn, on average, higher returns. The relationship between risk and return is fundamental to finance. But the risks are clear: less downside protection and more portfolio volatility. In low-return market environments similar to that of early 2020, a balanced portfolio would deliver the diversification needed to withstand large drawdowns.

**Figure 8. Downside risks in bottom-percentile environments**



Note: VCMM data are as of June 2020.  
Source: Vanguard.

**IMPORTANT:** The projections and other information generated by the VCMM regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from VCMM are derived from 10,000 simulations for each modeled asset class. Simulations as of June 30, 2020. Results from the model may vary with each use and over time. For more information, please see the Appendix on page 13.

<sup>3</sup> VCMM is a proprietary forecasting tool that provides investors with a range of possible future expected returns for a wide range of asset classes. For more information about the VCMM, see Davis et al. (2014).



## Tax considerations

For investors with assets in taxable accounts, one of the most significant costs can be taxes on interest, dividends, and capital gains. Investors using an income-focused approach rather than a total-return approach may pay higher taxes because income can be taxed more heavily than long-term capital gains.<sup>4</sup> This is especially true for higher-income investors. Under current U.S. tax law, the highest earners would pay a federal marginal income tax rate of 37% (40.8% if subjected to the 3.8% Medicare surtax on net investment income) on dividends and interest. This is higher than the 20% tax rate (23.8% if subjected to the 3.8% Medicare surtax) they would pay on long-term capital gains.

The long-term capital gains rate remains lower than the marginal income tax rate for nearly all of the various income tax brackets. For this reason, an income-focused investor would face a higher tax liability and hence a lower after-tax return on their portfolio.

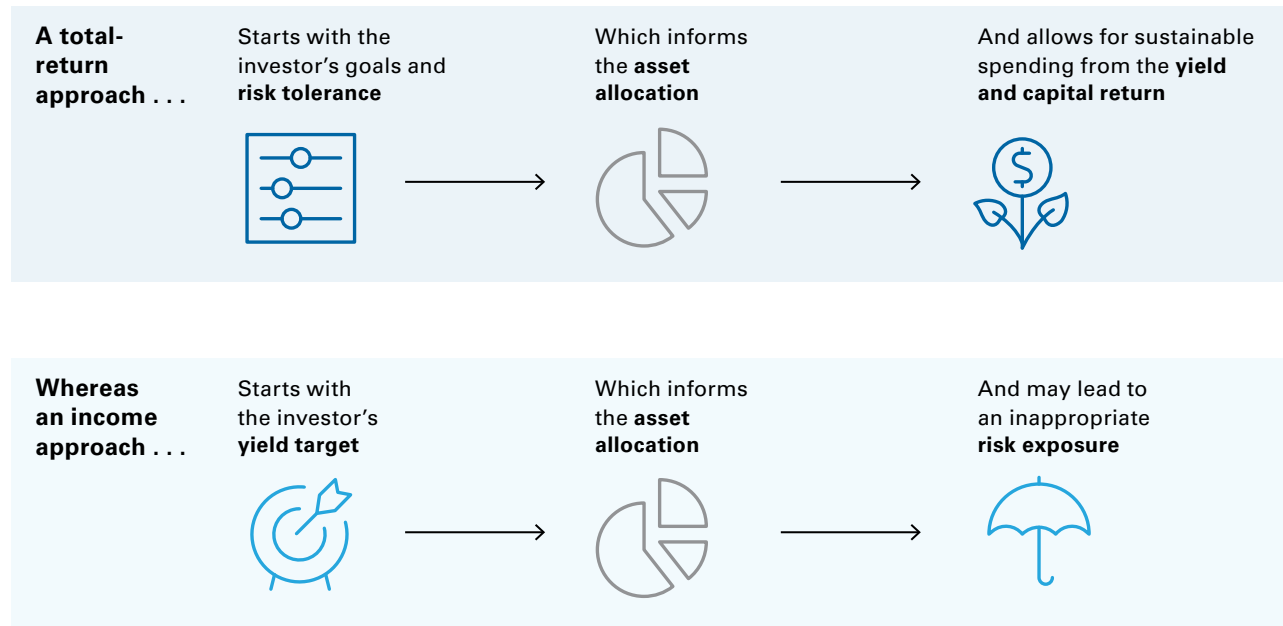
## A better alternative

A broadly diversified total-return approach addresses many of the risks and pitfalls of an income-focused strategy in the current low-yield market environment (Figure 9). This approach embodies Vanguard's investing principles and combines the investor's goals and risk tolerance to develop an appropriate asset allocation tailored to the specific investor.

The total-return strategy proves beneficial to investors in the decumulation phase of retirement, with increased spending flexibility coming from the combination of two sources: capital gains and income. The total-return strategy, when accompanied with a prudent spending rule, provides value compared with the income approach by:

- Maintaining portfolio diversification (no unintentional factor, credit, or concentration risks).
- Creating more tax efficiency.
- Allowing more control over the size and timing of portfolio withdrawals (spending from capital gains, not strictly yield; see Pakula, 2020).

Figure 9. Total-return approach versus income approach



Source: Vanguard.

<sup>4</sup> Qualified dividends are taxed at the capital gains tax rate, which is lower than the federal marginal income tax rate.

## Conclusion

Income-focused investors face increased difficulties in effectively meeting their spending target over time in the current low-yield environment. Low yields on traditional assets can tempt income investors to stretch for yield through a reallocation of the portfolio into assets with higher yields or dividends.

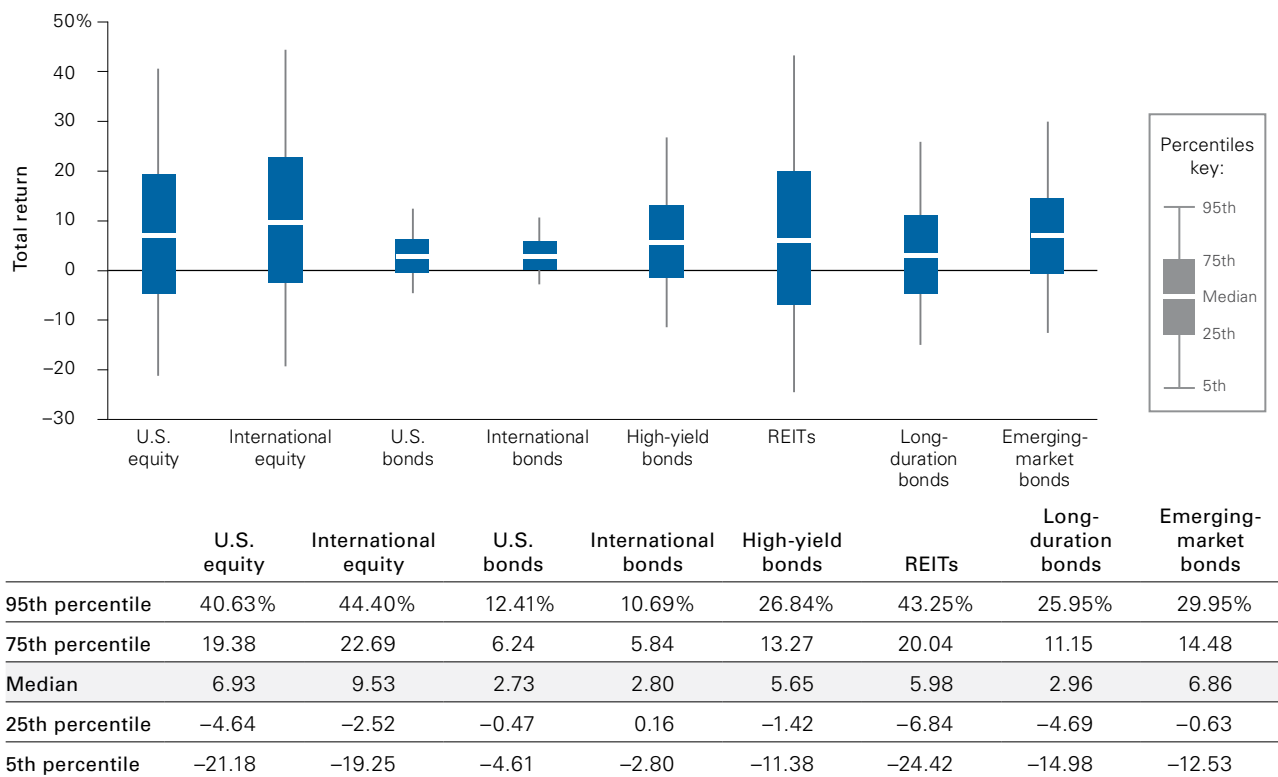
The unintended consequences of this are less diversification and risk that materializes when markets are under stress. The solution is a total-return approach, which, when coupled with a prudent spending rule, gives investors a chance to meet their goals through stable portfolio withdrawals, tax efficiency, and a diversified portfolio matched to their unique risk and return preferences.

## Appendix

Below is Vanguard's forward-looking expectation for key and high-yielding asset classes as of June 2020. The June 2020 forecast is used to project future asset returns. The Vanguard Capital Markets Model (VCMM) forecast is presented as a distributional framework. For more information about Vanguard's forecast, see Davis

et al. (2019). Two types of forecasts are used: a geometric forecast and a year-by-year forecast. The year-by-year forecast (Figure A-1) is used to display the annual downside risks that high-yielding assets present in terms of total return. The geometric forecast takes into account the geometric mean or average across the 10,000 simulations over a 30-year period (Figure A-2).

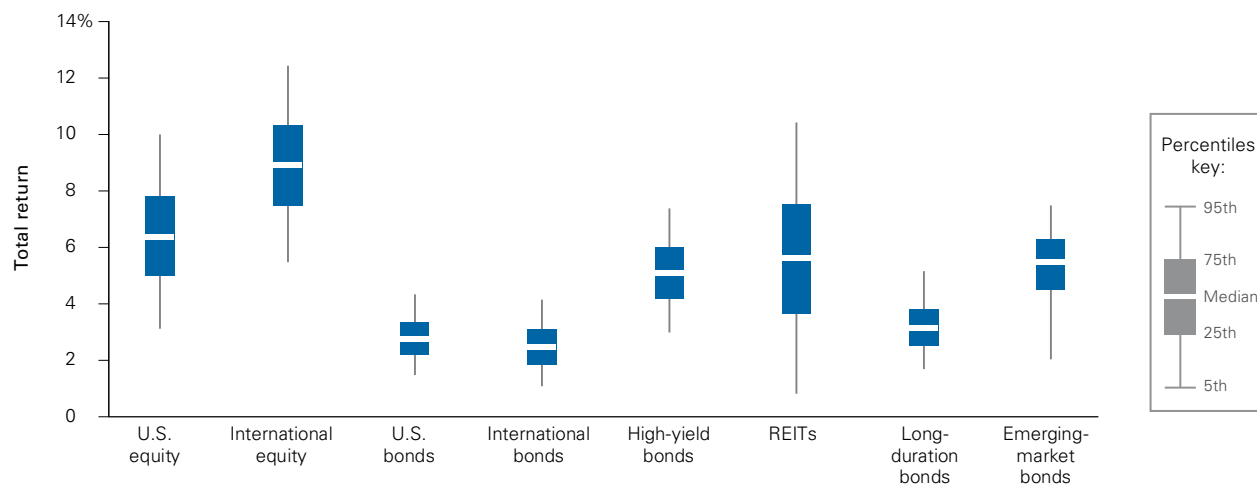
Figure A-1. VCMM forecast: Total return in any given year over a 30-year horizon



Note: VCMM data are as of June 2020.

Source: Vanguard.

Figure A-2. VCMM forecast: Geometric total return over a 30-year horizon



	U.S. equity	International equity	U.S. bonds	International bonds	High-yield bonds	REITs	Long-duration bonds	Emerging-market bonds
95th percentile	9.98%	12.43%	4.34%	4.17%	7.39%	10.43%	5.16%	7.50%
75th percentile	7.79	10.35	3.35	3.14	6.01	7.54	3.80	6.31
Median	6.35	8.92	2.75	2.46	5.09	5.60	3.12	5.47
25th percentile	5.00	7.49	2.21	1.86	4.20	3.65	2.51	4.54
5th percentile	3.12	5.48	1.50	1.09	2.99	0.84	1.71	2.05

Note: VCMM data are as of June 2020.

Source: Vanguard.

### About the Vanguard Capital Markets Model

*IMPORTANT: The projections and other information generated by the Vanguard Capital Markets Model regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. VCMM results will vary with each use and over time.*

The VCMM projections are based on a statistical analysis of historical data. Future returns may behave differently from the historical patterns captured in the VCMM. More important, the VCMM may be underestimating extreme negative scenarios unobserved in the historical period on which the model estimation is based.

The Vanguard Capital Markets Model® is a proprietary financial simulation tool developed and maintained by Vanguard's primary investment research and advice teams. The model forecasts distributions of future returns for a wide array of broad asset classes. Those asset classes include U.S. and international equity

markets, several maturities of the U.S. Treasury and corporate fixed income markets, international fixed income markets, U.S. money markets, commodities, and certain alternative investment strategies. The theoretical and empirical foundation for the Vanguard Capital Markets Model is that the returns of various asset classes reflect the compensation investors require for bearing different types of systematic risk (beta). At the core of the model are estimates of the dynamic statistical relationship between risk factors and asset returns, obtained from statistical analysis based on available monthly financial and economic data from as early as 1960. Using a system of estimated equations, the model then applies a Monte Carlo simulation method to project the estimated interrelationships among risk factors and asset classes as well as uncertainty and randomness over time. The model generates a large set of simulated outcomes for each asset class over several time horizons. Forecasts are obtained by computing measures of central tendency in these simulations. Results produced by the tool will vary with each use and over time.

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