

RESEARCH

Making Fixed Income More Flexible When Targeting Your Goals

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KEY TAKEAWAYS

- Dimensional uses a holistic asset allocation approach to determine asset class exposures as well as the composition of each asset class.
- In equity-heavy portfolios, longer-duration and lower-credit-quality bonds can increase expected returns while still reducing volatility.
- Our research shows a holistic approach that varies the composition of a fixed income allocation may help investors better achieve their goals.

Fixed income can serve many roles in a portfolio to help investors achieve their goals. For example, adding fixed income to an equity portfolio is one of the most effective tools to balance the expected volatility and return of the total portfolio.

But once an investor determines the appropriate amount of fixed income for their portfolio, what should comprise that fixed income allocation? The answer depends on an investor's goal.

The composition of the fixed income allocation needs to be evaluated in light of the overall portfolio characteristics and be consistent with the investor's goal, whether it's capital appreciation or capital preservation.

BONDS WITH HIGHER EXPECTED RETURNS AND HIGHER VOLATILITY

Decades of academic research show there are two predominant sources of higher expected returns in fixed income: term and credit premiums.¹ On average, bonds with a longer duration provide greater exposure to the term premium, and those with lower credit quality provide more exposure to the credit premium. Thus, allocations to such bonds may be appropriate for investors seeking capital appreciation.

Indeed, annualized returns have been higher for intermediate government and credit bonds (longer duration, lower credit quality) than for short-term government bonds (shorter duration, higher credit quality) over the last three decades (see **Exhibit 1**).

Exhibit 1
Historical Performance,
January 1990–
December 2022

	Global Short-Term Government Bonds	Global Intermediate Government and Credit Bonds
	FTSE World Government Bond Index 1–3 Years (hedged to USD)	Bloomberg Global Aggregate Bond Index (hedged to USD)
Annualized Return	3.72%	5.15%
Annualized Standard Deviation	1.26%	3.25%

Past performance is no guarantee of future results. Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of the actual portfolio.

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While realized returns were higher for intermediate government and credit bonds, so was volatility (3.25% vs. 1.26%).

BONDS WITH HIGHER EXPECTED RETURNS CAN STILL LOWER VOLATILITY IN EQUITY-HEAVY PORTFOLIOS

An allocation to fixed income can help dampen overall portfolio volatility even if that allocation is not exclusively to short-duration, high-credit-quality bonds.

In portfolios with a heavy weight in equity, allocating to longer-duration and lower-credit-quality bonds can result in a similar reduction in overall portfolio volatility when compared to a more conservative fixed income allocation while maintaining the ability to pursue higher expected returns.

We illustrate this with an example in **Exhibit 2**, which compares the impact of allocating 20% or 80% of an all-equity portfolio to shorter-duration, higher-credit-quality bonds (more conservative) vs. longer-duration, lower-credit-quality bonds (more aggressive).

Exhibit 2

Impact of More Aggressive vs. More Conservative Fixed Income Allocations, January 1990–December 2022

	100/0 Allocation	20/80 Allocation		80/20 Allocation	
	Global Equities	Global Equities + Global Short-Term Government Bonds	Global Equities + Global Intermediate Government and Credit Bonds	Global Equities + Global Short-Term Government Bonds	Global Equities + Global Intermediate Government and Credit Bonds
		(A)	(B)	(C)	(D)
Annualized Return	6.97%	4.56%	5.71%	6.52%	6.81%
Annualized Standard Deviation	15.40%	3.20%	4.33%	12.31%	12.44%
Reduction in Volatility relative to 100/0 Allocation (pct. points)	—	12.21	11.08	3.09	2.96
Percentage Increase in Volatility relative to Short-Term Government Bond Allocation	—	—	35.38%	—	1.03%

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Global equities represented by MSCI All Country World Index (gross div). Short-term government bonds represented by FTSE World Government Bond Index 1-3 Years (hedged to USD). Intermediate government and credit bonds represented by Bloomberg Global Aggregate Bond Index (hedged to USD). Asset allocations and hypothetical index portfolio returns are for illustrative purposes only and do not represent actual performance. Actual results may vary. Rebalanced monthly. MSCI data © MSCI 2023, all rights reserved. Bloomberg data provided by Bloomberg. FTSE fixed income indices © 2023 FTSE Fixed Income LLC.

For the 20% equity/80% fixed income (20/80) allocations, introducing fixed income meaningfully dampens overall portfolio volatility compared to the 100% equity allocation. Yet, the overall impact depends on the makeup of the fixed income component. Introducing the more conservative fixed income allocation (column A) drives down overall portfolio volatility from 15.40% in the 100/0 allocation to 3.20% in the 20/80, a reduction of 12.21 percentage points.

The more aggressive 20/80 allocation (column B) results in a reduction of overall portfolio volatility relative to the 100/0 allocation of 11.08 percentage points, from 15.40% to 4.33%.

While the more aggressive 20/80 allocation produces a higher annualized return than the more conservative allocation (5.71% vs. 4.56%), it comes at the cost of an increase in standard deviation of over 35% (4.33% compared to 3.20%). This tradeoff of higher return for much higher relative volatility is likely not suitable for a conservative investor with a lower risk tolerance.

On the flip side, the relative impact on volatility is more muted when comparing the more aggressive and more conservative approaches within the equity-heavy 80/20

allocations. Compared to the 100/0 allocation, overall portfolio volatility falls by about 3 percentage points in both the more conservative (column C) and more aggressive (column D) 80/20 allocations. Indeed, the increase in standard deviation from the more conservative allocation to the more aggressive allocation is marginal (12.31% vs. 12.44%).

Within equity-heavy allocations, the volatility of the equity component dominates overall portfolio volatility. As a result, allocating to longer-duration and lower-credit-quality bonds does not lead to a material increase in volatility compared to an allocation composed of shorter-duration, higher-credit-quality bonds.

A more aggressive approach in the 80/20 allocation also comes with an almost 30 basis point increase in annualized return relative to the more conservative fixed income allocation (6.81% vs. 6.52%). This increase aligns with the wealth-growth goal of investors holding equity-heavy portfolios without giving up the volatility reduction that comes from an allocation to fixed income.

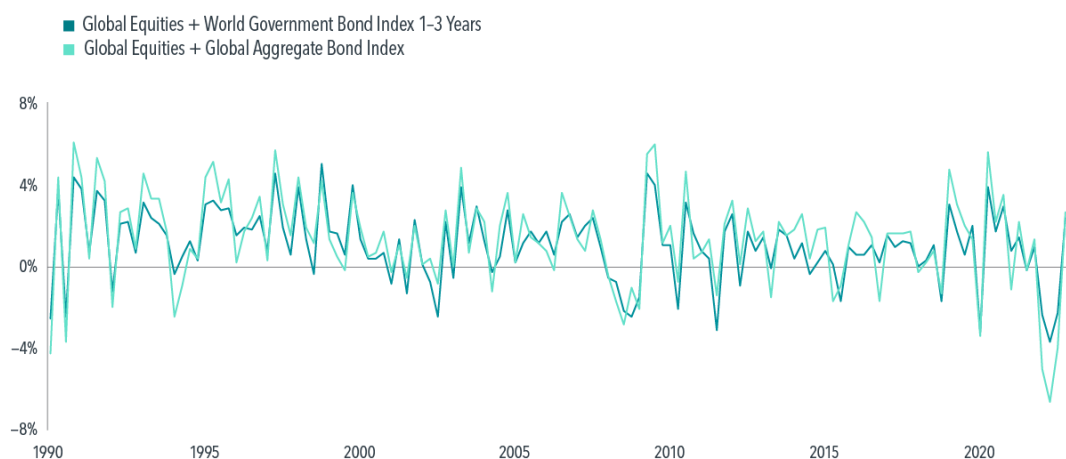
Exhibit 3 provides a closer look at the impact on return volatility of taking on more term and credit exposure by comparing quarterly returns from January 1990 to December 2022 for shorter-duration, higher-credit-quality bonds and longer-duration, lower-credit-quality bonds in a fixed-income-heavy 20/80 allocation (**Panel A**) and in an equity-heavy 80/20 allocation (**Panel B**). In Panel A, the difference in return volatility between holding shorter-duration, higher-credit-quality bonds (blue) and longer-duration, lower-credit-quality bonds (teal) is clearly visible, with the latter exhibiting larger changes in returns over time. In Panel B, however, the difference in return volatility largely vanishes when incorporating these fixed income investments into an 80/20 allocation.

For both 80/20 allocations, the volatility of the equity component is the driving factor in overall portfolio volatility.

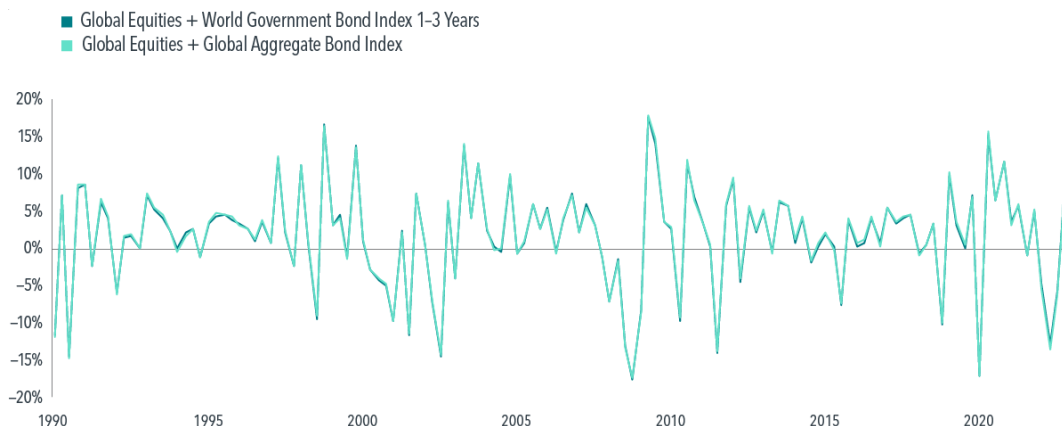
Exhibit 3

Quarterly Returns over
Time, January 1990–
December 2022

Panel A: 20/80 Allocation



Panel B: 80/20 Allocation



Past performance, including hypothetical performance, is not a guarantee of future results.

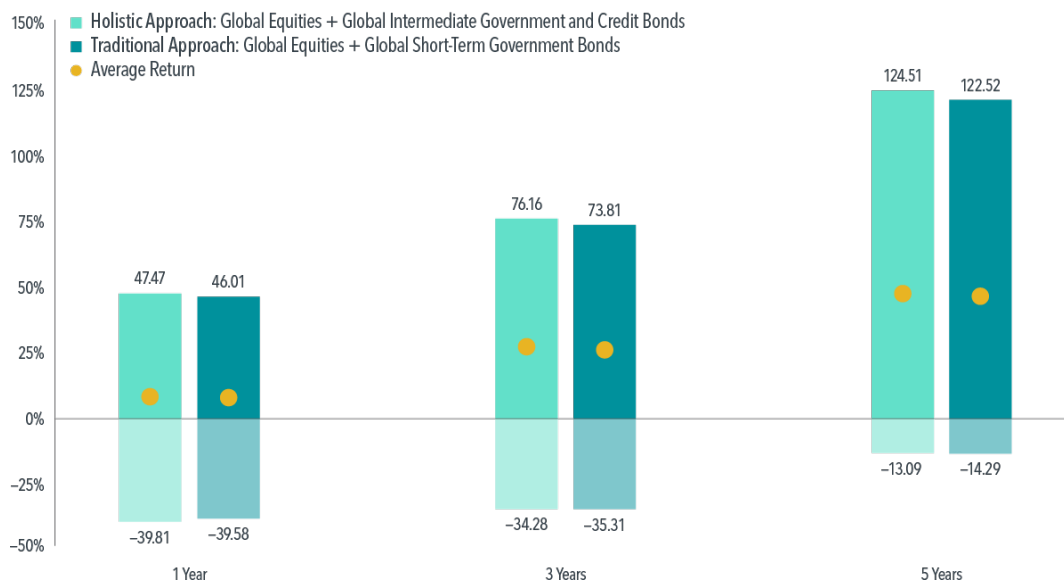
In USD. Global equities represented by MSCI All Country World Index (gross div.). Each 20/80 and 80/20 portfolio rebalanced monthly. Selection of indices and time period presented chosen by Dimensional. Performance includes reinvestment of dividends and capital gains. Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio. Bloomberg data provided by Bloomberg. FTSE fixed income indices © 2023 FTSE Fixed Income LLC. All rights reserved. For more information, see Appendix.

HOLISTIC APPROACH VS. TRADITIONAL APPROACH

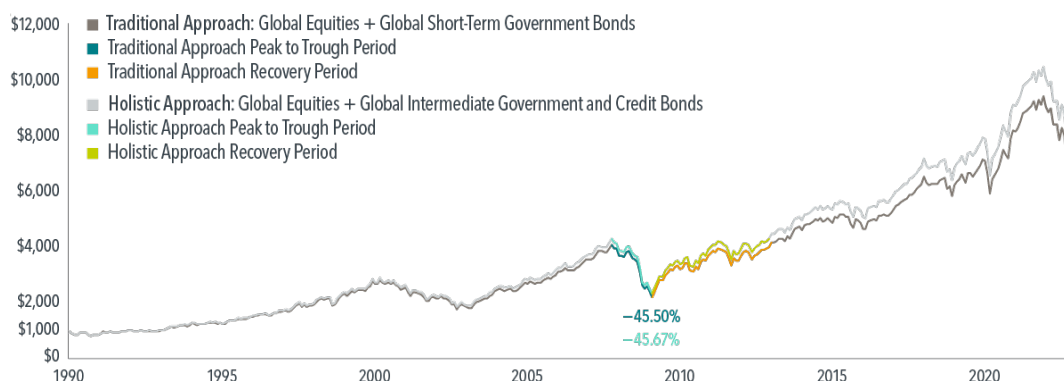
To further explore how an investor's experience in the two equity-heavy 80/20 portfolios shown in Exhibits 2 and 3 may have differed over time, **Exhibit 4** presents the average, best, and worst compound rolling one-year, three-year, and five-year returns (**Panel A**) and maximum drawdown (**Panel B**) from 1990 through 2022. For brevity, we label the 80/20 allocation with shorter-duration, higher-credit-quality bonds the traditional approach, because a traditional approach may hold a conservative fixed income allocation regardless of an investor's goal. We label the 80/20 allocation with longer-duration, lower-credit-quality bonds the holistic approach, because a holistic approach instead holds fixed income securities that align with investor goals. Across all time horizons, the average and best performances of the holistic 80/20 allocation are better than those of the traditional 80/20 allocation.

Exhibit 4**Best and Worst Returns and Max Drawdown for Hypothetical 80/20 Asset Allocations, January 1990–December 2022**

Panel A: Average, Best, and Worst Compound Rolling Returns (%)



Panel B: Maximum Drawdown Observed



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For example, the average rolling five-year return of the holistic allocation was 47.55%, exceeding the average of 45.02% for the traditional allocation. More interestingly, the worst return of the holistic allocation was also better (in other words, less negative) than that of the traditional allocation over both three-year and five-year periods.²

Another aspect of risk to consider is potential drawdown and length of time it may take to recover lost assets. In Panel B, the maximum drawdowns for the two asset allocations were virtually identical—a loss of about 45% over the 16-month period ending February 2009.

These results—a generally better upside and similar downsides for the holistic allocation relative to the traditional allocation—indicate that an investor seeking higher expected returns would have been better off in the holistic allocation in most instances.

Some investors may question the prudence of allocating to the full spectrum of investment-grade bonds in an equity-heavy portfolio because conventional wisdom says that the correlation between bonds and stocks of the same company is high. Recent research by Dimensional, however, shows that the cross-sectional average correlation was low between investment-grade bonds and stocks of the same company across eligible issuers from 2001 to 2020.

As a result, adding investment-grade corporates in a multi-asset framework is not equivalent to doubling down on equities. It can actually help target higher returns without significantly increasing portfolio volatility.³

MEETING INVESTOR GOALS WITH THOUGHTFUL FIXED INCOME ALLOCATIONS

A holistic approach to asset allocation that varies the composition of the fixed income allocation based on overall portfolio characteristics may help investors better achieve their goals than a traditional approach that treats the composition of fixed income in a portfolio as fixed regardless of an investor's goal.

Dimensional's holistic approach to asset allocation is based on decades of experience in building and providing multi-asset solutions to clients across a variety of areas, including funds of funds, target date income funds, and model portfolios.⁴

Our approach starts with defining an investment goal and identifying the key risks relevant to this goal. Then we build solutions that aim to help investors achieve their goals by systematically pursuing reliable sources of higher expected returns while managing risks and costs efficiently.

1. See, for instance, Eugene F. Fama and Kenneth R. French, "Common Risk Factors in the Returns on Stocks and Bonds," *Journal of Financial Economics* 33, no. 1 (February 1993): 3–56.

2. In this period, the average, best, and worst returns were better for the holistic allocation over rolling periods of 10, 15, and 20 years, as well.

3. Aabbhas Garg and Samuel Wang, "On the Correlation between Stocks and Corporate Bonds" (Perspectives, Dimensional Fund Advisors, 2022).

4. Kaitlin Simpson Hendrix, "Dimensional's Approach to Asset Allocation" (research paper, Dimensional Fund Advisors 2021).

All performance results of the 20/80 Equity + Fixed Income and 80/20 Equity + Fixed Income hypothetical models are based on performance of indices with model/backtested asset allocations; the performance was achieved with the benefit of hindsight; it does not

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