

The 60/40 Portfolio's Overdue Overhaul

An Evolving Emphasis from Assets to Outcomes

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- Much has been written about how historically low bond yields have sounded the death knell for the 60% equity/40% fixed income portfolio. While we acknowledge that the 60/40 construct is overdue for an overhaul, it is not due to low bond yields.
- The 60/40 portfolio's prevalence is due to its simplicity as well as the theory that the combination of stocks and bonds will provide an optimal balance of asset volatility.
- Yet, managing asset volatility is not the ultimate objective for most investors. Rather, their objective frequently involves accumulating enough savings for a future need, such as retirement spending. Portfolios constructed to manage asset volatility result in far different outcomes than those constructed to meet investors' objectives. Therefore, investors' portfolios should be constructed to manage the risk of achieving their desired outcome.
- Shifting investors' focus to managing outcome risk also requires a realigned focus on bonds' risk premia—rather than yield—in the portfolio construction process.¹
- Hence, our 60/40 overhaul progresses through the following points:
 - redefining the concept of successful investing and optimal financial outcomes;
 - the underappreciated role of duration in portfolio construction;
 - why risk premia in public fixed income and its role in portfolio construction matters more than bond yields;
 - as well as how investors' asset allocations *should* begin and evolve over time.

¹ Although we use "investors" in the third person, we are highly cognizant that we are investors as well. We use "investors" in this context to convey the concept in the pages herein.

DIFFERENTIATING THE “WHY” AND “HOW” OF INVESTING

Most investors are aware of why they are investing—for many, it’s to meet the objective of accumulating adequate savings for retirement spending. Yet, portfolios based on 60/40, or other rule-of-thumb allocations (such as target date funds), are focused on the “how” of managing asset volatility as opposed to the “why” of meeting long-term investment goals.

The role of fixed income duration in a 60/40 portfolio was traditionally meant to offset the stock allocation during periods of equity market stress. It adhered to an investing generalization: “when a recession hits and stocks do poorly, rates will fall, and duration exposure will mitigate the portfolio’s downside return.” However, the recent past is rife with market shocks when interest-rate volatility drove notable equity selloffs, the most recent one arriving in late 2021/early 2022 (Figure 1). Hence, rule-of-thumb portfolios not only fail to target investors’ objectives, they also frequently come up short in mitigating account balance volatility.

The underappreciated role of duration in portfolio construction is to *reduce* the high levels of interest-rate risk faced by investors who are saving to meet future spending needs.

Figure 1: The 60/40 construct—non-optimal for investment outcomes and managing asset volatility



Source: PGIM Fixed Income and Bloomberg.

In an environment of historically low bond yields, the asset volatility definition conditioned investors to believe that adding duration to their portfolios *increases* risk. In fact, the underappreciated role of duration in portfolio construction is to *reduce* the high levels of interest-rate risk faced by investors who are saving to meet future spending needs. Investors seeking to align their investment approach with their long-term investment objectives could benefit from viewing the addition of duration as a reduction in future spending risk, rather than a “hedge” against recessions.

WHY RISK PREMIUM MATTERS MORE THAN YIELD

Regardless of how investors have defined their investment objectives, they know the importance of generating returns. However, just as their focus tends to stray from investment objectives, they also tend to lose sight of the composition of investment returns. We define return composition in a traditional context: it is the combination of risk premia and risk-free interest rates. The latter parlays into the most commonly cited challenge to the fixed income portion of the 60/40 portfolio: the low level of bond yields and their misplaced association with a low level of potential returns and/or relationship to asset volatility.

Taken a step further, the primary determinant of low bond yields is the risk-free rate of return, which is set by central bank monetary policy. This low risk-free rate applies to every investable asset class from private debt, to equities, to public debt. Hence, the risk-free rate cannot be avoided by lowering allocations to public fixed income. Considering that the risk-free rate is outside of investors' control and is common to every investable asset, we prefer to focus on risk premia.

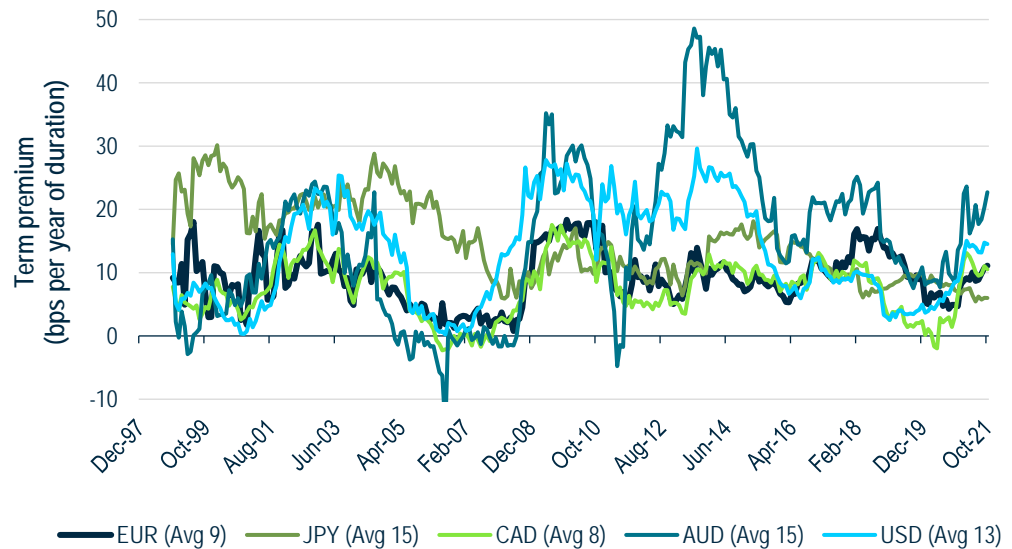
From the perspective of fixed income investing, risk premia can be segmented into term and credit premia, both of which play a critical role in portfolio construction.

THE ROLE OF RISK PREMIA IN PORTFOLIO CONSTRUCTION

Our preference for focusing on bonds' risk premia as a measure of potential return is based on the existence of a diverse, heterogeneous set of premia that creates relative-value opportunities and alpha generation. Our risk premia discussion starts with the **term premium**, which is the excess return over cash based on a bond's duration. [In a recent paper](#), we demonstrated the persistent, positive return associated with term-risk premia, or duration risk, even after controlling for the decades-long bull market in rates.²

This term risk premium is evident across a number of developed market interest-rate complexes. Figure 2 shows a sample set of 1-year rolling realized term premia. The average realized term premium for each currency varies from 8 to 15 basis points per year of duration, demonstrating a persistently positive return from duration across multiple developed markets.

Figure 2: The global term-risk premia (bps)



Source: PGIM Fixed Income.

Unlike term premium, **credit risk premia** comprise a highly heterogeneous category. They consist of risk factors for which fixed income investors receive compensation, including default and credit rating downgrades, reinvestments, liquidity events, prepayments, and cashflows, amongst others.

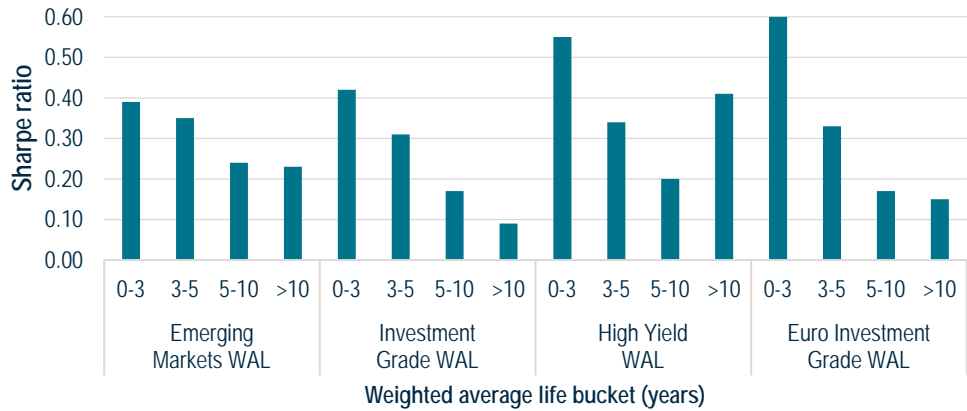
² McCartan, Tom, FIA, CFA, and Thorn, Tyler, "Revisiting the Term Premium Cost on Funded Status."

The risk-free rate cannot be avoided by lowering allocations to public fixed income.

[As we've previously explored](#), the segmentation in public debt markets as well as the constraints and behaviors of different fixed income investors contributes to the wide dispersion in relative value across credit risk premia.³

Figure 3 underscores the public market's heterogeneity as it shows the wide range of risk-adjusted returns (from 0.1 to 0.6) that exist across U.S., European, and emerging market bonds of varying credit qualities and maturities.⁴

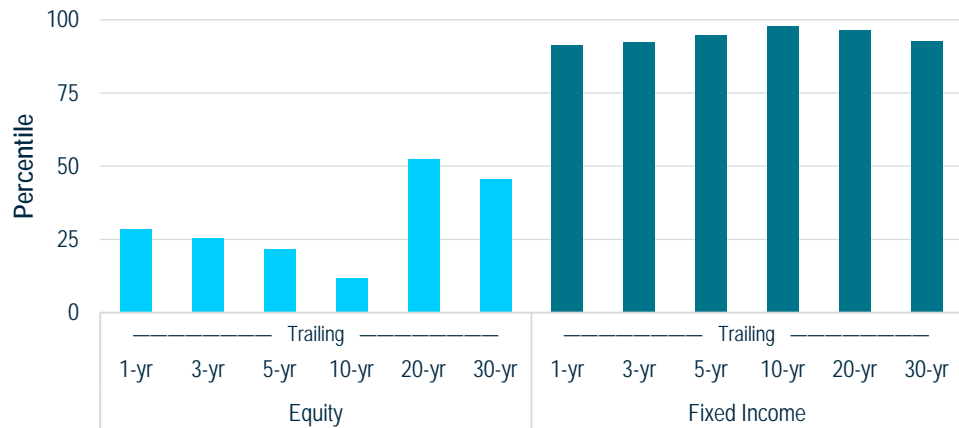
Figure 3: The breadth of asset class Sharpe ratios across fixed income



Source: PGIM Fixed Income. WAL = weighted average life.

The myriad risk factors and associated modeling complexity results in far less efficiency in the public fixed income markets than other asset classes. One need look no further than the comparison of active equity and fixed income managers in beating their respective benchmarks (Figure 4).

Figure 4: The disparate experiences of public equity and fixed income managers in beating their benchmarks



Source: eVestment, PGIM Fixed Income as of December 31, 2021. Fixed income represented by the U.S. Core Plus Fixed Income Universe; equity represented by the U.S. Large Cap Core Equity Universe. Performance is compared versus the Bloomberg Aggregate Bond Index and the S&P 500 Index, respectively.

Net of fees, the vast majority of active equity managers have failed to beat their benchmarks over the long term. This is not the case in fixed income, where most active bond managers have beaten the index after fees. These factors place the compelling opportunities in public fixed income into context as investors' focus shifts from bond yields to risk premia and the potential for reliable alpha generation.

³ Peters, Gregory and McCartan, Tom, FIA, CFA, "Capturing the Opportunity of Constraints."

⁴ In this context, our use of maturities pertains to weighted average life.

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Furthermore, investors can also benefit from perspective on the sizable interest-rate risk that they face when adhering to 60/40 portfolios or other rule-of-thumb concepts, such as target-date strategies. These constructs generally gravitate towards inadequate fixed income exposures due to deliberate allocation decisions or failures to rebalance portfolios.

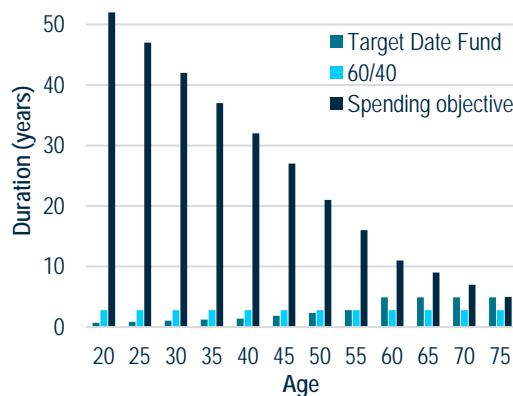
THE TANGIBLE RISK OF UNDER ALLOCATING TO FIXED INCOME

Starting with the concept that investors' future spending objectives have a duration, just as their investment portfolios do, we can evaluate the magnitude of risk to investment objectives based on the mismatch in durations. Figure 5 compares the duration of the future spending objective for individuals of varying ages (dark blue bars) to the typical duration of a fixed income allocation in a target-date strategy (teal bars).⁵

Framed another way, Figure 6 shows a large duration mismatch between these investment strategies and the retirement spending objective for most of investors' working life, which only drops when they are close to retirement or already in retirement.⁶

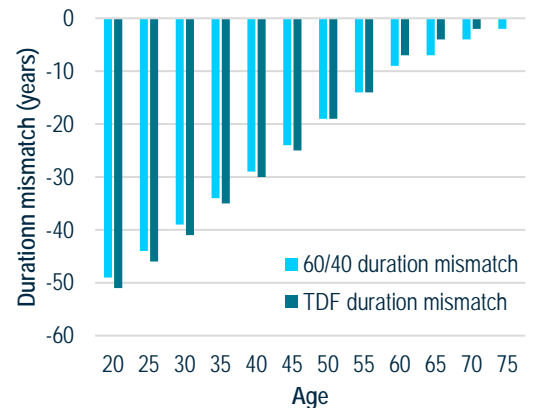
Investor portfolios *should* start with elevated allocations to equity and duration risk, the latter of which "hedges" the interest-rate risk of their investment objectives. As they age, they should reduce exposure to both risk premia.

Figure 5: Duration comparison of a target-date portfolio vs. spending objective



Source: PGIM Fixed Income.

Figure 6: Duration mismatch between spending objective and sample target-date portfolio



The large duration mismatches observed in Figures 5 and 6 are driven by 60/40 and other rule-of-thumb strategies with durations of about seven years when the duration of the retirement objective is clearly much longer.

WHAT INVESTORS SHOULD DO AND WHY

The duration mismatch clearly points to the question of what investors *should* do. Rather than the traditional concept that they should decrease equity risk and increase duration risk as they age, their portfolios should instead start with elevated allocations to equity *and* duration risk, the latter of which "hedges" the interest-rate risk of their investment objectives. *As they age, they should reduce exposure to both risk premia.*

Hedging a risk typically has an associated cost if it is achieved through *reducing* a portfolio's exposure to a particular risk premium. However, hedging the interest-rate risk of future spending objectives involves adding more duration to the portfolio. As we explained earlier, duration is a

⁵The fixed income strategy of both the 60/40 strategy and the Target Date Fund are assumed to be benchmarked against the Barclays Aggregate Index, which has a duration of around 7 years

⁶A duration mismatch of 50 years for the 20-year-old means that for each 1% move lower in real yields the saver will lose ~60% of their future real income.

persistently positively compensated risk premium globally. This means that the activity of hedging interest-rate risk *increases* expected risk premium (return) while *decreasing* interest-rate risk.

Strategies that simultaneously reduce risk and increase return are the Holy Grail of investing. Therefore, investors should assess whether the duration in their 60/40 or rule-of-thumb constructs is optimal for their investment objectives or whether it is an antiquated approach that is overdue for an overhaul.

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IMPLEMENTATION

While describing the dual benefits of adding duration to portfolios may resonate in theory, the following examples place the concept into practice. Figure 7 shows two portfolios and compares their risk and return in isolation and compares them to a future spending objective.

Portfolio 1 has no duration exposure, while Portfolio 2 has 15 years of duration exposure, matching the duration of the investor’s future retirement spending needs. The three columns on the left of the table show the portfolios in isolation and the retirement objective. The two columns on the right of the table show the portfolios relative to the retirement spending objective.

Figure 7: The effects of adding duration in isolation and relative to spending objectives

	Portfolio 1	Portfolio 2	Retirement Sensitivity	Retirement Savings Portfolio 1	Retirement Savings Portfolio 2
Equity risk (bps)	500	500	0	500	500
Equity return (bps)	150	150	0	150	150
Interest rate duration (years duration)	0	15	15	-15	0
Interest rate risk (bps)	0	1,050	1,050	1,050	0
Term premium return (bps)	0	225	225	-225	0
Total risk (bps)	500	1,163	1,050	1,163	500
Total return (bps)	150	375	225	-75	150

Source: PGIM Fixed Income.

When considered in isolation, Portfolio 2 presents more than twice the volatility of Portfolio 1—the latter of which is based on a construct that seeks to manage account balance volatility, rather than future spending objectives—and more than twice the return due to the additional duration risk and associated term premium.

However, when shifting to investment objectives and the desired outcome, the risk is flipped. Under this definition, Portfolio 2 now presents less than half of the risk and more than 200 basis points of additional expected return than Portfolio 1.

This simple example highlights the radical differences in our perspective on risk and return depending on whether we define risk as asset volatility or meeting a retirement spending objective.

OPTIMIZING OUTCOMES

Taken a step further, when constructing an optimal portfolio, optimizing to manage asset volatility and optimizing to manage investment objectives results in starkly different outcomes.

Figure 8 shows three simple, stylized portfolios for an individual investor. Portfolio A is all-cash, Portfolio B is a 60/40 construct, and Portfolio C is optimized to maximize risk/return vs. the retirement objective. Similar to the prior example, risk is defined in two different ways. First, the portfolio volatility in isolation and, second, in terms of the risk to the outcome of retirement spending.

Figure 8: Optimizing a portfolio for investment objectives

	Portfolio A: Cash	Portfolio B: 60/40	Portfolio C: Optimized
Cash	100%	0%	0%
Equity [derivatives]	0%	0%	33%
Equity [cash]	0%	60%	0%
Aggregate credit cash	0%	12%	0%
Credit [cash]	0%	0%	100%
Interest rate duration (years)	0.0	2.8	20.7
Portfolio only volatility (bps)	0	950	1,657
Portfolio only return (bps)	0	412	751
Retirement outcome volatility (bps)	1,050	1,262	900
Retirement outcome return (bps)	-225	187	526

Source: PGIM Fixed Income.

Portfolio A, which is all-cash, appears to be riskless when only considering volatility. However, given the high levels of interest-rate uncertainty, it is a very risky portfolio for investors with retirement spending objectives. Furthermore, due to the lack of term premium, the all-cash investment is also expected to underperform the riskless replicating portfolio of the future spending objective (which is a portfolio of U.S. Treasury STRIPS that matches the spending objective) by 225 bps per year.⁷

Portfolio B, the 60/40 portfolio, appears to have a reasonable risk/reward ratio of around 0.44 when considering only the portfolio volatility.⁸ However, the risk reward ratio drops to 0.14 when we switch to considering risk relative to the future retirement spending objective.⁹

Portfolio C, which is optimized for outcome risk, has a very high level of asset volatility when considering the assets in isolation (1657 bps volatility), and the risk / reward ratio is middling (0.45). However, when considered relative to the future spending objective, the volatility is much lower (900 bps), and the risk / reward ratio is vastly improved (0.58).

MILLENNIAL MISERY

We conclude by putting our implementation and optimization examples into present-day context. The millennial generation faces the stark realization of interest-rate risk amid the secular decline in real interest rates from about 5% in the 1980s and early 1990s to zero and below more recently.¹⁰ With lower levels of wealth and savings after weathering the financial crisis and the COVID pandemic, mistakenly under allocating to fixed income, and experiencing significant

⁷The future spending objective has a higher expected return than cash due to the 15 years of duration and assumed 15 bps per year of duration term premium.

⁸Risk / reward ratio defined as Return / Volatility = 402 bps / 921 bps = 0.44

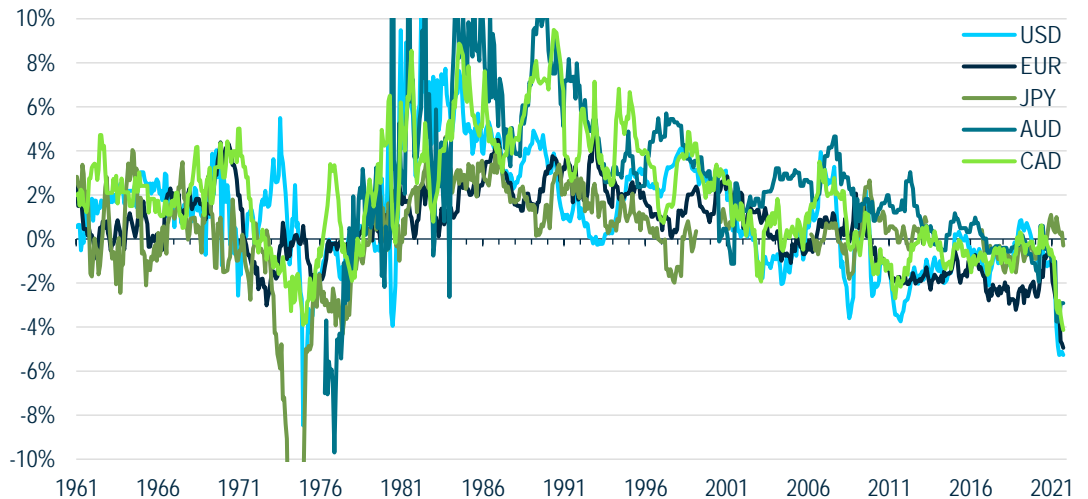
⁹Risk / reward ratio defined as Return / Volatility = 177 bps / 1241 bps = 0.14

¹⁰The Millennial generation consists of those born between 1981 and 1996.

The millennial generation faces the stark realization of interest-rate risk amid the secular decline in real interest rates from about 5% in the 1980s and early 1990s to zero and below more recently.

mismatches in duration, millennials were largely unhedged to the secular decline in real interest rates. Additionally, the prevalence of student loans increased their duration mismatch and exacerbated the downside interest-rate scenario.¹¹

Figure 9: The generational decline in real interest rates



Source: PGIM Fixed Income and Bloomberg.

Some of the more obvious outcomes of millennials' downside scenario are evident in their struggles to get on the property ladder, pay off student loans, and save for retirement. While another generational decline in interest rates may be unlikely, the plight of millennials provides a real-time example of the benefit from hedging the interest-rate risk of their future spending objectives.

CONCLUSION: AN OVERHAULED FRAMEWORK

The 60/40 portfolio is an appealingly simple investment concept. Yet, its simplicity misses the mark on meeting investment objectives. By focusing on account balance risk—albeit with frequent shortcomings—as well as yield levels, rule-of-thumb concepts expose investors to significant interest-rate risk. Our implementation and optimization examples demonstrate the benefit of focusing on risk premia and investment outcomes. The examples underscore that adding adequate duration to portfolios can provide the rare opportunity of hedging a risk while improving returns.

While our overhaul of retirement-focused portfolios cuts across traditional investment concepts, it remains straightforward—our findings indicate that portfolio construction should start with elevated allocations to equity *and* duration risk, the latter of which hedges the interest-rate risk of investors' objectives. As they age, they should reduce exposure to both asset classes.

Although re-assessing rule-of-thumb investing may take time, rethinking retirement portfolios with sufficient fixed income allocations can result in tangible benefits. And, through no fault of their own, the millennial cohort might suggest that it's not too early to start that overhaul.

¹¹ Since a loan is future fixed cash outflow it can be considered a future spending requirement and adds to the overall duration of the individual's future spending objective.

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Source(s) of data (unless otherwise noted): PGIM Fixed Income as of March 2022.

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