



Solving the sequence of returns dilemma with the Milliman Managed Risk Strategy™

Impact of volatility on retirement assets

Investors accumulating assets for retirement are generally better able to weather increased volatility than their retired counterparts. This is simply due to the “accumulating” investors’ ability to make regular contributions into their respective portfolios, regardless of market conditions. These investors are also likely increasing their market exposure even when investments drop in price. This better positions their portfolios to participate should the market recover.

Conversely, when investors enter retirement (the decumulation stage), they tend to take regular withdrawals from their portfolios. This action coupled with major declines in the market places added stress on investors’ portfolios, reducing the chance of a full recovery from the bear market and increasing the risk of account depletion.

Nonetheless, retired investors may still need to make regular withdrawals from their respective accounts. This scenario, often referred to as the sequence of returns dilemma, may cause investors’ accounts to run out of money years before they planned.

A solution: Milliman Managed Risk Strategy™

While an appropriate balance between equities and fixed income is important during one’s retirement years, we believe adding a protection strategy to a diversified portfolio provides a better opportunity for prosperity in retirement than asset allocation alone.

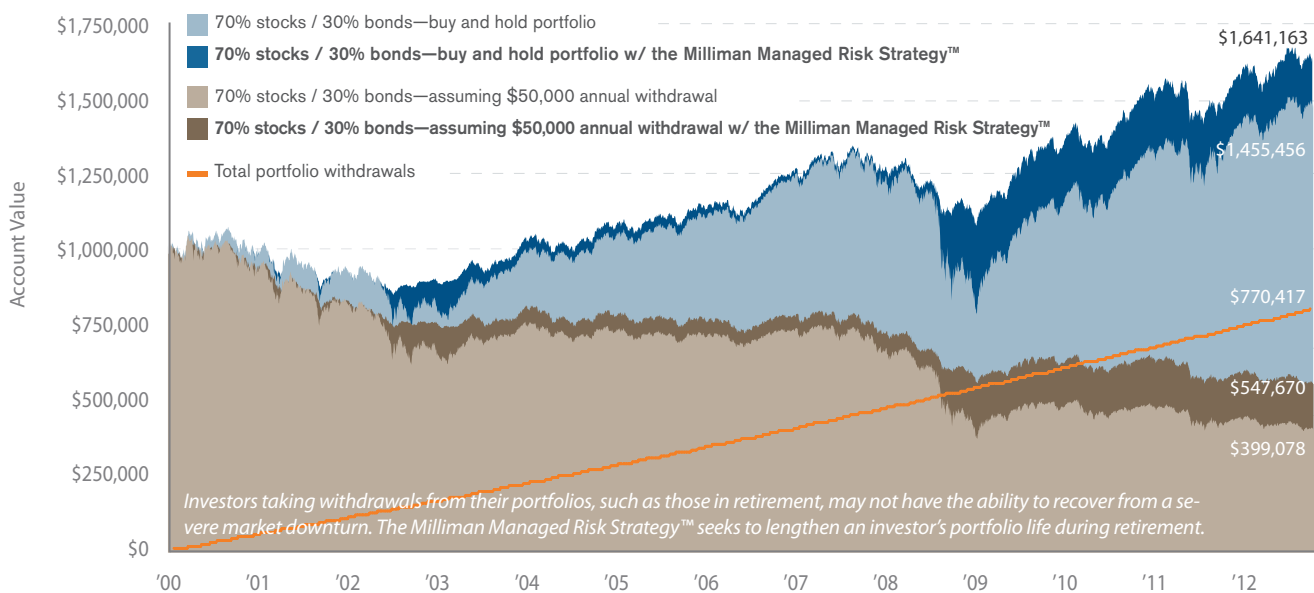
This is illustrated in the chart below, which tracks the historical account values of two individuals with \$1 million, one saving for retirement (shaded blue) and the other currently in retirement (shaded brown) and withdrawing 5% (\$50,000) of his/her initial portfolio value per year (distributed monthly and adjusted for inflation). As the chart depicts, while both individuals have experienced multiple declines in the market, the retired individual, who began taking portfolio withdrawals in 2000, is mathematically on a downward trajectory that may ultimately result in portfolio depletion.

On the other hand, both the accumulating and decumulating portfolios that incorporate the Milliman Managed Risk Strategy™ have historically provided a smoother overall investment experience with the potential for increased portfolio value over time.

To mitigate the effects of the sequence of returns dilemma, the Milliman Managed Risk Strategy™ uses volatility management and a capital protection strategy. These methodologies seek to provide a layer of protection against large short-term swings and severe, sustained market declines that may disrupt a retirement income investment strategy. This seamless management of a hedge overlay to control volatility has historically only been available to large institutional investors.

Historical impact of the Milliman Managed Risk Strategy™ during retirement

1/1/00–12/31/12



Source: Milliman Financial Risk Management LLC, as of 1/1/00–12/31/12.

Account value investment is based on a 70/30 allocation among the S&P 500 Index and the Barclays U.S. Aggregate Corporate Bond Index. Performance data is hypothetical and for illustrative purposes only and is not reflective of any investment. Past performance is not indicative of future results. It is not possible to invest in an index. The data shown is hypothetical and does not reflect or compare features of an actual investment, such as its objectives, costs and expenses, liquidity, safety, guarantees or insurance, fluctuation of principal or return, or tax features. The S&P 500 Index is a commonly used benchmark comprised of all the stocks in the S&P 500 weighted by market value. The Barclay’s U.S. Aggregate Bond Index is a universally accepted benchmark for bond performance and is comprised of bonds with a maturity over one year.

SOLVING THE SEQUENCE OF RETURNS DILEMMA

Stochastic analysis

A stochastic model is a tool for estimating the probability of potential outcomes—in this case, the probability of financial returns derived from over 1,000 random market scenarios.

Internal rate of return

The chart below illustrates the internal rate of return of 1,000 random market scenarios with a withdrawal plan of 5% of the initial portfolio value, distributed annually. The results of this analysis show that over time, the combination of similar upside potential and much less downside exposure may provide investors with a smoother overall portfolio experience, as well as the potential to outperform.

	WITHOUT MANAGED RISK	WITH MANAGED RISK
PERCENTILE	IRR	IRR
1	-24.49	-0.56
5	-6.89	1.78
10	-1.66	3.00
25	3.84	4.94
50	7.84	7.05
75	11.06	9.25
90	13.53	11.18
95	15.03	12.67
99	18.30	15.33
Average	6.45	7.12

Benefits of the Milliman Managed Risk Strategy™

- » Targets a specific volatility level.
- » Monitors volatility 24 hours a day from three global trading platforms (Chicago, London and Sydney).
- » Locks in gains from favorable returns on underlying investments.
- » Seeks to harvest gains from hedge assets during severe market corrections.
- » Seeks to avoid value-destroying behaviors like buying high and selling low.
- » Provides institutional quality access to one of the world's largest risk managers.

for more information:

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The S&P 500 Index is a commonly used benchmark comprised of all the stocks in the S&P 500 weighted by market value, a conservative growth portfolio. The Barclay's U.S. Aggregate Bond Index is a universally accepted benchmark for bond performance and is comprised of bonds with a maturity over one year.

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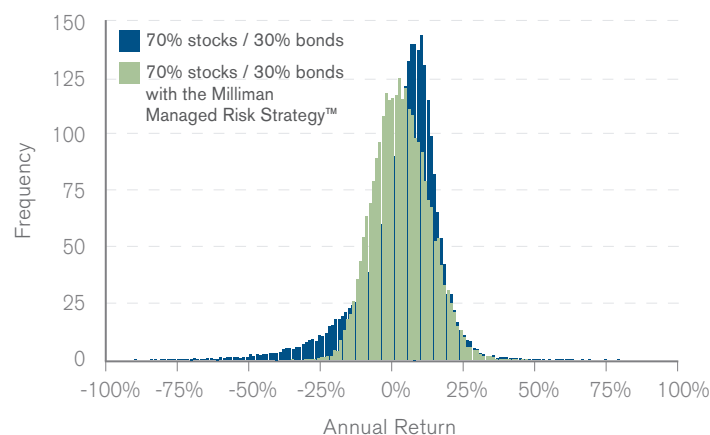
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Reduced left tail risk

In the chart to the right, the blue shaded area represents a typical skewed, left-tail distribution of a portfolio allocated between 70% stocks and 30% bonds. The skew to the left is driven by equities that have historically experienced infrequent, but highly negative, losses that are not equally offset by highly positive gains. The shaded green area represents the same portfolio allocation with the Milliman Managed Risk Strategy™ overlay. As one might infer, the risk management overlay serves to normalize the distribution of portfolio returns, reducing much of the extreme downside risk (left tail), while sacrificing very little upside potential. Overall, mitigating the left tail risk is generally associated with asset allocation and may provide longer portfolio lives for investors during retirement.

Random scenario analysis



Source: Milliman Financial Risk Management LLC

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