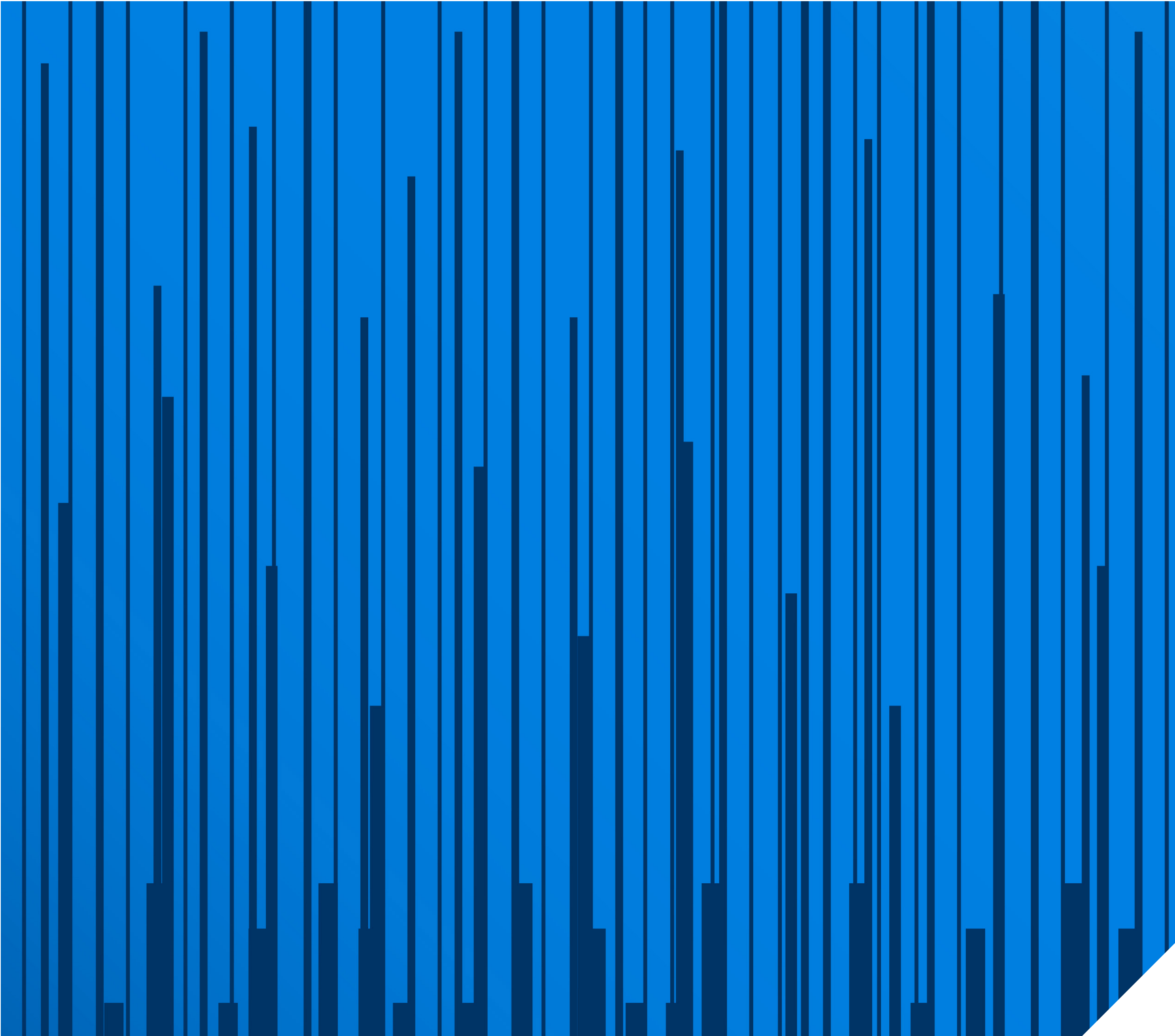
Milliman FRM Insight

ACTIONABLE PERSPECTIVES ON TOPICS THAT IMPACT WEALTH



The sequence-of-returns effect

Exploring the impact of volatility on retirement assets

Milliman

The S&P 500 Managed Risk Index was developed in collaboration with Milliman Financial Risk Management LLC (Milliman FRM), whose risk management techniques were originally developed to help some of the world's largest financial institutions stabilize portfolio volatility and weather market crisis.

Investors accumulating assets for retirement are generally better able to weather increased portfolio volatility than their retired counterparts. This is because "accumulating" investors are typically able to make regular contributions into their respective portfolios, regardless of market conditions.

THE SEQUENCE-OF-RETURNS EFFECT

Conversely, when investors enter retirement (the decumulation stage), they tend to take regular withdrawals from their portfolios. This action, when coupled with major declines in the market, places added stress on investors' portfolios, especially if the market decline occurs toward the beginning of the withdrawal phase. An adverse sequence of market returns may accelerate the depletion of investors' accounts.

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

In an attempt to mitigate the negative effects of the sequence-of-returns dilemma, Milliman FRM uses volatility management and a capital protection strategy. These methodologies seek to stabilize portfolio volatility, capture growth in up markets, and defend against losses during severe, sustained market declines. It is important to note there is no guarantee the strategy will achieve its investment objectives.

Today, Milliman FRM supplies some of the most widely used risk management strategies in the marketplace. Milliman FRM's risk management expertise can be accessed both at an institutional level and through more than 50 retail investment offerings (via certain mutual funds, exchange-traded funds, collective investment trusts, and variable annuities).

S&P 500 MANAGED RISK INDEX

The S&P 500 Managed Risk 2.0 Index combines broad U.S. large-cap exposure with an intelligent risk management technique that seeks to:

- Stabilize portfolio volatility around a target level
- Capture growth in up markets
- Defend against losses during sustained market declines

Risk Management Process

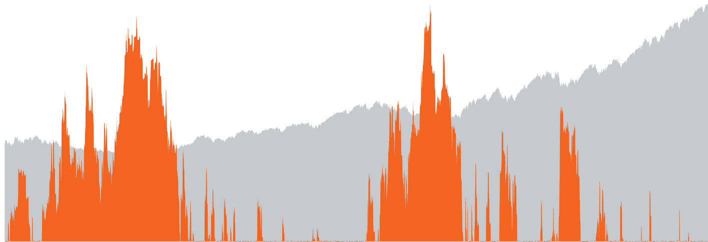
1. BEGIN WITH FULL EXPOSURE

Broad market access (e.g., U.S. large-cap, U.S. small-mid-cap, international, emerging).

2. APPLY MILLIMAN MANAGED RISK STRATEGY

- Volatility management: seeks to stabilize portfolio volatility around a target level.
- Capital protection strategy: seeks to defend against losses during sustained market declines.
- Risk management calculations are performed daily, and carried out via a global trading platform.

3. RESULT: RISK MANAGED EXPOSURE



Hedge asset positions within a portfolio are continuously changed in an effort to stabilize volatility and reduce the impact of sustained market declines.

ILLUSTRATION

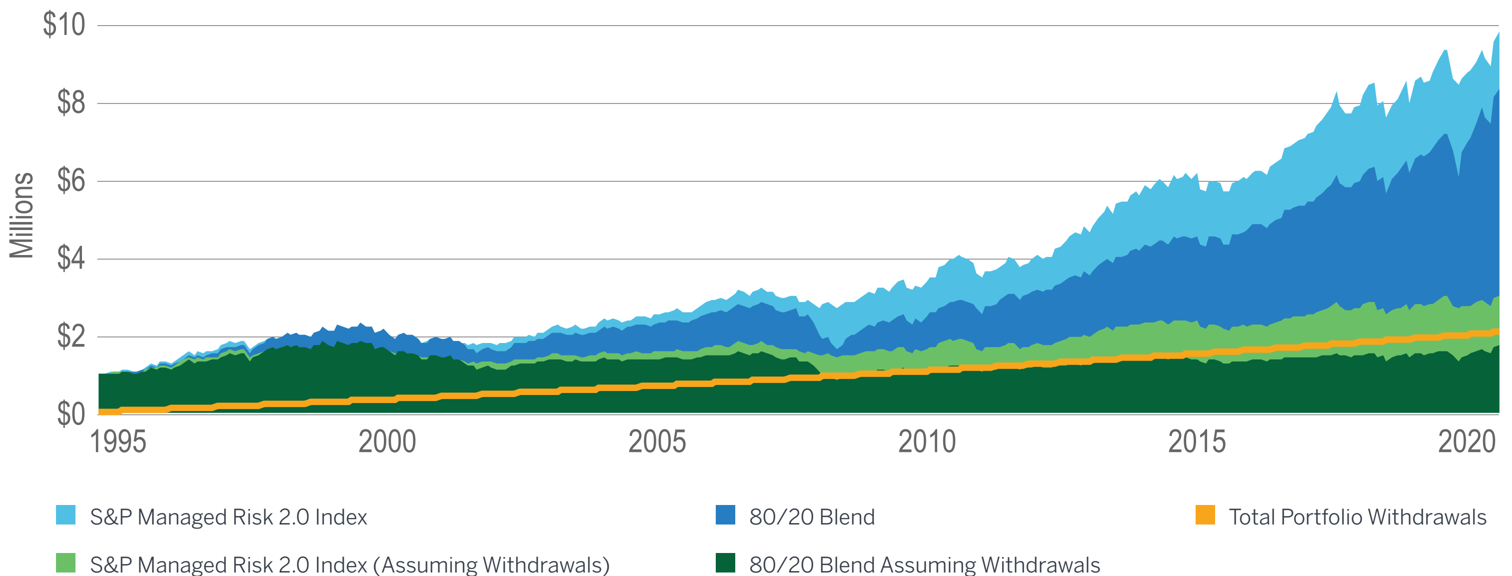
The chart below depicts the account values over time of two hypothetical investors, across two different life phases. One account uses a traditional 80/20 blend of stocks and bonds rebalanced monthly, while the other uses a Managed Risk approach, as measured by the S&P 500 Managed Risk 2.0 Index. The first phase is accumulation; the second is decumulation. In the decumulation phase, each investor begins with $1 million and makes monthly withdrawals beginning with $60,000 in year one and adjusted upward 2.5% annually for inflation.

At the end of both the accumulation and decumulation phases, the account value under the Managed Risk approach is higher. What is noteworthy, however, are the relative differences at the end of each phase.

After 25 years of accumulation, the account value under the Managed Risk approach is 17% higher than the account using the traditional 80/20 blend. At the end of 25 years of decumulation, the account value under the Managed Risk approach is 76% more than the account value using the 80/20 blend.

When withdrawals are factored in, the relative excess value generated by the Managed Risk approach isn't merely maintained, but rather is improved upon. This outcome illustrates the relationship of portfolio withdrawals with the market's sequence of returns and highlights the importance of mitigating drawdowns and volatility in the decumulation phase.

Sequence of Returns



Source: Milliman Financial Risk Management LLC, 12/31/1995-12/31/2020. Account value investment is based on a 80/20 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.

The S&P 500 Managed Risk Index is designed to simulate a dynamic protective portfolio that allocates between the underlying equity index and cash, based on realized volatilities of the underlying equity index.

The S&P 500 Managed Risk 2.0 Index was launched on Jan 23, 2017. All information presented prior to the index launch date is back-filled. Back-filled performance is not actual performance, but is hypothetical. The back-filled calculations are based on the same methodology that was in effect when the index was officially launched.

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Milliman is among the world's largest providers of actuarial and related products and services. The firm has consulting practices in healthcare, property & casualty insurance, life insurance and financial services, and employee benefits. Founded in 1947, Milliman is an independent firm with offices in major cities around the globe.

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