

Milliman FRM Insight

Actionable perspectives on topics that impact wealth

Milliman Managed Risk Strategy

Creating transformational improvement in the retirement savings industry

People nearing or in retirement are faced with a tremendous challenge—generate a reliable lifetime income that will survive an unpredictable story line.

The traditional means by which a reliable retirement income is generated seem all but gone. A slow growing economy, low yields, and the looming threat of Inflation are making it difficult to meet both income and risk management needs. Investing too much in stocks may mean too much market risk, while too much in bonds may equate to a lack of growth. In some ways, it has become a zero sum game.

Milliman FRM (collectively Milliman Financial Risk Management LLC, Milliman Financial Strategies Ltd, and Milliman Pty Ltd)—one of the world’s largest and most trusted risk managers—has been pioneering solutions to challenges like these for over 15 years. One of the most widely used solutions is the Milliman Managed Risk Strategy™.

Milliman Managed Risk Strategy

The Milliman Managed Risk Strategy is an intelligent portfolio risk management technique that seeks to:

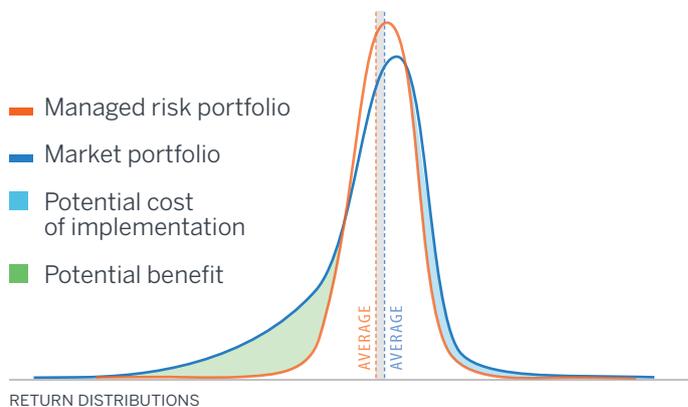
- ▶ stabilise portfolio volatility around a target level,
- ▶ capture growth in up markets, and
- ▶ defend against losses during sustained market declines.

Milliman’s financial risk management techniques were originally developed to help some of the world’s largest financial institutions stabilise portfolio volatility and weather market crisis. Today, both institutions and retail investors can access these same risk management benefits through the Milliman Managed Risk Strategy (via certain mutual funds, exchange-traded funds, collective investment trusts, target-date funds, and variable annuities).

Two Part Risk Management Strategy

Volatility Management

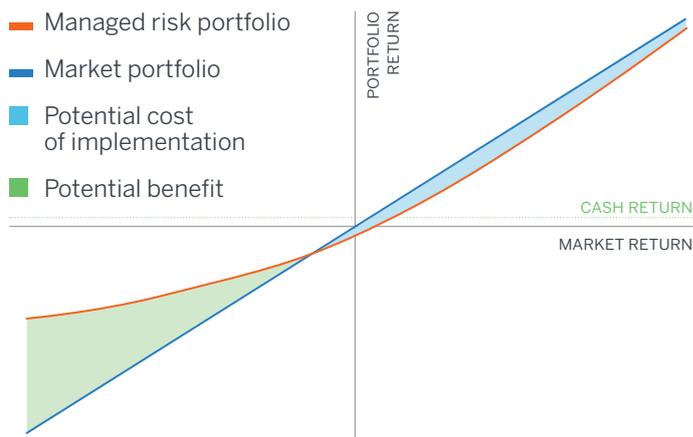
The Milliman Managed Risk Strategy’s volatility management process seeks to stabilise portfolio volatility around a shorter-term target level (e.g. one month). This aims to keep the risk level of a portfolio from increasing significantly during periods of market turbulence. An additional goal of the volatility management process is to seek additional returns based on our expectation that market volatility tends to decrease during extended periods of favorable market returns.



Source: Milliman Financial Risk Management LLC. The charts above are for illustrative purposes only, intended to show the general cost/benefit of a stochastic implementation of the Milliman Managed Risk Strategy on an all equity portfolio, and do not represent the performance of any investment or index. Milliman Financial Risk Management LLC does not manage the underlying portfolio. No strategy or technique can guarantee returns or prevent losses. Past performance is not a guarantee of future results.

Capital Protection Strategy

The Milliman Managed Risk Strategy also employs a capital protection strategy that seeks to provide put-like protection on a portfolio in an effort to reduce losses during periods of significant and sustained market decline. One of Milliman’s core disciplines is the operational capability to use futures contracts to manufacture a long-dated put option on a portfolio. When combined with volatility management, the strategy has the potential to be very powerful.



Source: Milliman Financial Risk Management LLC. The charts above are for illustrative purposes only, intended to show the general cost/benefit of a stochastic implementation of the Milliman Managed Risk Strategy on an all equity portfolio, and do not represent the performance of any investment or index. Milliman Financial Risk Management LLC does not manage the underlying portfolio. No strategy or technique can guarantee returns or prevent losses. Past performance is not a guarantee of future results.

1 Begin with Full Exposure

- ▶ Broad market access (e.g. UK, European, North American, Asia-Pacific and Emerging Markets equities).

2 Apply Milliman Managed Risk Strategy



- ▶ Volatility management: seeks to stabilise 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 stabilise volatility and reduce the impact of sustained market declines.

Dynamic hedge asset position typically includes holdings in cash and futures contracts, subject to market based thresholds. The charts above are for illustrative purposes only and do not represent the performance of any investment or index. Milliman Financial Risk Management LLC does not manage the underlying portfolio. No strategy or technique can guarantee returns or prevent losses.

Milliman

FINANCIAL RISK MANAGEMENT

London

11 Old Jewry
London
EC2R 8DU
UK
+ 44 0 20 7847 1557

Chicago

71 South Wacker Dr
Chicago, IL 60606
+1 855 645 5462

Sydney

32 Walker Street
North Sydney, NSW 2060
Australia
+ 61 0 2 8090 9100

For more information:
milliman.com/FRM



Milliman Financial Risk Management LLC is a global leader in financial risk management to the retirement savings industry. Milliman FRM provides investment advisory, hedging, and consulting services on over \$166 billion in global assets (as of July 30, 2016). Established in 1998, the practice includes over 150 professionals operating from three trading platforms around the world (Chicago, London, and Sydney). Milliman FRM is a subsidiary of Milliman, Inc.

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.

The information, products, or services described or referenced herein are intended to be for informational purposes only. This material is not intended to be a recommendation, offer, solicitation or advertisement to buy or sell any securities, securities related product or service, or investment strategy, nor is it intended to be relied upon as a forecast, research or investment advice.

Cash is represented by S&P U.S. Treasury Bill 0-3 Month Index: a measure of the performance of U.S. Treasury bills maturing in 0 to 3 months. Commodities are represented by S&P GSCI Commodity Index: a broad measure of global commodity markets, based on the performance of liquid futures contracts on physical commodities. Emerging Market Debt is represented by the JPM EMBI Global Composite Index: a measure of foreign currency denominated debt instruments of more than 30 emerging market countries. Emerging Market Equity is represented by MSCI Emerging Markets Index: a float-adjusted market capitalization index that consists of indices in 23 emerging economies. Global Real Estate is represented by S&P Global REIT Index: a comprehensive benchmark of publicly traded equity real estate investment trusts listed in both developed and emerging markets. Hedge Funds is represented by the HFRI Fund of Funds Index: a broad measure of hedge fund performance, represented by approximately 800 fund-of-funds that report to HFR. High Yield Barclays Global High Yield Index: a multi-currency measure of global high yield debt instruments across US, Pan-European, and Emerging Markets. International Equity is represented by the MSCI EAFE Index: a broad measure of the performance of large and mid-cap securities across 21 developed markets. Managed Risk US Large Cap is represented by S&P 500 Managed Risk Index: a broad measure of equity market performance, with a risk management overlay (dynamic allocation between the index and cash) designed to stabilise volatility and reduce downside risk. US Corporate Bonds Barclays Aggregate Bond Index: measures the performance of the U.S. investment grade bond market, all with maturities of more than 1 year. US Large Cap is represented by S&P 500 Index: a broad measure of the 500 large companies having common stock listed on the NYSE or NASDAQ, weighted by market capitalization. US Small Cap is represented by Russell 2000 Index: a broad measure of the performance of the 2000 smallest companies in the Russell 3000 Index, weighted by market capitalization.

The products or services described or referenced herein may not be suitable or appropriate for the recipient. Many of the products and services described or referenced herein involve significant risks, and the recipient should not make any decision or enter into any transaction unless the recipient has fully understood all such risks and has independently determined that such decisions or transactions are appropriate for the recipient. Investment involves risks. Any discussion of risks contained herein with respect to any product or service should not be considered to be a disclosure of all risks or a complete discussion of the risks involved. Investing in foreign securities is subject to greater risks including: currency fluctuation, economic conditions, and different governmental and accounting standards. There are risks associated with futures contracts. Futures contract positions may not provide an effective hedge because changes in futures contract prices may not track those of the securities they are intended to hedge. Futures create leverage, which can magnify the potential for gain or loss and, therefore, amplify the effects of market, which can significantly impact performance. There are also risks associated with investing in fixed income securities, including interest rate risk, and credit risk.

The recipient should not construe any of the material contained herein as investment, hedging, trading, legal, regulatory, tax, accounting or other advice. The recipient should not act on any information in this document without consulting its investment, hedging, trading, legal, regulatory, tax, accounting and other advisors. Information herein has been obtained from sources we believe to be reliable but neither Milliman Financial Risk Management LLC ("Milliman FRM") nor its parents, subsidiaries or affiliates warrant its completeness or accuracy. No responsibility can be accepted for errors of facts obtained from third parties.

Past performance is not indicative of future results. Index performance information is for illustrative purposes only, does not represent the performance of any actual investment or portfolio, and should not be viewed as a recommendation to buy/sell. It is not possible to invest directly in an index. Any hypothetical, backtested data illustrated herein is for illustrative purposes only, and is not representative of any investment or product. **RESULTS BASED ON SIMULATED OR HYPOTHETICAL PERFORMANCE RESULTS HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE THE RESULTS SHOWN IN AN ACTUAL PERFORMANCE RECORD, THESE RESULTS DO NOT REPRESENT ACTUAL TRADING. ALSO, BECAUSE THESE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THESE RESULTS MAY HAVE UNDER-OR OVER-COMPENSATED FOR THE IMPACT, IF ANY, OF CERTAIN MARKET FACTORS, SUCH AS LACK OF LIQUIDITY. SIMULATED OR HYPOTHETICAL TRADING PROGRAMS IN GENERAL ARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINDSIGHT. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THESE BEING SHOWN.**

For any hypothetical simulations illustrated, Milliman FRM does not manage, control or influence the investment decisions in the underlying account. The underlying accounts in hypothetical simulations use historically reported returns of widely known indices. In certain cases where live index history is unavailable, the index methodology provided by the index may be used to extend return history. To the extent the index providers have included fees and expenses in their returns, this information will be reflected in the hypothetical performance. Milliman FRM does not intend the use of such indices to be construed as investment advice or a recommendation to invest in similar accounts.

The materials in this document represent the opinion of the authors at the time of authorship; they may change, and are not representative of the views of Milliman FRM or its parents, subsidiaries, or affiliates. Milliman FRM does not certify the information, nor does it guarantee the accuracy and completeness of such information. Use of such information is voluntary and should not be relied upon unless an independent review of its accuracy and completeness has been performed. Materials may not be reproduced without the express consent of Milliman FRM. Milliman Financial Risk Management LLC is an SEC-registered investment advisor and subsidiary of Milliman, Inc.