Sequencing Risk

WHAT IS IT AND WHY SHOULD PEOPLE IN THE RETIREMENT RISK ZONE CARE?

THE RETIREMENT RISK ZONE

Market downturns are a risk faced by all investors. Unfortunately, those in the Retirement Risk Zone—the five years before and after the start of retirement—are exposed to the negative effects of loss to a much greater degree. This is largely due to the fact that retirees are likely using their portfolio savings to provide for themselves when they no longer work. This combination of portfolio withdrawals and a severe market correction can shorten portfolio life by as much as seven years or more (see illustration below).

For those in the Retirement Risk Zone, addressing drawdown risk and other portfolio threats before they are realized is critical to a long successful retirement.

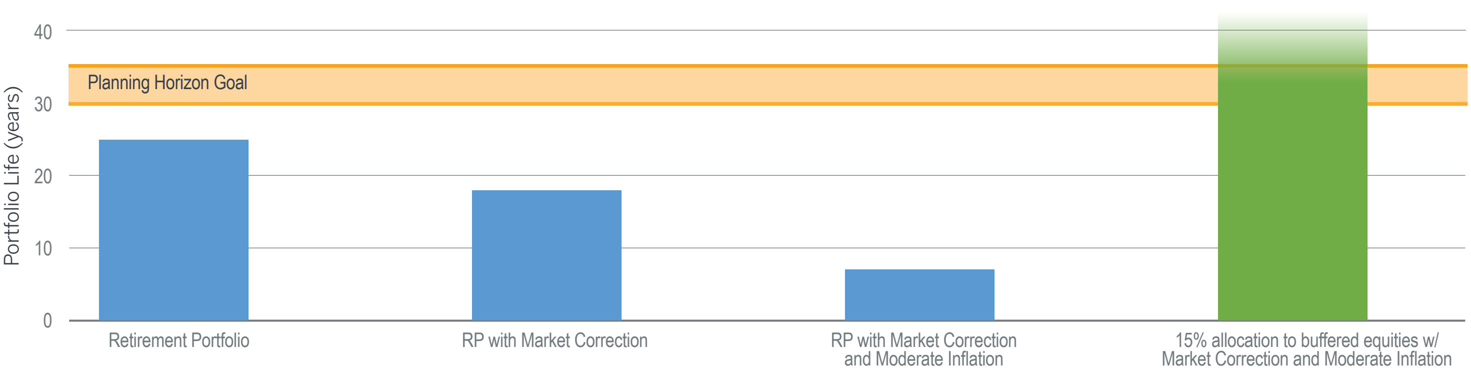
KEY TAKEAWAYS

- Market corrections near the beginning of retirement may sap portfolio life by seven years or more.
- Retirees are faced with a number of portfolio threats: longevity, volatility, low rates, and inflation.
- Replacing just 15% of a portfolio's overall assets with buffered equity strategies may help a retiree's savings last well beyond their years.

A MODEST MARKET DRAWDOWN MAY ERASE SEVEN YEARS OR MORE OFF PORTFOLIO LIFE

Milliman analysis shows that the average retiree with $500,000 in portfolio assets earning a steady benchmark return (based on well recognized capital markets assumptions) will run out of money in just over 25 years, assuming they draw down the national average each year ($29,592), adjusted for inflation. This modest drawdown is still well short of an acceptable planning horizon of 30 years or more. What's worse... if that same retiree were to experience a significant portfolio loss (e.g., -16%) in the first year of retirement, the retiree will run out of money seven years sooner, lasting only 18 years. The results are shown in bar chart form to the right, and illustrated more fully below.

IMPACT OF MARKET VOLATILITY ON PORTFOLIO LIFE



Source: Milliman Financial Risk Management LLC, 2021. 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. MILLIMAN DOES NOT MANAGED THE UNDERLYING FUND. Retirement Portfolio is a 40/60 portfolio constructed using JP Morgan 2021 long-term capital market assumptions for US Large Cap Stocks (40% allocation), and US Corporate Bonds (60% allocation). Buffered equity strategy allocation consists of a 40% allocation to an accelerated 9% buffer strategy, and a 60% allocation to a 30% buffer strategy. "Correction" refers to a -16% down market in year 1, which equates to the weighted average worst calendar year return for stocks and bonds, respectively. "Moderate Inflation" assumes 5% inflation. For more information, see Assumptions and Definitions at the end of this document.

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Threats Facing Today's Retirees (age 65)

LONGEVITY

- 33% chance of living past age 90[1]
- For a couple, >50% chance of one person living past age 90[1]
- Money must last longer: 30-35 years

VOLATILITY

- Retirees are naturally risk averse, yet few have the luxury of avoiding risk
- A stock market correction can erase several years off a portfolio's life

LOW BOND YIELDS

- Bond yields no longer meaningfully contribute to portfolio returns
- Risk management historically provided by bonds may not be the same going forward (i.e., rising rates hurts bond performance)

INFLATION

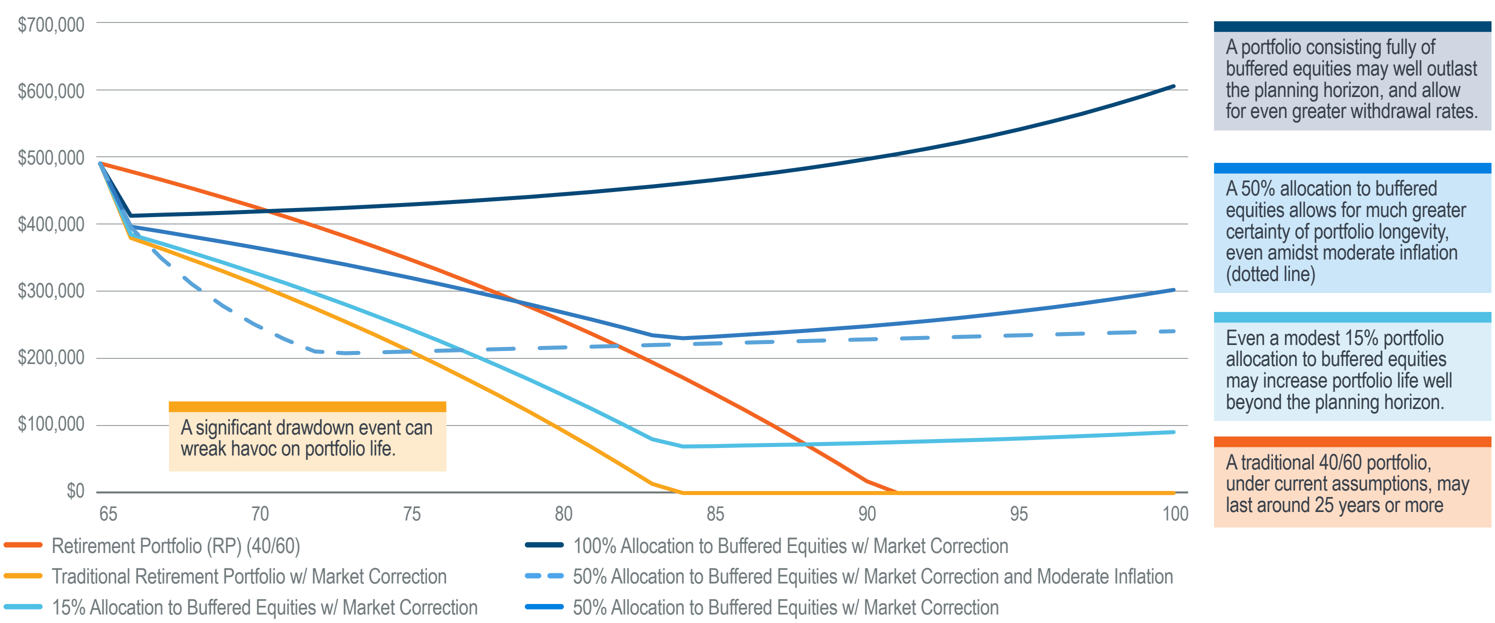
- Portfolio returns may not keep pace with rising cost of goods and services
- Even modest inflation can impact purchasing power and reduce portfolio life

CREATING A LASTING PORTFOLIO WITH DEFINED OUTCOME EQUITY STRATEGIES

In our view, the proper management of the risks facing retirees in the Retirement Risk Zone may be achieved through the use of "buffered equity" strategies—those that seek to deliver the upside returns relative to a broad market (to a cap) with a built-in downside buffer, over an outcome period (e.g., one year). There are numerous buffered equity strategies available in the marketplace today (e.g., Buffer ETFs), with varying buffer levels ranging from 9% to 30%, as well as multiple upside acceleration levels (to a cap). This newfound ability to know one's upside potential and downside risk management *before* investing has created an entirely new set of financial planning tools for advisors.

The drawdown analysis below illustrates the impact of adding buffered equity strategies to a portfolio. In this scenario, replacing just 15% of a portfolio's overall assets with buffered equities reversed the portfolio's downward trajectory, causing it to potentially never run out of money. The table on the last page outlines the specific buffered equity allocations used.

IMPACT OF BUFFERED EQUITIES ON PORTFOLIO LIFE IN RETIREMENT



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Creating transformational improvement in the retirement savings industry.

[1]Source: Society of Actuaries Annuity 2000 Basic Mortality Table

ASSUMPTIONS AND DEFINITIONS:

Retiree Assumptions: Planning horizon: 30 years. Starting portfolio value: $500,000. Annual withdrawal amount: $29,592, calculated by annualizing the difference between the expenditure means ($4,009, bls.gov) and the average monthly social security payment ($1,543, aarp.org), equaling $2,466 (x 12) = $29,592.

Capital Markets Assumptions: Stock and Bond return assumptions are derived from JP Morgan's 2021 long-term capital markets assumptions (https://am.jpmorgan.com/content/dam/jpm-am-aem/global/en/insights/portfolio-insights/ltcma/ltcma-full-report.pdf)."Stocks" assumes a compound return of 4.10%, represented by US Large Cap Stocks. "Bonds" assume a compound return assumption of 2.10%, represented by U.S. Long Corporate Bonds. The Inflation assumption used is 2.25%, which represents the historical average Consumer Price Index (CPI) from 2000 –2021 (estimated through 6/30/21). For "Moderate Inflation," a 5% inflation assumption is used.

Retirement Portfolio Assumptions: The "Retiree Portfolio" is made up of a 40% / 60% allocation to US Large Cap Stocks, and US Long Corporate Bonds, using the referenced long-term capital markets assumptions for each asset. The Retirement Portfolio for planning purposes, then, is 3.61%. The "-16% Drawdown Event" is approximately equal to the historical worst calendar year return for Stocks (-37.00% in 2008) represented by the S&P 500 Index, and Bonds (-2.92% in 1994), represented by the Barclays Aggregate Bond Index. The S&P 500 Index is a broad measure of US large capitalization stocks. The Barclays Aggregate Bond Index is a broad measure of US-based investment grade bonds. The author also notes that the worst return for Bonds has occurred during a prolonged favorable environment, whereas such an environment may not be the future long-term case.

Buffered Equity Strategy Definitions and Assumptions: The illustrations show the impact of replacing a portion of Retirement Portfolio Assets with "Buffered Equity" strategies, which seek to provide upside participation relative to a market, to a cap (i.e., maximum upside potential), with a built-in downside buffer (i.e., mitigation against a percentage of downside loss), over an outcome period (e.g., one year). The Buffered Equity Portfolio used in this document illustrates the replacement of a portion of the Stock and Bond allocations with a "2x Accelerated Upside, 9% Buffer" Strategy, and an "Ultra Buffer 30% Strategy," respectively. "Acceleration" refers to the amount of outperformance relative to a reference asset over an outcome period (e.g., 2x the upside of the market, over a one year period). The Stock replacement (2x Accelerated Upside, 9% Buffer Strategy) seeks to deliver accelerated upside of US Large Cap Stocks, to a cap, with non-accelerated downside risk (i.e., 1:1 downside exposure), along with a downside buffer of 9%, over a one-year outcome period. The cap assumed for this strategy is 10.19%--the historical average cap for this strategy over the entire available dataset tracked by Milliman FRM (1/22/21 – 9/20/21), sourced via State Street S&P 500 ETF Trust (SPY) options prices via Bloomberg PLC. For reference, the high cap over the time period was 13.07%, and the low cap mark was 8.62%. The Bond replacement (Ultra Buffer 30% Strategy) seeks to deliver the upside of US Large Cap Stocks, to a cap, with a downside buffer of 30% (from -5% to -35%) over a one year outcome period. The cap assumption for the Ultra Buffer Strategy is 6.85%--the historical average over the entire available dataset tracked by Milliman FRM (11/2/20 – 9/17/21). For reference, the high cap over this time period is 8.62%, and the low cap is 5.80%.

The breakdown of the illustrated portfolios is as follows:

	Stocks	Bonds	Accelerated 9% Buffer Equity Strategy	Ultra Buffer Equity Strategy	Year One Drawdown	Inflation Assumption
Retiree Portfolio	40%	60%	-	-	-	2.25%
Retiree Portfolio w/ Market Correction (MC)	40%	60%	-	-	-16.55	2.25%
15% Allocation to Buffered Equities w/ MC	34%	51%	6%	9%	-16.55	2.25%
50% Allocation to Buffered Equities w/ MC	20%	30%	20%	30%	-16.55	2.25%
50% Allocation to Buffered Equities w/ MC+ Moderate Inflation	20%	30%	20%	30%	-16.55	5.00%
100% Allocation to Buffered Equities w/ MC	-	-	40%	60%	-16.55	2.25%

Author's note: From our perspective, the Buffered Equity Portfolio is "successful" due to the ability of the Ultra Buffer Strategy to inject meaningful portfolio risk management during significant drawdown events, and due to its ability to allow for upside participation that is greater than current fixed income assumptions. The Accelerated Buffered Equity Strategy allows for the upside capture of market growth that is greater than the capital market assumption for stocks (with non-accelerated downside exposure), along with the 9% buffer against stock market declines over the outcome period. Alone, neither the Ultra Buffer nor the Accelerated Buffer Strategy result in a significant increase in portfolio longevity. However, the combination of the two work together in an effort to reduce the impact of a significant stock market decline, while still allowing for meaningful upside participation.

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