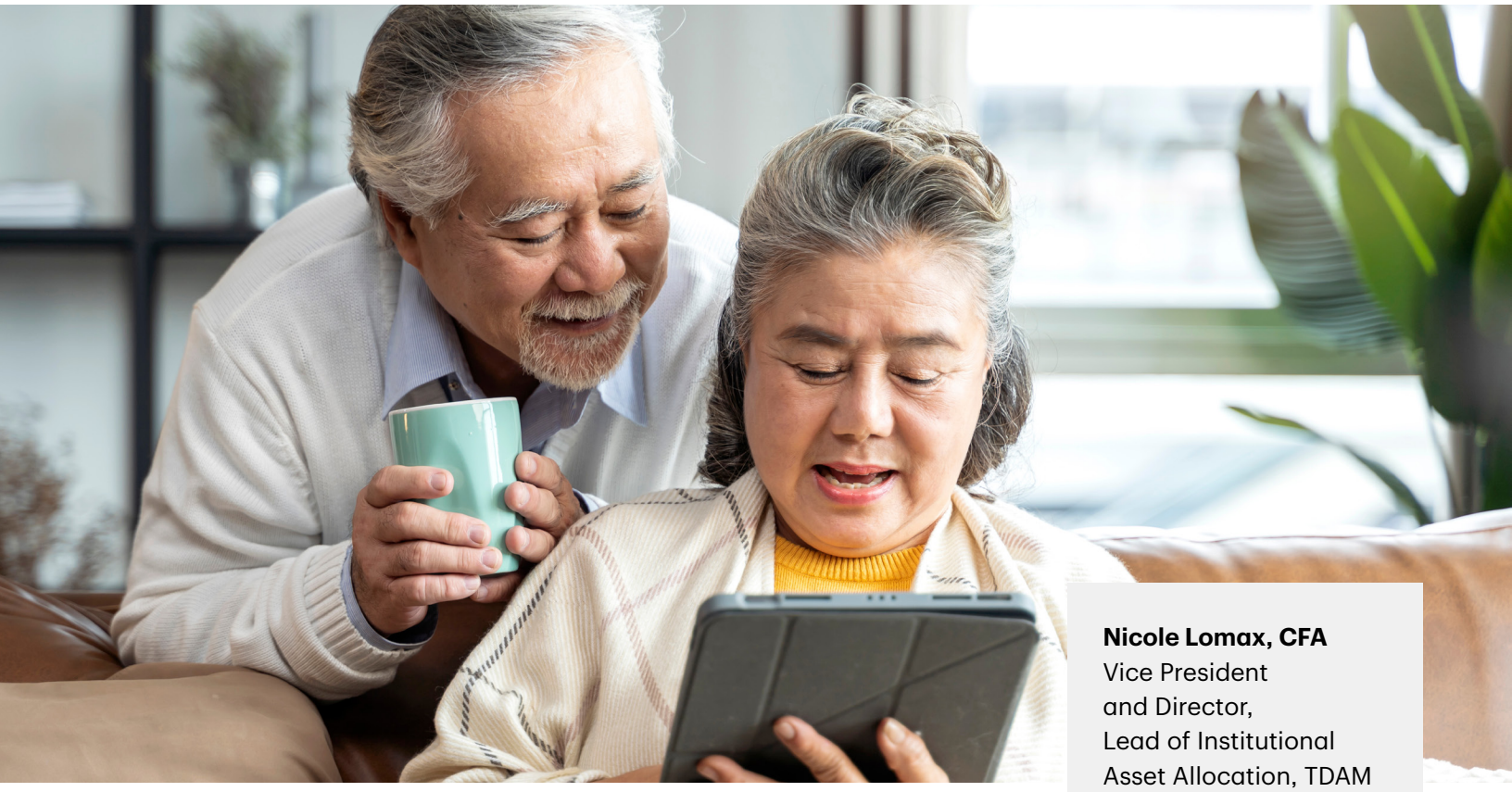
TD Global Investment Solutions

Investor Knowledge 10 Minutes



Nicole Lomax, CFA
Vice President
and Director,
Lead of Institutional
Asset Allocation, TDAM

The Tools to Tackle the DC Decumulation Dilemma

The rise of capital accumulation plans (CAPs) in Canada, along with an aging population, has increased plan sponsor focus on retirement spending. Helping plan members manage through their spending (decumulation) years is arguably a more challenging problem than plan design in savings (accumulation) years. It is so difficult that William Sharpe, one of the creators of portfolio construction theory, is attributed as calling decumulation the nastiest problem in finance to solve.

This decumulation dilemma is rooted in the inherent trade-offs with decumulation goals, as well as in sequence of return risk and limited alternative investment options for CAP members. However, plan sponsors can potentially resolve this decumulation conundrum by managing sequence of return risk and by adding private alternatives to their offerings.

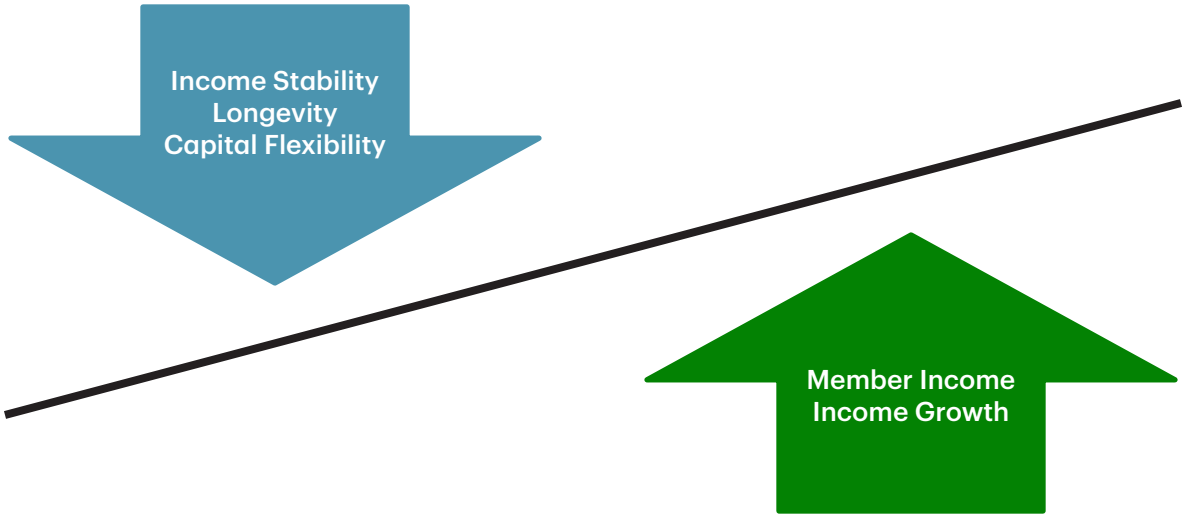
Competing Retirement Goals

While accumulation goals can often be managed by horizon to retirement, decumulation goals can vary dramatically. There are five primary goals with competing trade-offs which members face in retirement:

1. **Income level:** A specific income level is needed in retirement.
2. **Income growth:** Preserving and growing purchasing power of retirement income in the future.
3. **Income stability:** A member's tolerance for fluctuations in their retirement income.
4. **Longevity risk:** Risk of depleting retirement income too early.
5. **Capital flexibility:** Control of the capital base through decumulation and bequest.

Figure 1 depicts the trade-offs in managing retirement goals. Increasing retirement income levels and the ability for retirement income to grow may mean losing income stability and capital flexibility, as well as the possibility of outliving one's income. This is due to the market risk that needs to be taken to achieve higher levels of retirement income and income growth.

Figure 1: Decumulation Trade-offs



Stability

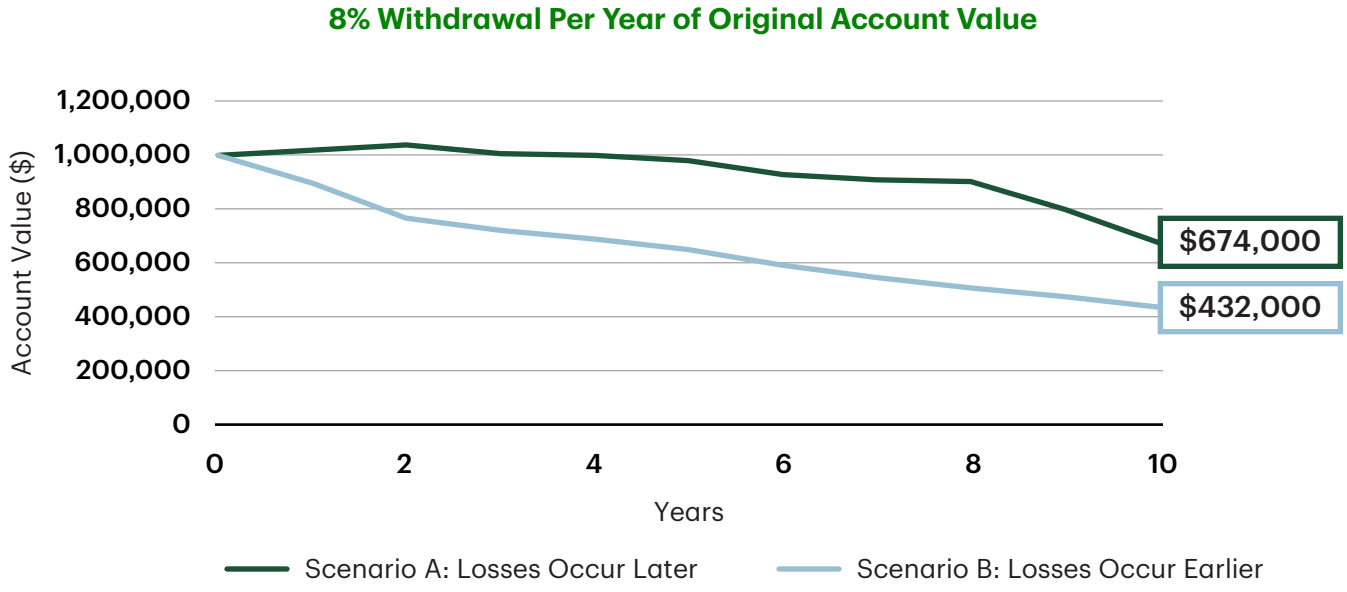
Sequence of Return Risk

Compounding these trade-offs is the sequence of return risk that members face when exposed to higher levels of market volatility. Sequence of return risk describes the impact which the path of returns can take on a portfolio that is spending down. When a portfolio has a positive cash flow, such as in savings years, the timing of drawdowns has less of an impact if the investment horizon is sufficient. When spending down, the ability for a portfolio to achieve goals is highly sensitive to the magnitude and timing of negative returns.

Figure 2 depicts this phenomenon for a member withdrawing 8% of their initial $1-million-dollar capital base in retirement with a 5% long-term return. The two scenarios have identical long-term returns and risk level, but losses are switched from years nine and ten to the first two years.

Figure 2: Sequence of Return Risk

	5% Annualized Return									
Year (Returns)	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Scenario A: Losses Occur Later	11.00%	10.00%	5.00%	8.00%	7.00%	3.00%	7.00%	9.00%	-3.00%	-6.00%
Scenario B: Losses Occur Earlier	-3.00%	-6.00%	5.00%	8.00%	7.00%	3.00%	7.00%	9.00%	11.00%	10.00%



Note: For illustrative purposes only.
Source: TDAM.

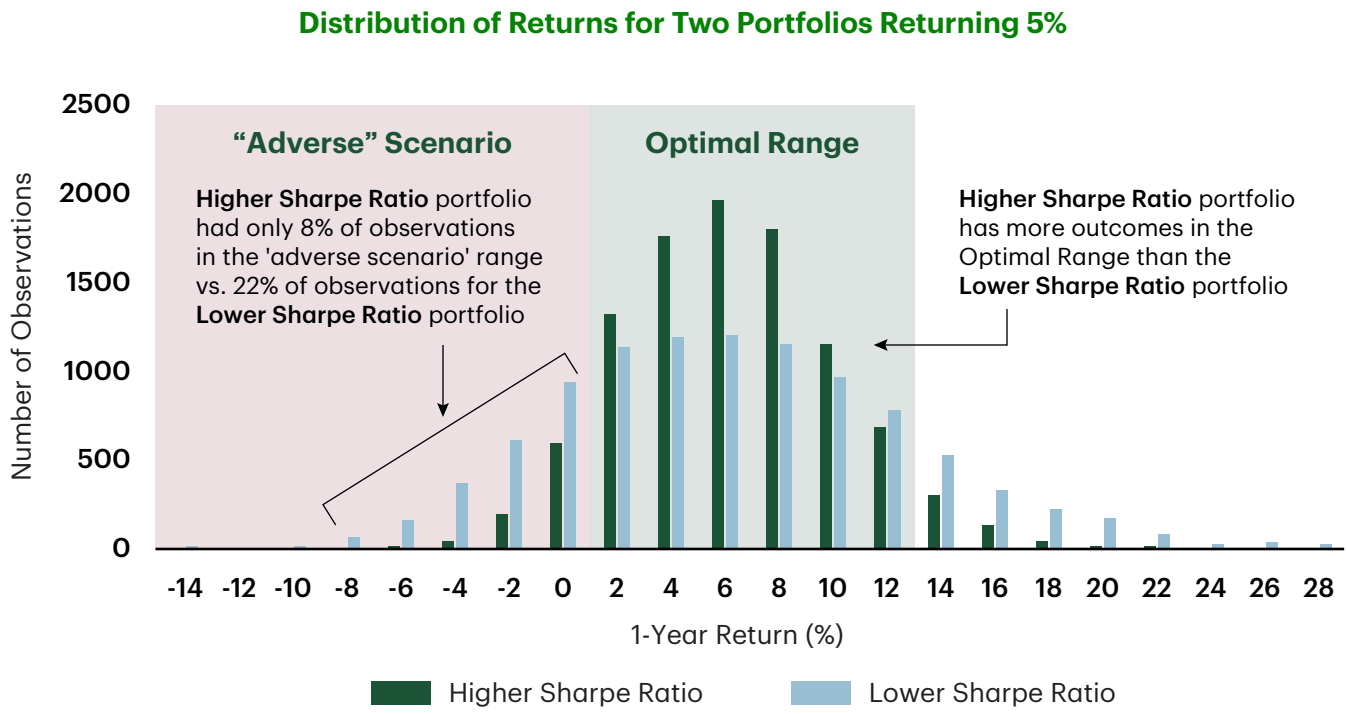
These are not extreme losses. However, the cumulative impact of negative portfolio returns along with ongoing withdrawals results in a loss of 25% of the capital base in the first two years. The compounded effect after 10 years means the member will have $242,000 less for their remaining retirement years.

It is for this reason that solving the decumulation dilemma will require concurrent management of both expected returns and shorter-term volatility. This, in our view, reframes the traditional approach to addressing decumulation from simply solving the mix of equites and bonds for each member to incorporating a broader suite of tools that can help manage risk-adjusted returns.

The introduction of this article mentioned William Sharpe's views on decumulation. It's fitting that the primary measure for risk-adjusted returns is a measure he provided, known as the Sharpe Ratio. This ratio helps determine the level of return an investor gets for each unit of market volatility taken. If two portfolios have similar expected returns, a higher Sharpe Ratio results in fewer and less severe market drawdowns for the same level of expected return.

In **Figure 3** we simulate two portfolios which have the same expected 5% return but different levels of volatility. The portfolio with a high Sharpe Ratio provides greater diversification and consequently exposes the portfolio to less risk than the portfolio with a low Sharpe Ratio. To minimize the sequence of return risk, an investor should reduce the risk of achieving zero or negative returns in any given calendar year (Adverse Scenario). A smoother return profile will have a greater number of annual returns within the Optimal Range and fewer outsized returns that are mid-double digits or higher.

Figure 3: Higher Sharpe Ratio Helps Mitigate Sequence of Return Risk



Note: For illustrative purposes only.
Source: TDAM.

Looking at the results, we can see that the portfolio with a lower Sharpe Ratio is expected to realize an adverse return year 22% of the time versus 8% for the portfolio with a higher Sharpe Ratio. Due to the sequence of return risk, this results in a material difference in account value despite both portfolios having the same long-term return.

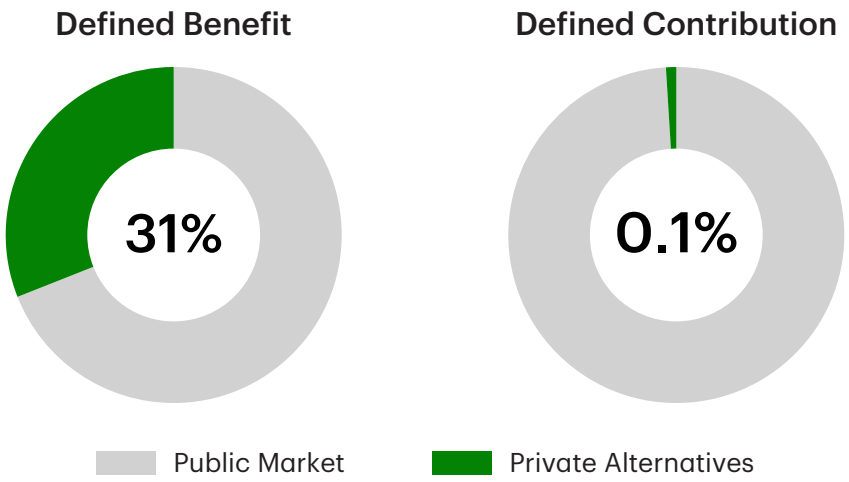
The need for higher risk-adjusted returns brings the challenge of more limited investment options available to CAP members, particularly the lack of available alternative investments.

Solving Decumulation with Alternative Investment Options

The primary lever larger institutional investors use to help increase risk-adjusted returns is the incorporation of alternative investments. Private alternative assets such as infrastructure, real estate and private credit strategies are accepted as part of diversified asset mixes in the financial industry.

Data from the Pension Investment Association of Canada's 2023 Asset Mix report reveals the disparity in use of alternatives between defined benefit (DB) and defined contribution (DC) pension plans (**figure 4**).

Figure 4: Allocations to Private Alternatives



Note: DB plans include median allocation to private fixed income, private equity, infrastructure, real estate, and farmland/timberland. DC plans include percentage of total allocation to real estate and alternatives/"other."
Source: Pension Investment Association of Canada – 2023 Asset Mix Report.

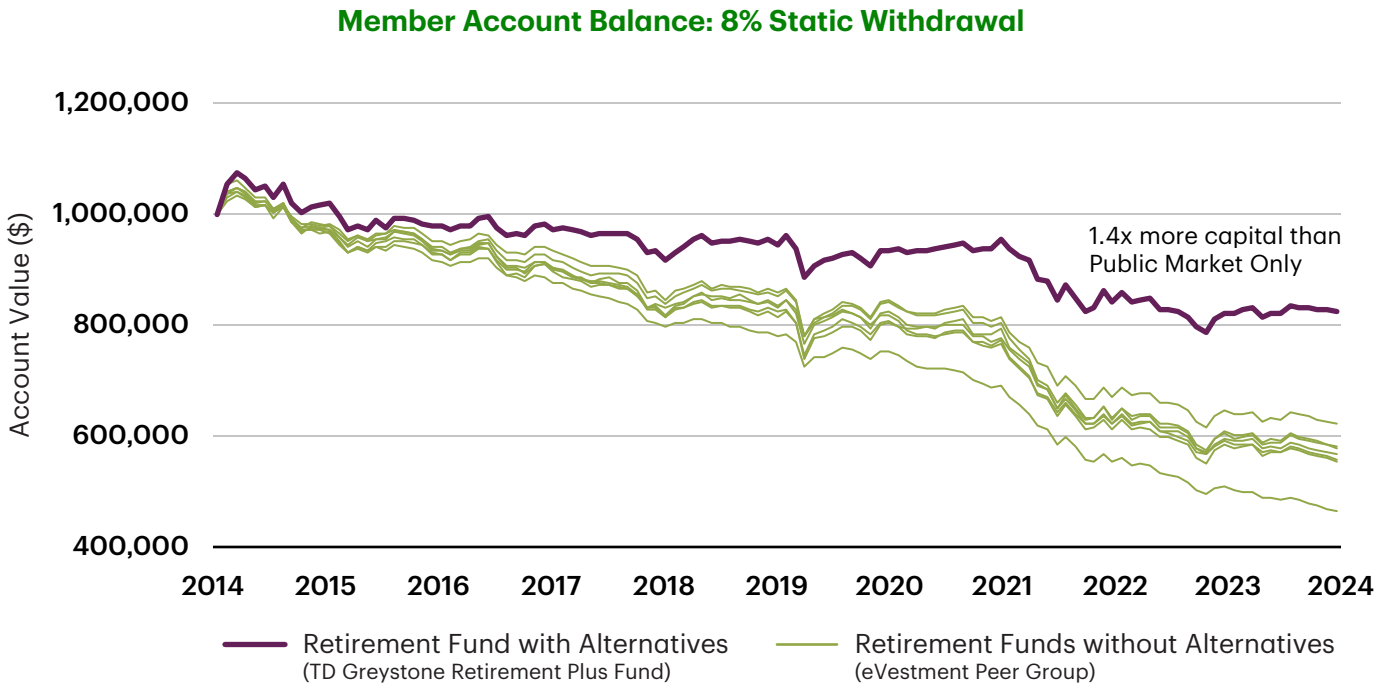
The good news for plan sponsors and members is that alternatives are increasingly becoming part of retirement solutions. At TD Asset Management Inc., we have worked for over a decade to integrate alternative investments across retirement portfolios for Canadians. The TD Greystone Retirement Plus Fund has a live track record of 10 years (as of December 31, 2024) that can help demonstrate the long-term impact of integrating alternatives.

The Fund integrates private real estate, infrastructure and private credit strategies at over 20% for plan members. The Fund has delivered the highest Sharpe Ratio across the peer group of retirement funds within the eVestment Alliance Canadian universe for Target Date Income Funds. (As of December 31, 2024, the Fund delivered a one-year return of 11.32%, a three-year return of 4.94%, a five-year return of 6.79% and a 10-year return of 6.92%.)

Investment

Figure 5 shows the long-term impact on member capital of decumulation through the Fund versus a retirement peer group that has limited alternative investment options. Through integrating alternative investments, managing volatility, increasing the Sharpe Ratio and mitigating sequence of return risk, the Fund's track record demonstrates a material enhancement in the overall capital base for members decumulating with the strategy. A member invested in the Fund for the last 10 years and withdrawing 8% would currently have almost 40% more capital versus other retirement options.

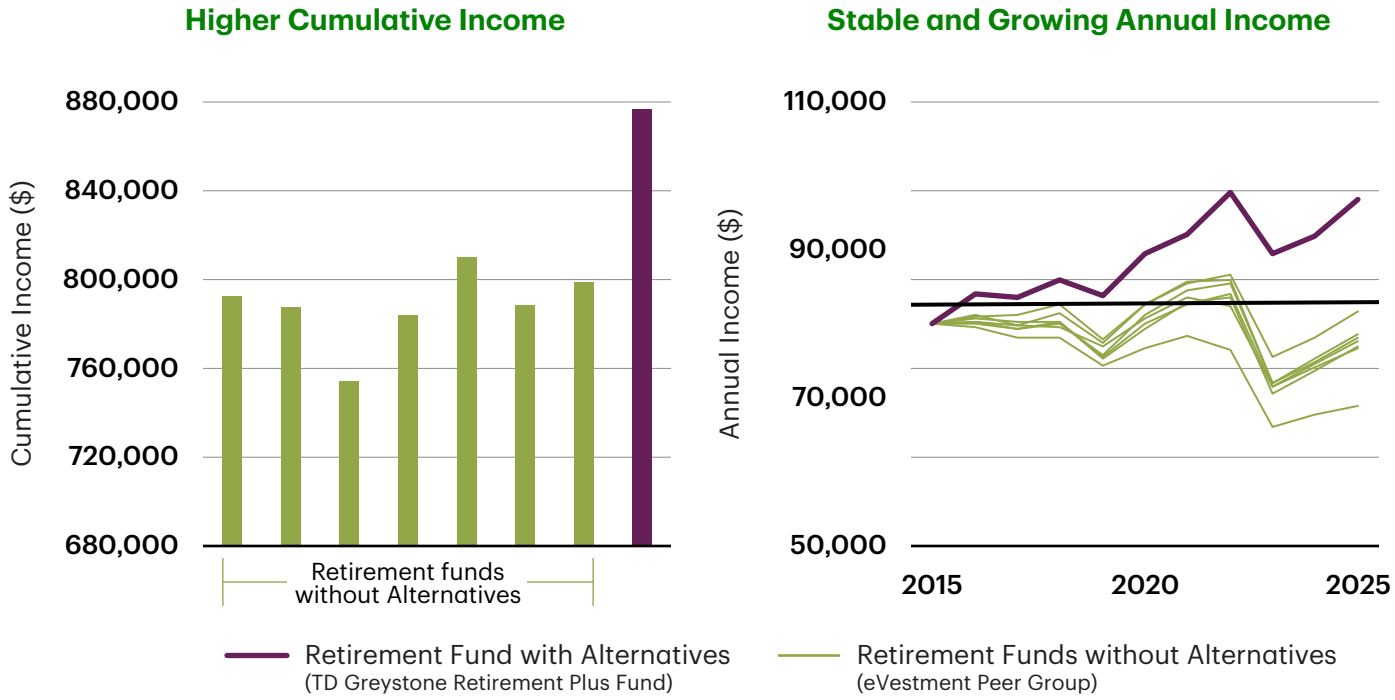
Figure 5: Private Alternatives May Help Preserve Capital



Source: TDAM, eVestment Alliance, LLC. As of December 31, 2024.

Traditionally, a higher capital base after 10 years of retirement would require a sacrifice of income levels. **Figure 6** expands the analysis to show cumulative income and annual payouts under a dynamic withdrawal strategy, where the amount withdrawn varies based on how well the investments performed during the previous year, rather than a static withdrawal strategy, where a fixed amount is withdrawn every year. Total payouts on an initial $1-million-capital base using dynamic withdrawal would result in $60,000 more in cumulative income and annual income increasing by $10,000 relative to the peer group of retirement funds.

Figure 6: Private Alternatives May Help Increase Income



Source: TDAM, eVestment Alliance, LLC. As of December 31, 2024.

Dynamic Versus Static Withdrawal Strategy

With the dynamic withdrawal strategy, the sustainability of withdrawals depends on the portfolio's performance and amounts withdrawn. There are no guarantees or risk pooling, and plan members retain control over their accumulated savings.

Improving Decumulation Goals Concurrently

We believe that the market's view of the decumulation dilemma needs to evolve from optimizing a mix of fixed income and equities for each member to expanding the toolkit of available investments. Particularly at a time when equity benchmarks are showing an increasing concentration in holdings, greater diversification and higher expected Sharpe Ratios can potentially allow members to improve outcomes across retirement goals.

In **figure 7** we illustrate the ability of a dynamic withdrawal strategy to achieve retirement goals with and without alternatives. This analysis in our view should include Variable Payment Life Annuities (VPLAs), which became available in Canada recently and will likely expose member income to sequence of return risk and shorter-term volatility. A Variable Life Benefit, often referred to as a VPLA, allows members to make a lump sum contribution at retirement and in exchange provides them with lifetime variable income based on how well the investments performed. A VPLA offers a blend of security and potential for growth. Within the VPLA framework, investment and mortality risks are pooled amongst the retirees, although capital flexibility is limited.

Figure 7: Strategy Alignment with Decumulation Priorities

	Dynamic Withdrawal	VPLA
Member Income (annual)		
Income Growth		
Income Stability		
Longevity Protection	No	**Yes**
Capital Flexibility	**Yes**	No

Public Market Only Public & Private Market

Concluding Thoughts

We believe the solution to decumulation is not a single product offering. Rather, it is to create an environment where plan members, regardless of their priorities during decumulation, will have the tools that can work for them to enhance their outcomes through retirement.

These tools include VPLAs and withdrawal strategies. These solutions really shine when we can increase return per unit of risk. A higher Sharpe Ratio is effectively enabled by the inclusion of private alternatives – which are arguably the rising tide that lifts the effectiveness of all decumulation priorities.

As an industry, we have the pieces to help solve the decumulation puzzle. We encourage plan sponsors to engage their providers on execution.

For Canadian institutional investment professionals only. Not for further distribution.

The information contained herein is for information purposes only. The information has been drawn from sources believed to be reliable. Graphs and charts are used for illustrative purposes only and do not reflect future values or future performance of any investment. The information does not provide financial, legal, tax or investment advice. Particular investment, tax or trading strategies should be evaluated relative to each individual's objectives and risk tolerance.

This material is not an offer to any person in any jurisdiction where unlawful or unauthorized. These materials have not been reviewed by and are not registered with any securities or other regulatory authority in jurisdictions where we operate.

Any general discussion or opinions contained within these materials regarding securities or market conditions represent our view or the view of the source cited. Unless otherwise indicated, such view is as of the date noted and is subject to change. Information about the portfolio holdings, asset allocation or diversification is historical and is subject to change.

Past Performance: Any performance information referenced represents past performance and is not indicative of future returns. There is no guarantee that the investment objectives will be achieved.

No investment strategy or risk management technique can guarantee returns or eliminate risk in any market environment. Any characteristics, guidelines, constraints or other information provided for this material is representative of the investment strategy and is provided for illustrative purposes only. They may change at any time and may differ for a specific account. Each client account is individually managed; actual holdings will vary for each client and there is no guarantee that a particular client's account will have the same characteristics as described herein. Any information about the holdings, asset allocation, or sector diversification is historical and is not an indication of future performance or any future portfolio composition, which will vary. Portfolio holdings are representative of the strategy, are subject to change at any time and are not a recommendation to buy or sell a security. The securities identified and described do not represent all of the securities purchased, sold or recommended for the portfolio. It should not be assumed that an investment in these securities or sectors was or will be profitable.

All products contain risk. Important information about the pooled fund is contained in their offering circular, which we encourage you to read before investing. Please obtain a copy. The indicated rates of return are the historical annual compounded total returns of the funds including changes in unit value and reinvestment of all distributions. Yields, investment returns and unit values will fluctuate for all funds. All performance data represent past returns and are not necessarily indicative of future performance. Pooled Fund units are not deposits as defined by the Canada Deposit Insurance Corporation or any other government deposit insurer and are not guaranteed by The Toronto-Dominion Bank. Investment strategies and current holdings are subject to change. TD Pooled Funds are managed by TD Asset Management Inc.

Sharpe Measure is a ratio of returns generated by the fund, over and above the risk-free rate of return and the total risk associated with it and can change monthly. A high and positive ratio shows superior performance and a low and negative ratio is an indication of unfavourable performance. Standard deviation is a statistical measure of the range of a fund's performance. When a fund has a high standard deviation, its range of performance has been very wide, indicating that there is a greater potential for volatility than those with low standard deviations.

This document may contain forward-looking statements ("FLS"). FLS reflect current expectations and projections about future events and/or outcomes based on data currently available. Such expectations and projections may be incorrect in the future as events which were not anticipated or considered in their formulation may occur and lead to results that differ materially from those expressed or implied. FLS are not guarantees of future performance and reliance on FLS should be avoided.

TD Global Investment Solutions represents TD Asset Management Inc. ("TDAM") and Epoch Investment Partners, Inc. ("TD Epoch"). TDAM and TD Epoch are affiliates and wholly-owned subsidiaries of The Toronto-Dominion Bank.

(0325)