TD Global Investment Solutions

Investor Knowledge 10 Minutes

Navigating Funding Surplus in Defined Benefit Pension Plans

Balraj Chahal
Vice President,
ALM Portfolio Management,
TD Asset Management Inc.

Claudia Lipping
Vice President and Director,
ALM Portfolio Management,
TD Asset Management Inc.

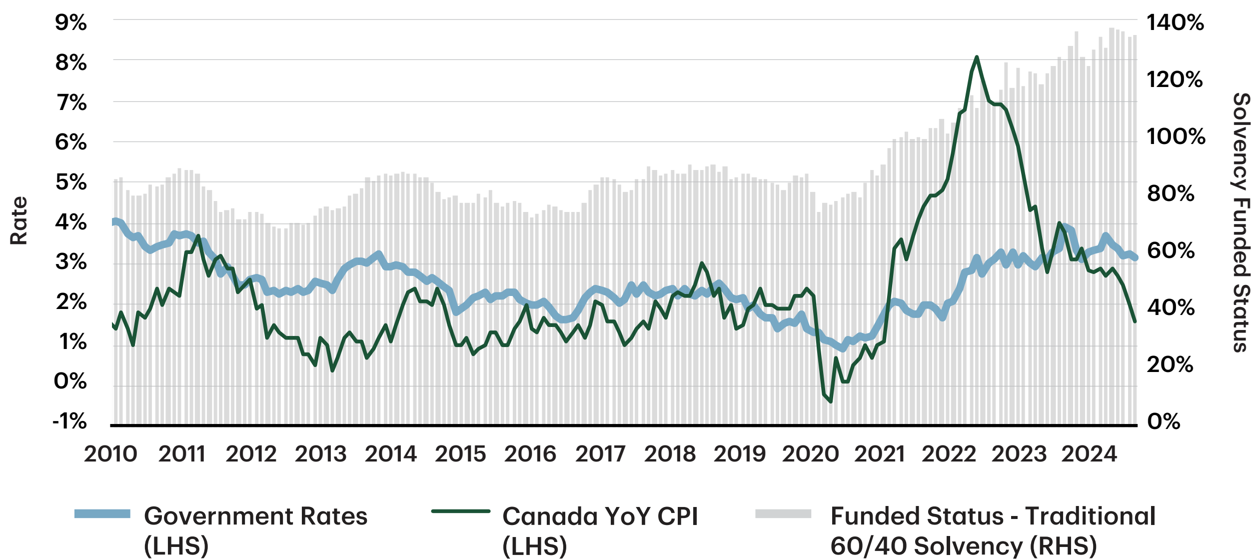
Frédéric Kibrité
Vice President and Director,
ALM Portfolio Management,
TD Asset Management Inc.

After the COVID-19 pandemic, as central banks began to raise target interest rates, the bond market saw boosts in yields while equities have had strong returns. These led to sharp increases in funding levels for most Canadian Defined Benefit (DB) pension plans, a majority of which are now seeing significant surpluses.

The landscape for Canadian DB pension plans has shifted dramatically from managing and planning for deficits to a more positive challenge of managing a surplus of assets. Most DB plans have been in a surplus position for over three years across all liability bases. Now is the time for sponsors to forge a new path in managing surplus assets.

In this paper we will cover the different ways for pension funds to use their surpluses and discuss how they can maximize funding levels not seen in almost two decades.

Figure 1: Historical Solvency Funding Progression



Note: The Funded Status is modelled as the ratio of a Traditional 60/40 Portfolio over Liabilities. The Liabilities are calculated using present value of liability cash flows. The Liabilities measure the evolution in the projected benefit obligations due to passage of time (i.e., accumulation of interest) and changes in discount rate assumptions based on prevailing financial market conditions at measurement date. For the Liabilities, we use prescribed discount rates for the purposes of hypothetical wind-up valuations. The projected benefit obligations assume a traditional final-pay pension plan, a stable population, and about half the obligations in respect of active employees and half in respect of retired employees. Contributions are set equal to benefit payments. Plans with different designs or demographics will see different results. The Traditional 60/40 Portfolio reflects an asset mix of 60% Equity and 40% Fixed Income. The equity portion is modelled as 30% MSCI World Ex-Canada Index, 30% S&P TSX Composite Index. The Fixed Income portion reflects the FTSE Canada Universe Bond Index. The Government of Canada 30 Year Rate is modelled using the GCAN30Yr Index.

Source: TD Asset Management Inc., Bloomberg Finance L.P. As of Sep 30, 2024.

Not All Surpluses Are Equal

Funding levels and surpluses can vary significantly depending on which actuarial basis is being used and often multiple bases need to be reviewed in tandem before any use of surplus is considered. Further complicating things, the regulatory jurisdiction of the province where a DB pension plan is registered governs how much surplus is available and the rules within each jurisdiction can be different. As such, the analysis of the surplus investment strategy needs to be tailored to each specific plan circumstance to have the greatest utility.

Not All Plans Are Equal

The ability to use surplus and different uses of surplus are laid out in the plan text documents for DB pension plans. These provisions may or may not allow for the surplus to be used and sponsors may need to create amendments to allow for certain uses. In addition, the deemed funding status of a plan will have a practical limit to how much surplus may be used for different purposes. For example, a plan may be open to new participation, closed to new participation, soft-frozen (where only future service is frozen), or hard-frozen (where both future service and salary increases are frozen). DB pension plans can have multiple benefit provisions, which can include Defined Contribution (DC) provisions.

Allocating Risk Budget

Historically, for DB pension plans, the risk budgeting decision process has been tied to the demographics of each plan. As the number of retirees has grown over the last several decades, the trend has been to reallocate risk budget from growth assets to more liability hedging in the total portfolio. With today's funding levels, a new approach should incorporate the surplus as its own separate piece of a plan's investment strategy structure.

Figure 2: Allocating Risk Budget

	Retirees	Active members	Surplus
Objective	Generate monthly cash flow	Grow assets	Target spend
Approach	Custom horizon matching	Liability-aware growth	Asset-focused
Measuring success	Cash flow Adequacy Testing	Funded status risk	Relative return / Employee retention
Risk budget	Generally lower	Generally higher	May be higher

Managing surpluses is not a new concept for institutional investors. Insurance companies have been operating this way for a number of years, taking what we call a segmentation approach to the management of their assets. When working with our insurance clients, we typically structure solutions using a framework with two main capital pools: one for liability-backing strategies with the goal of minimizing volatility in an asset-liability context, and a second for surplus management with the goal of growing capital to cover future costs.

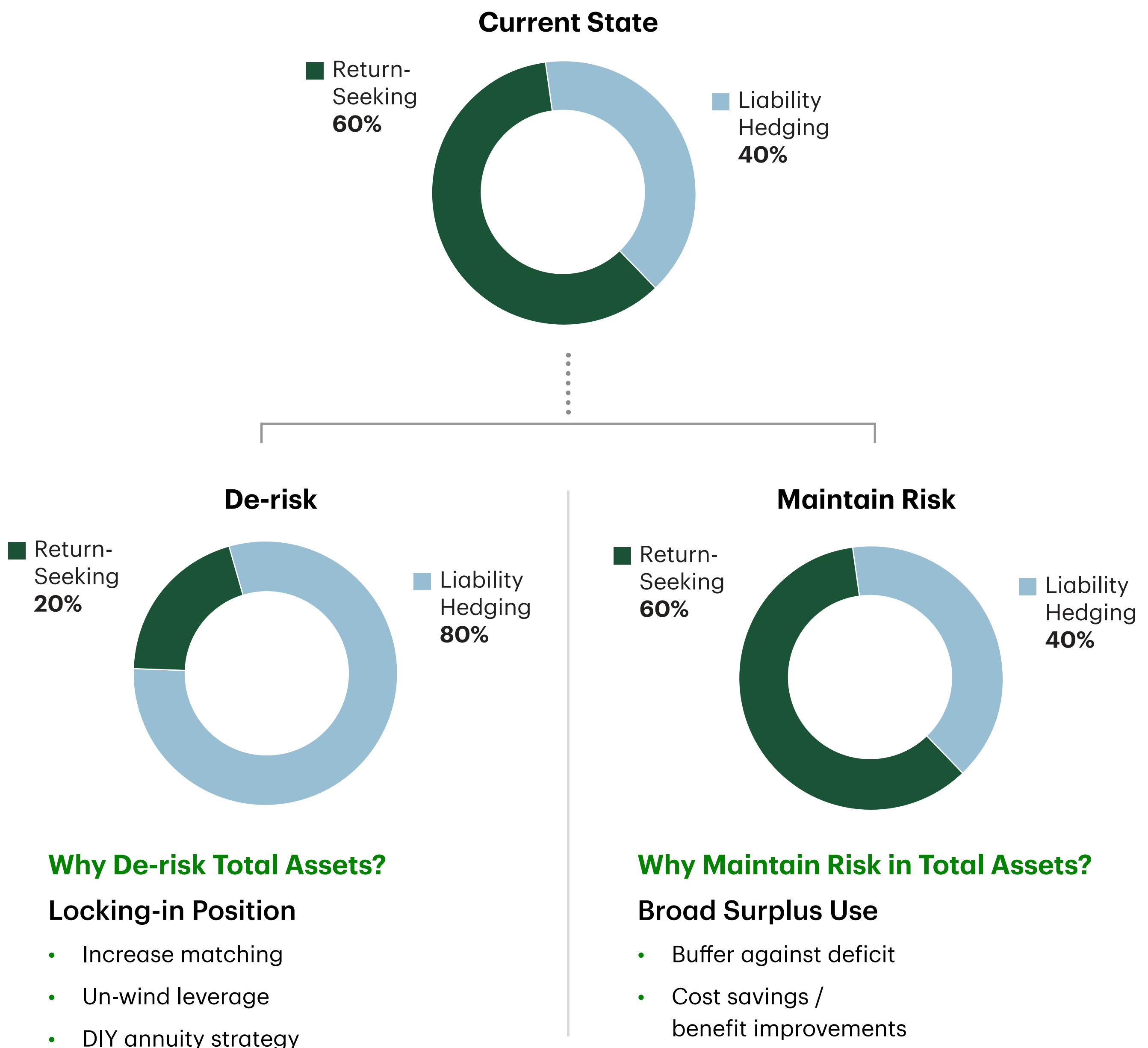
Pension plans can adopt a similar approach when allocating their risk budget to set investment strategy.

Approach

Traditional Risk Budgeting Approach

Prior to the Global Financial Crisis of 2008 – 2009, many DB pension plans were in surplus funding positions, but the market and investment strategies available to them were not as developed as they are today. Risk budgeting allocation decisions were accomplished by viewing the pension assets in total with a simple separation between fixed income (used to take risk off the table) and equities (used to build or maintain a buffer against bad news scenarios). As we've experienced during and since the financial crisis, this approach largely did not work for most plan sponsors.

Figure 3: Traditional Approach to Risk Budgeting



Many DB plan sponsors are feeling risk-averse due to more than a decade of underfunding, high contribution requirements, and regulatory interventions intended to reframe funding rules, such as temporary relief and delayed amortization schedules. Today, DB plan sponsors are better equipped to tailor their investment strategies to optimize the uses of surplus while maintaining a high level of benefit security.

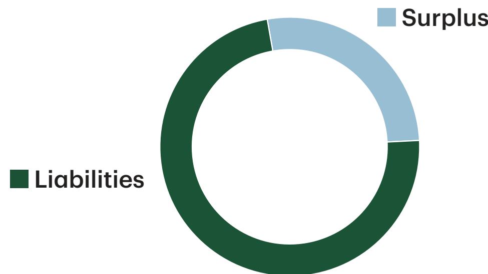
A New "Right-Risking" Approach

Pension plans can use a new approach which focuses on allocating the risk budget more efficiently.

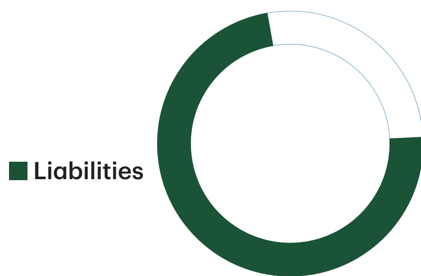
It first involves creating a liability-hedging foundation to protect the benefits plan members have already accrued. This is done by combining traditional liability-hedging techniques with new asset classes to maximize the efficiency of assets used in this component of the total portfolio. Once the foundation is laid, the remaining assets can be optimized around the specific uses of surplus targeted by the DB plan sponsor.

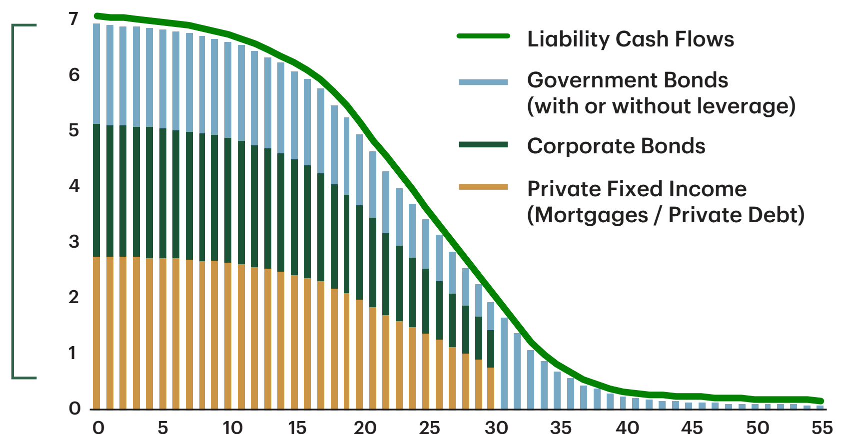
Figure 4: "Right-Risking" Approach to Risk Budgeting

Total Portfolio

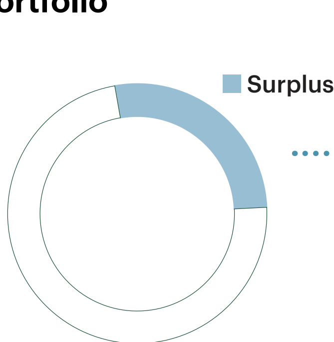


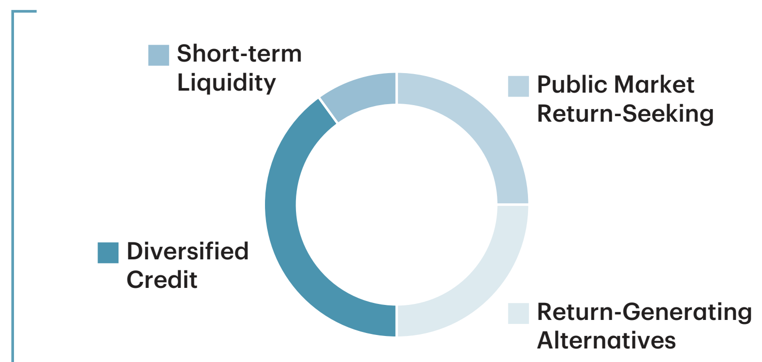
Liability-hedging Foundation





Surplus Portfolio





Before diving into the surplus portfolio, we'll touch on how the liability foundation is crafted and the types of strategies which may be included. It is important to note that the strategies used in both the liability foundation and the surplus portfolio must be tailored to each individual plan as a generic approach would not be appropriate for all.

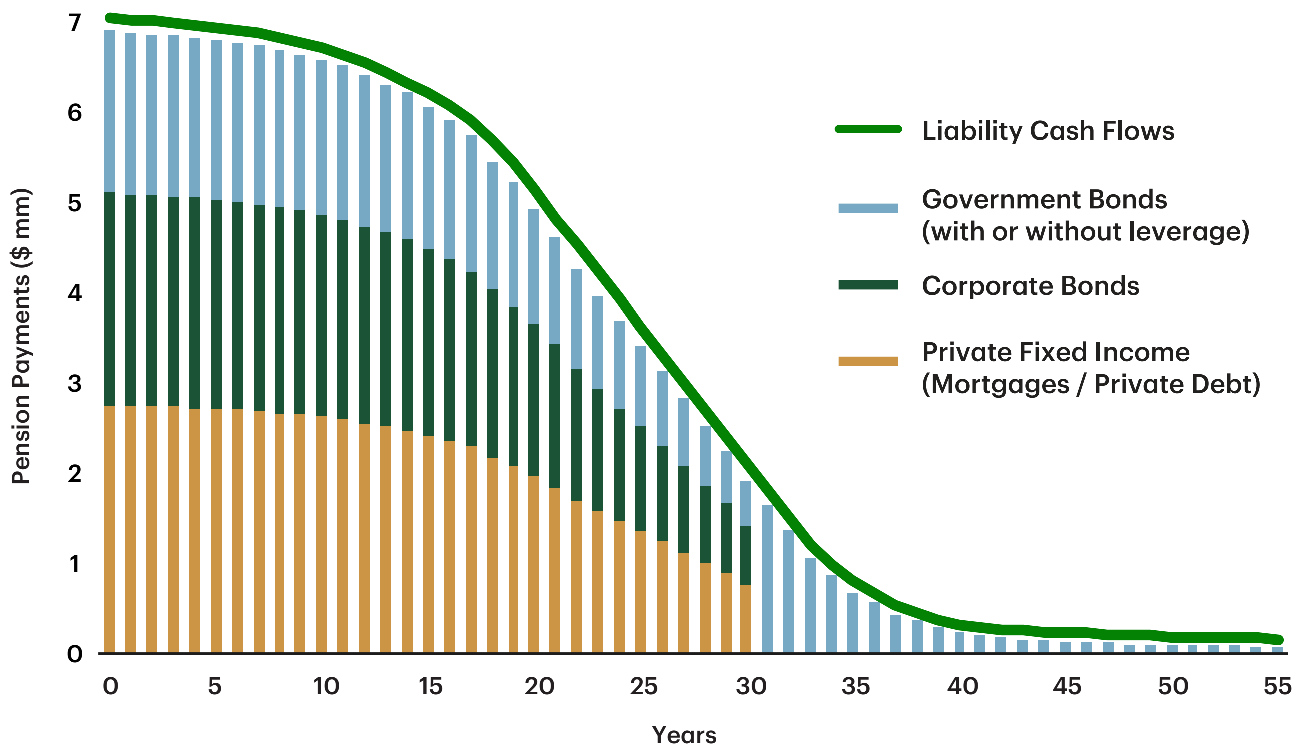
Focusing on the foundation

A strong foundation requires an investment strategy connected to the underlying liability characteristics and the method used to value those liabilities. With this component of the total plan investment strategy, we're looking to find the right balance for assets so they can reduce market-related risk while generating sufficient returns to keep pace with liability growth. In many ways, this foundation is a natural evolution of existing liability-driven investing strategies. However, the goal is to make this component of the total portfolio work as efficiently as possible to free up risk budget for the surplus component.

A key strategy to accomplish this goal is commonly known as **Buy-and-Maintain Credit >**.

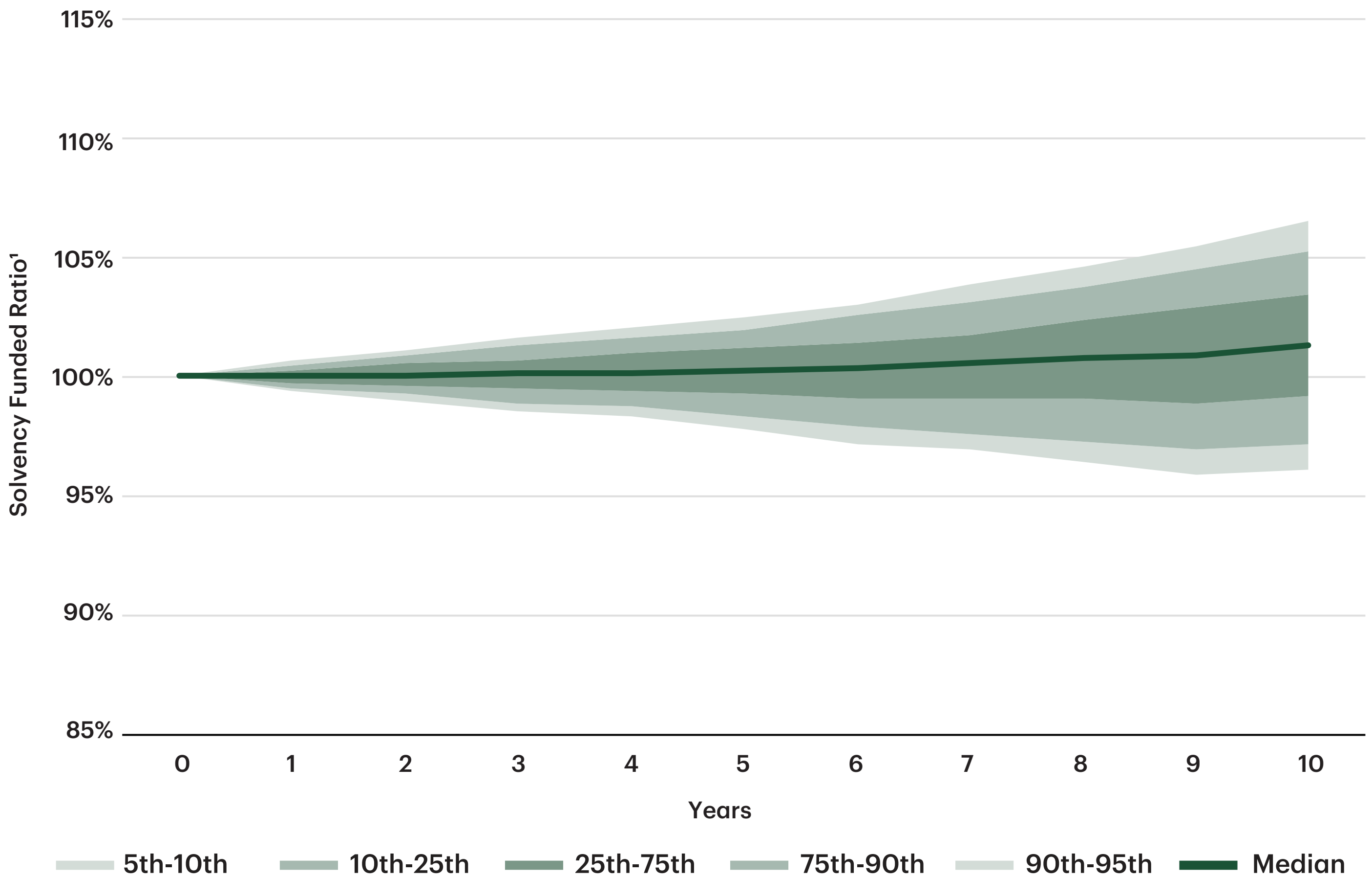
Buy-and-Maintain Credit is an active public/private corporate fixed income strategy where credit is selected across the yield curve and the credit spectrum is tailored to the underlying liabilities being hedged. It provides flexible yield targets to help keep pace with liabilities while offering greater sectoral diversification than broad index strategies. All DB liability bases are valued with some (or full) exposure to credit spreads, so there is a need to overweight credit relative to the market index (which is largely government-based) to keep pace with liability growth. Buy-and-Maintain Credit strategies can provide the necessary growth while still protecting funded positions.

Figure 5: Illustration of Liability-Hedging Foundation Structure



Some DB pension plans already employ a version of this liability foundation concept with a **Do-It-Yourself (DIY) Annuity Strategy >**. In the DIY Annuity Strategy, the ultimate objective is to achieve a portfolio yield in excess of liabilities with a high degree of hedging, thereby using the risk budget efficiently. As illustrated in **Figure 6,** the initial funding level for the liability-hedging foundation is stable with low volatility over the long term.

Figure 6: Liability-Hedging Foundation



	Assets	Liabilities	Net
Yield	4.8%	4.7%	+0.1%
Funded Ratio VaR[2]	-	-	0.5%

[1] The funded status is modelled as the ratio of a DIY Annuity Portfolio over solvency liabilities. The liabilities are calculated using the present value of liability cash flows. The liability measures the evolution in the projected benefit obligations due to passage of time (i.e., accumulation of interest), annual service accruals (funded via surplus use), and changes in discount rate assumptions based on prevailing financial market conditions at measurement date. For the liabilities, we use prescribed discount rates for the purposes of hypothetical wind-up valuations. Plans with different designs or demographics may see different results. The DIY Annuity Portfolio reflects an asset mix of short, mid, long, corporate and provincial Canadian bonds in both public and private markets.

[2] Value at Risk (VaR) represents a measure of risk and is the fifth percentile result of a stochastic distribution of outcomes.

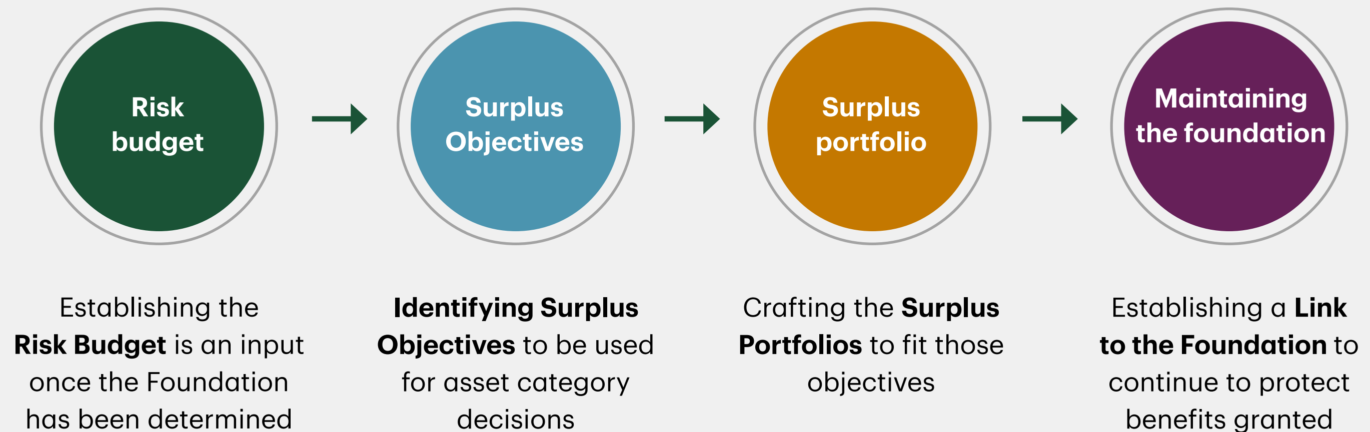
Source: TDAM. As of September 30, 2024.

The foundational piece can be tailored to the desired liability base (going concern, solvency/wind-up, accounting) and does not require an equal amount of assets to hedge liability risk. Levered fixed income strategies such as provincial bond overlays can bridge the gap between hedging interest and credit risk while allowing the remainder of assets in the foundation to work harder to achieve higher yields.

Creating Efficient Surpluses

Now that we have established a strong foundation, we can begin to build a surplus strategy. To do this, we follow an iterative process tailored to each specific DB plan and sponsor.

Figure 7: Customizing the Surplus Strategy



Establishing the **Risk Budget** is an input once the Foundation has been determined

Identifying Surplus Objectives to be used for asset category decisions

Crafting the **Surplus Portfolios** to fit those objectives

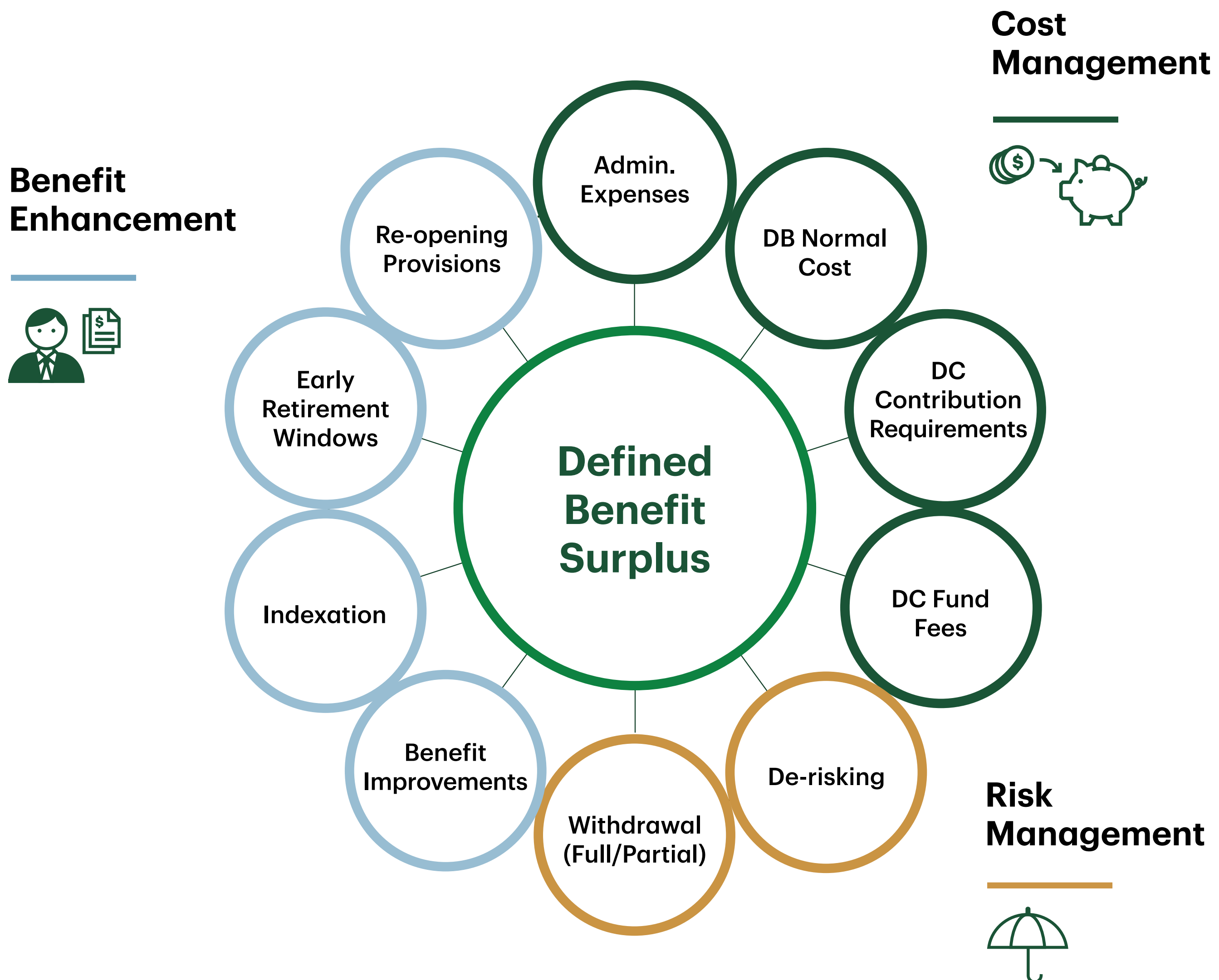
Establishing a **Link to the Foundation** to continue to protect benefits granted

Identifying Surplus Objectives

Sponsors of DB plans in surplus positions have several options about how best to utilize that surplus. Each of these options may have a different cost associated with it. The aggregate of these options make up the target surplus spend. The size of the target surplus spend and the available risk budget will determine the most suitable investment strategies. Plan sponsors can use their surplus to achieve different objectives. Those surplus uses fall within three main categories: cost management, risk management and benefit enhancement (see **figure 8**).

Process

Figure 8: Uses for Funding Surplus



An overarching factor in the use of surpluses is the ability to mitigate unexpected inflation.

- Higher expenses and higher DC contributions through salary increases
- Inflation erodes the purchasing power of pension payments and ad-hoc increases to payments can help offset the negative consequences to retirees
- De-risking and risk transfer can hinder or stop the ability to provide retirement benefit enhancements

Cost Management

The main example of cost management uses for surpluses are DB normal cost contribution holidays. For plans with DB and DC provisions, we also see surpluses being used to cover DC contributions. These cost management uses of surpluses are a direct benefit to plan sponsors. They also have a knock-on benefit to members in the form of less strain on the organization and potentially the decision to keep pension plans around longer.

Benefit Enhancement

For years, DB plans have been reducing prospective benefits and closing membership due to rising and unpredictable costs. The benefit of hindsight and surplus positions now affords sponsors the ability to be more pragmatic about the types of DB provisions they offer and how to pay for ongoing costs. This may be a growing trend, because over the past few years, the DB community in Canada has already seen some plans and provisions re-open and ad-hoc indexations being granted to members. Employees are again beginning to see the value of a DB pension in the context of a total rewards package.

These uses of surplus funding have direct benefits for both plan sponsors and members through higher benefits without the company paying additional costs. These can also be a broader total rewards tool assisting in retention or attrition and managing the workforce.

Risk Management

Surpluses can be used to more broadly de-risk the plan by shifting assets away from return generation and transferring assets and liabilities to an insurer. Typically, this wouldn't result in the most efficient use of surplus assets, but depending on plan provisions, there may not be other uses for surpluses. When de-risking, there are other factors to consider, such as the impact on going concern liabilities and funding levels.

Risk management is a benefit to plan members via greater security of benefits and a knock-on effect for plan sponsors via lower plan funding level volatility and contribution requirements. Risk transfers are an irrevocable decision which limits the flexibility to use other available surplus tools that could benefit both members and sponsors.

There's an important consideration in a Canadian funding context: if there continue to be on-going accruals or costs for the sponsor, broad de-risking or risk transfers could be a more expensive option in the long term. The traditional tug-of-war between absolute costs and volatility still plays a role. When considering a use for a surplus, a plan sponsor needs to ensure it doesn't inadvertently put the plan into a funding deficit. Additionally, if plans de-risk too much, they face the possibility of trapped surplus.

Crafting the Surplus Portfolio

When exploring potential uses of surplus assets, the investment strategy should be designed to achieve the desired return efficiently for the amount of risk budget available.

The composition of the surplus portfolio needs to be structured to achieve the specific surplus objectives of each plan sponsor. Those surplus objectives can be translated into a target surplus spending level. The surplus objectives then become return objectives. There are broad categories which the surplus portfolio can be broken into: public market return generation, return-generating alternatives, diversified credit and short-term liquidity. Here are examples of the types of strategies which may be included in each category.

Figure 9: Surplus Composition Considerations

Surplus Asset Categories	Rationale
Public market return generation	• Provides a strong return base while maintaining liquidity. • Could be the largest allocation in the surplus portfolio.
Return-generating alternatives	• Diversification without limiting return. • Can provide a strong inflation correlation which affects many surplus use cases.
Diversified credit	• Diversification in sources of risk while providing meaningful yield generation.
Short-term liquidity	• Source of liquidity while providing yields above cash. • Aids with capital calls and rebalancing. Also acts as a mechanism to move assets to the liability-hedging foundation as surplus is used.

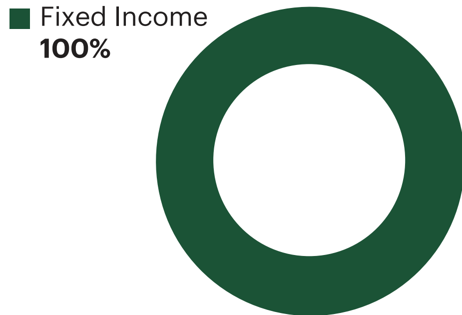
An iterative modeling process is a useful tool when designing and testing potential surplus portfolios to assess relative risk-reward trade-offs. Ultimately, we want to end up with a portfolio which meets the return targets needed for surplus use while mitigating risks.

To show this, in **Figure 10** we've presented three hypothetical portfolios. The first aims to minimize risk by investing 100% in long Canadian bonds. The second aims to achieve a specific return target with a simplified 60% global developed equity and 40% long Canadian bond allocation. The third follows the principles we outlined above to maximize return while minimizing risk.

Process

Figure 10: Evaluating the Efficiency of a Surplus Portfolio

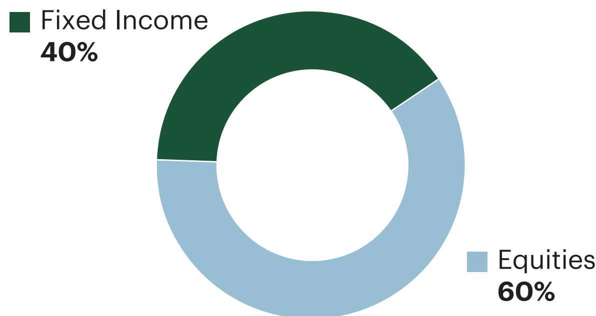
Low Risk



Statistics

Target Surplus Spend	7.0%
Expected Return[1]	4.3%
Volatility[2]	4.5%
Sharpe Ratio[3]	0.22

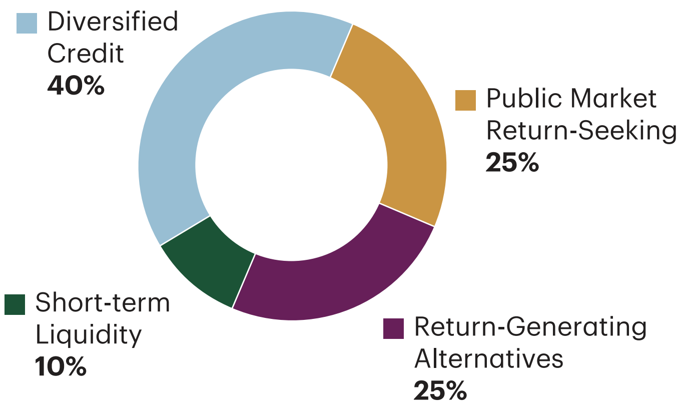
Sufficient Return



Statistics

Target Surplus Spend	7.0%
Expected Return[1]	7.4%
Volatility[2]	10.1%
Sharpe Ratio[3]	0.41

Low Risk and Sufficient Return



Statistics

Target Surplus Spend	7.0%
Expected Return[1]	7.4%
Volatility[2]	4.8%
Sharpe Ratio[3]	0.85

[1] Expected Return has been measured as the annual arithmetic return of the portfolio to be comparable with the annual target surplus spend.

[2] Volatility has been measured as the average standard deviation of annual portfolio returns over a 10-year horizon.

[3] Sharpe Ratio is calculated as (Expected Return on the portfolio minus a 91-day T-Bill return of 3.6%) / volatility of the portfolio.

Source: TD Asset Management Inc. As at September 30, 2024.

The diversified surplus portfolio is able to achieve a return in excess of the target surplus spend at a much higher return/risk ratio.

Maintaining Benefit Security in the Liability-Hedging Foundation

The last step in creating an efficient surplus portfolio is ensuring that assets can be shifted from it back to the liability-hedging foundation. This is a crucial feature to incorporate into the process, especially when the uses of surplus funding include liability growth. Liability growth may be in the form of DB accruals, benefit enhancements, ad-hoc indexation, etc., and can even include liability gains or losses from demographic and mortality sources. As these new liabilities are realized in the underlying liability base, assets may need to be shifted from the surplus portfolio to the liability-hedging foundation to keep the level of benefit security at the original targeted levels.

Conclusion

After decades of being underfunded, DB plans are once again able to capitalize on strong funding positions. This new reality calls for a new way of allocating risk budgets to create the most efficient use of pension assets and allow plan sponsors to secure members' existing benefits, while potentially providing enhancements and reducing costs.

An integrated set of tools which brings together the analysis, implementation, monitoring and reporting of investment strategies is crucial for successful outcomes and education. At TD Global Investment Solutions (TDGIS), we have a team of professionals in investment, actuarial and software development dedicated to creating and evolving **asset liability tools >** to meet the demands of our clients. If you'd like to explore surplus strategy options and learn how our tools can potentially work for your plan, please reach out to your TDGIS Relationship Manager to schedule a meeting. ■

Surplus

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