

Nick Nefouse, CFA

Global Head of Retirement Solutions

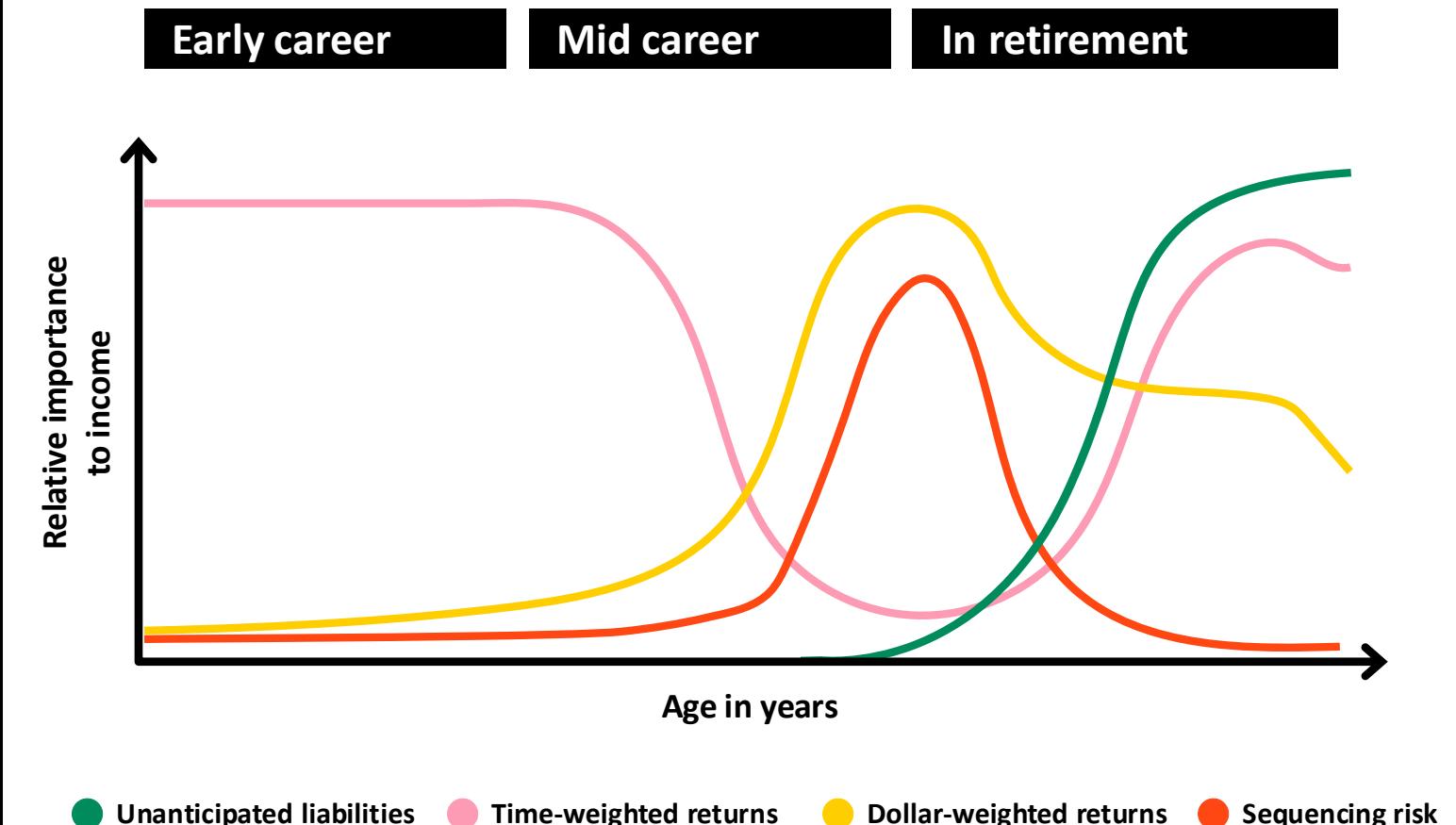
October 3, 2024



Managing inflation through a lifecycle framework

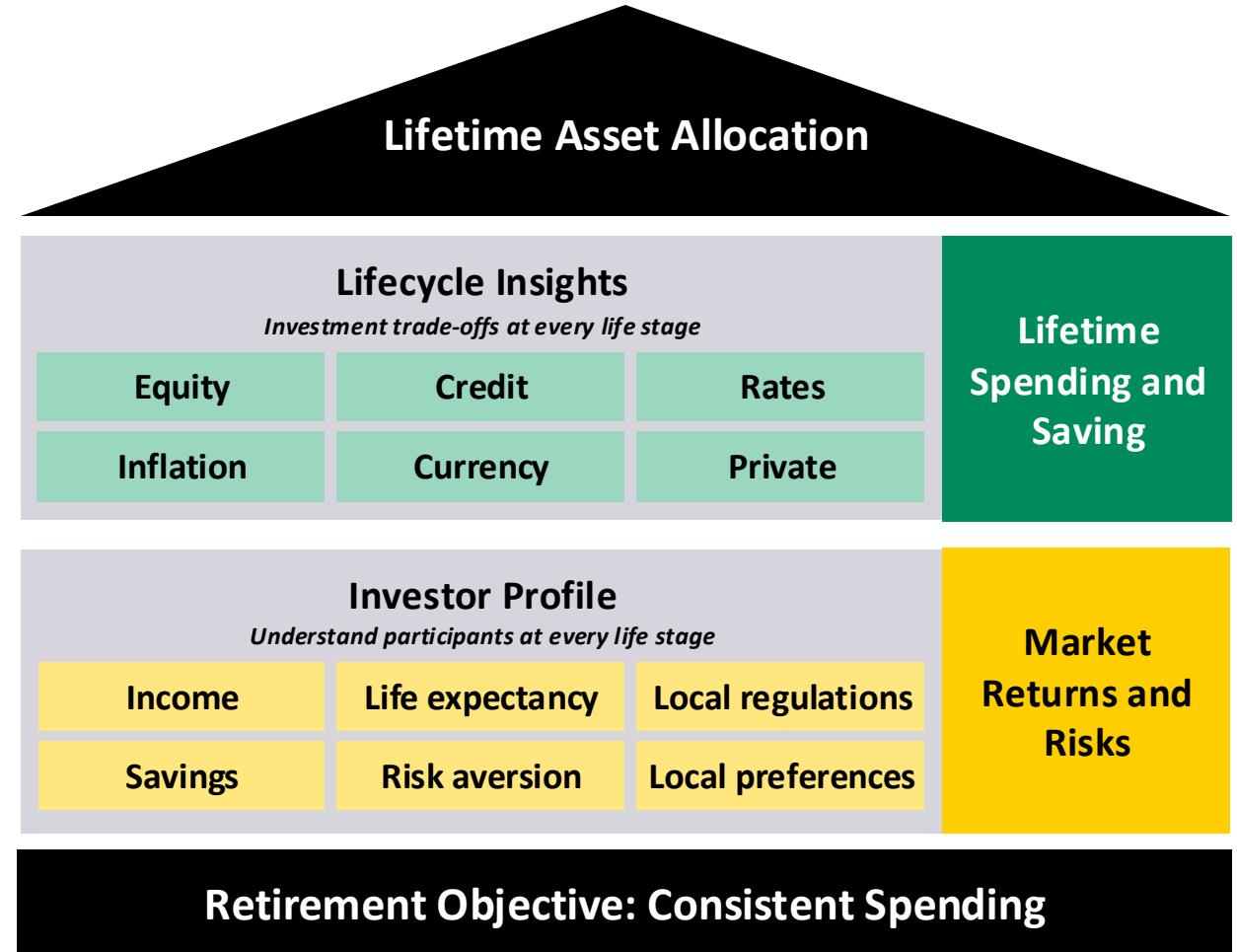
Lifecycle investment framework

Markets are just
one factor driving
retirement
balances over a
lifetime.



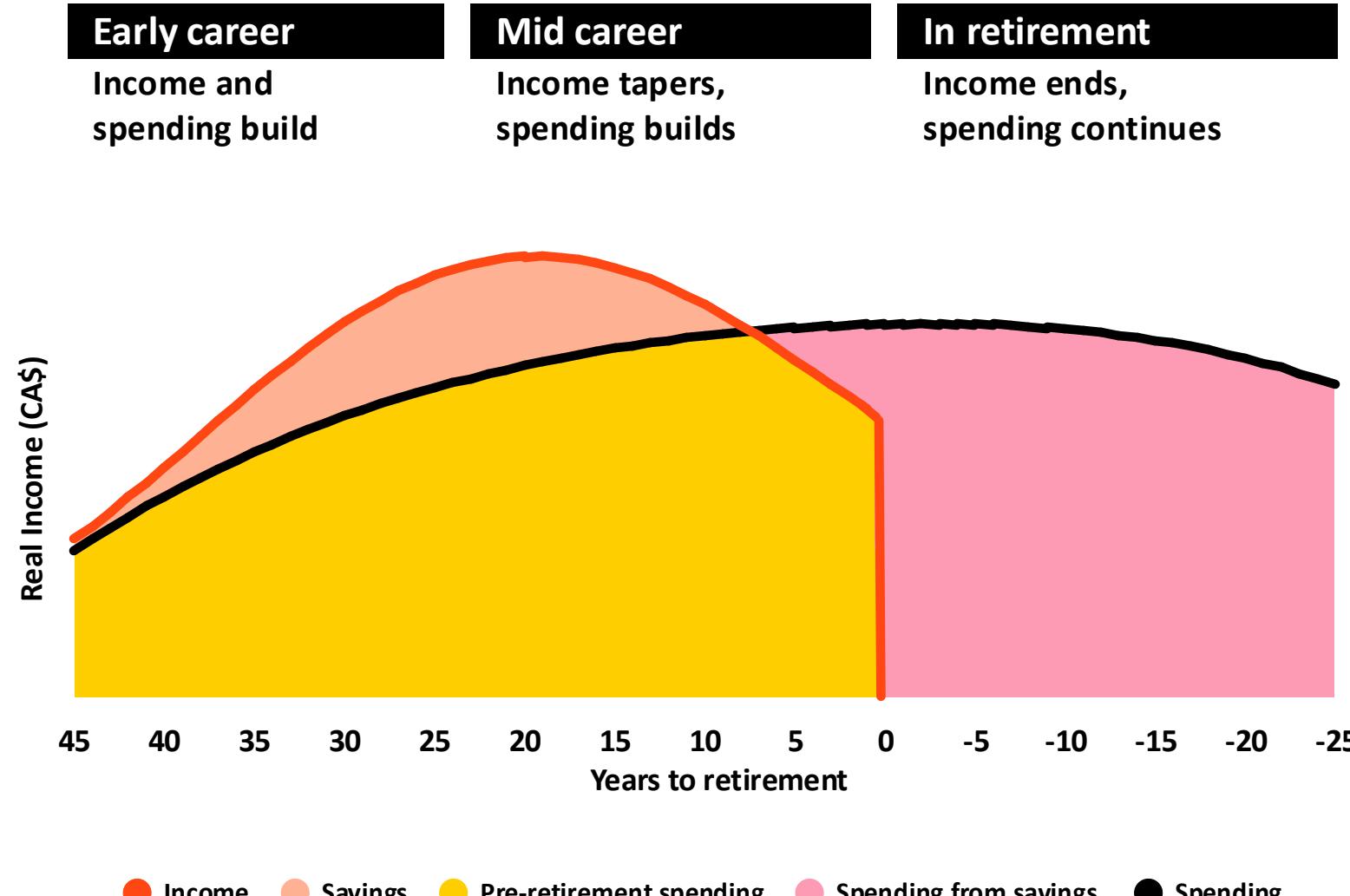
Source: Drew, M, Walk A and West J 2015, The Role of Asset Allocation in Navigating the Retirement Risk Zone, Finsia (Financial Services Institute of Australasia), Sydney.

**Lifecycle investing
starts with the
economics of the
problem...**



For illustrative purposes only.

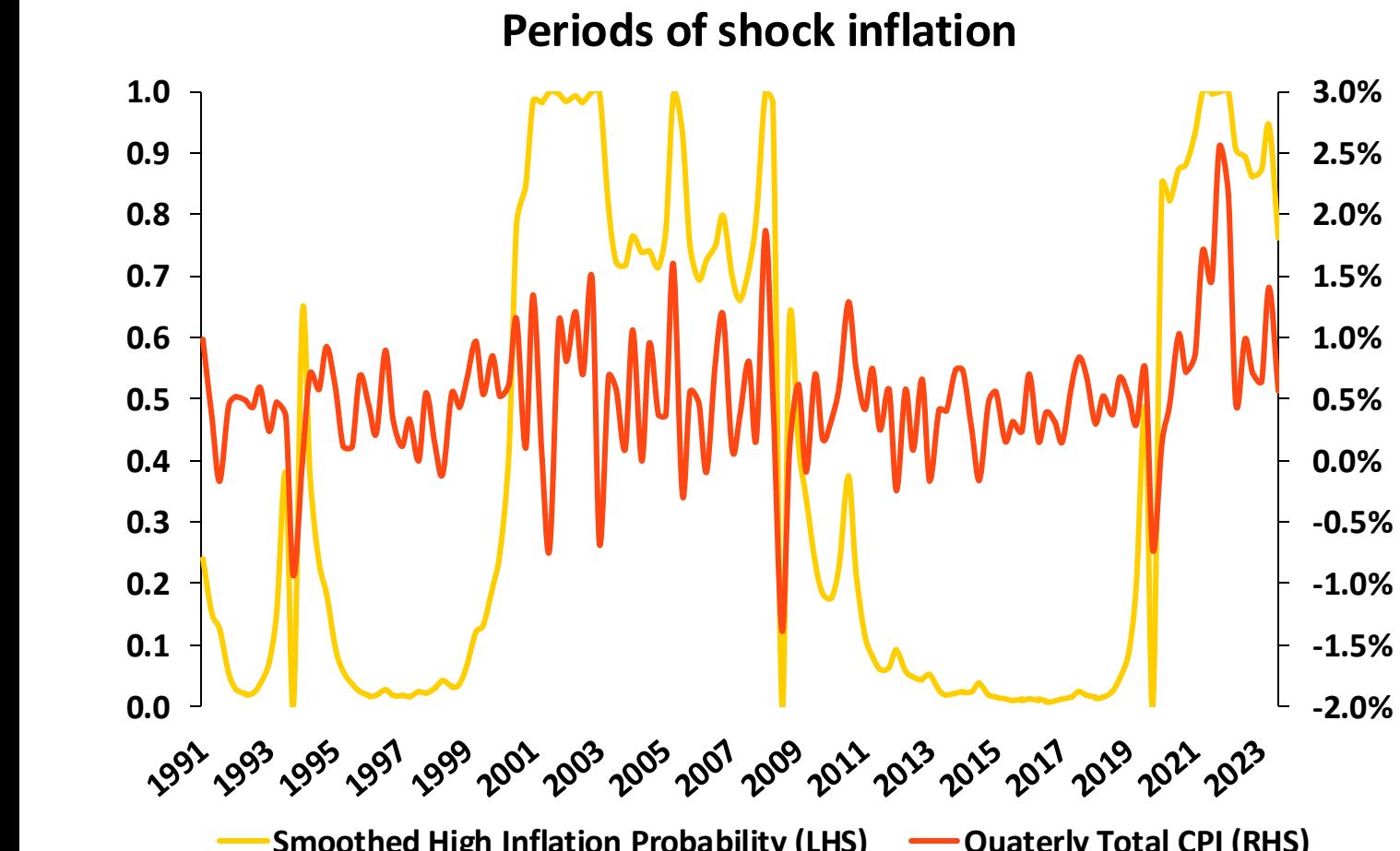
...and aims for the
outcome that
individuals want.



Source: BlackRock, Statistics Canada Survey of Labour Income Dynamics ("SLID"), as of June 30, 2024.

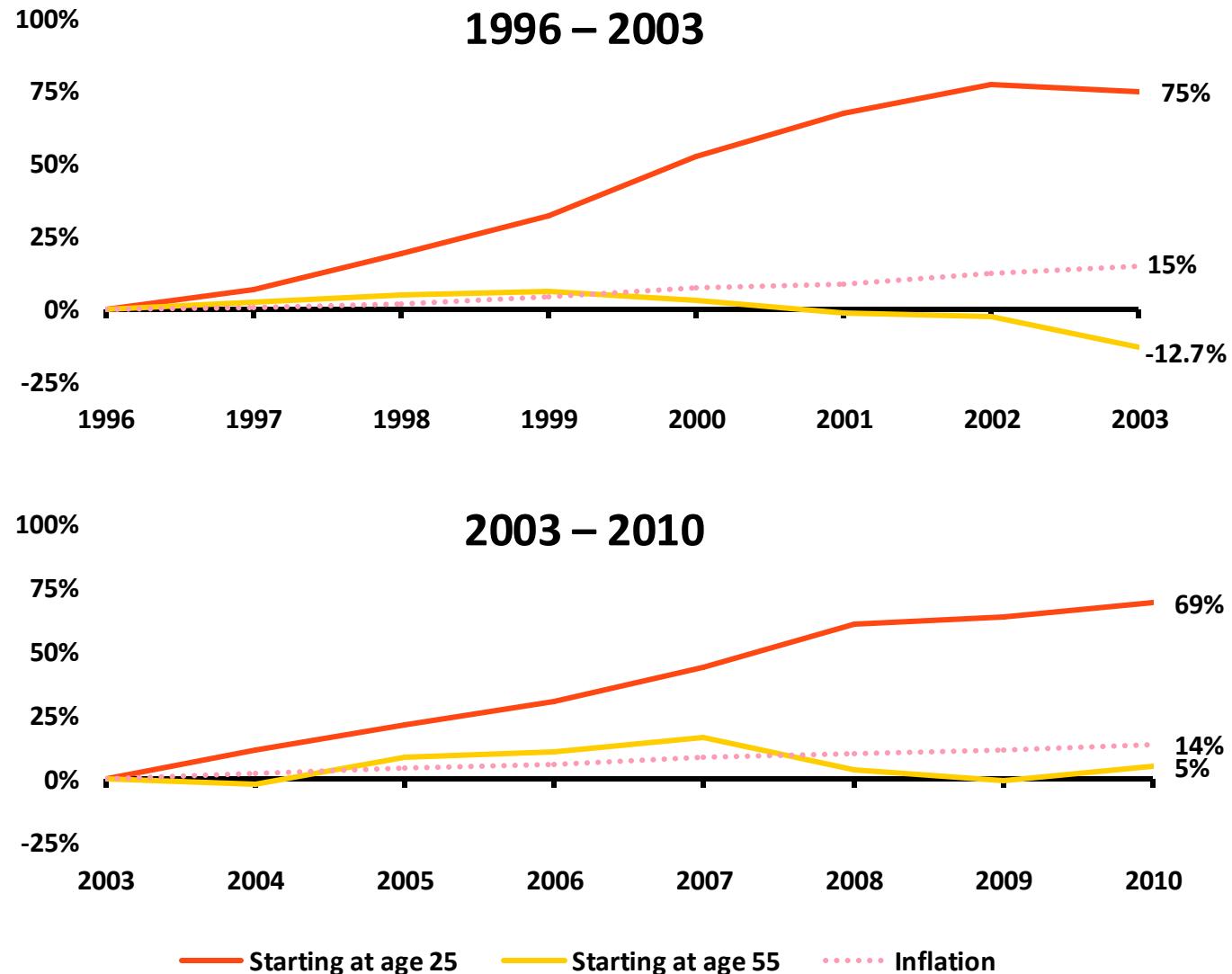
Inflation in the lifecycle framework

What type of inflation are you worried about?



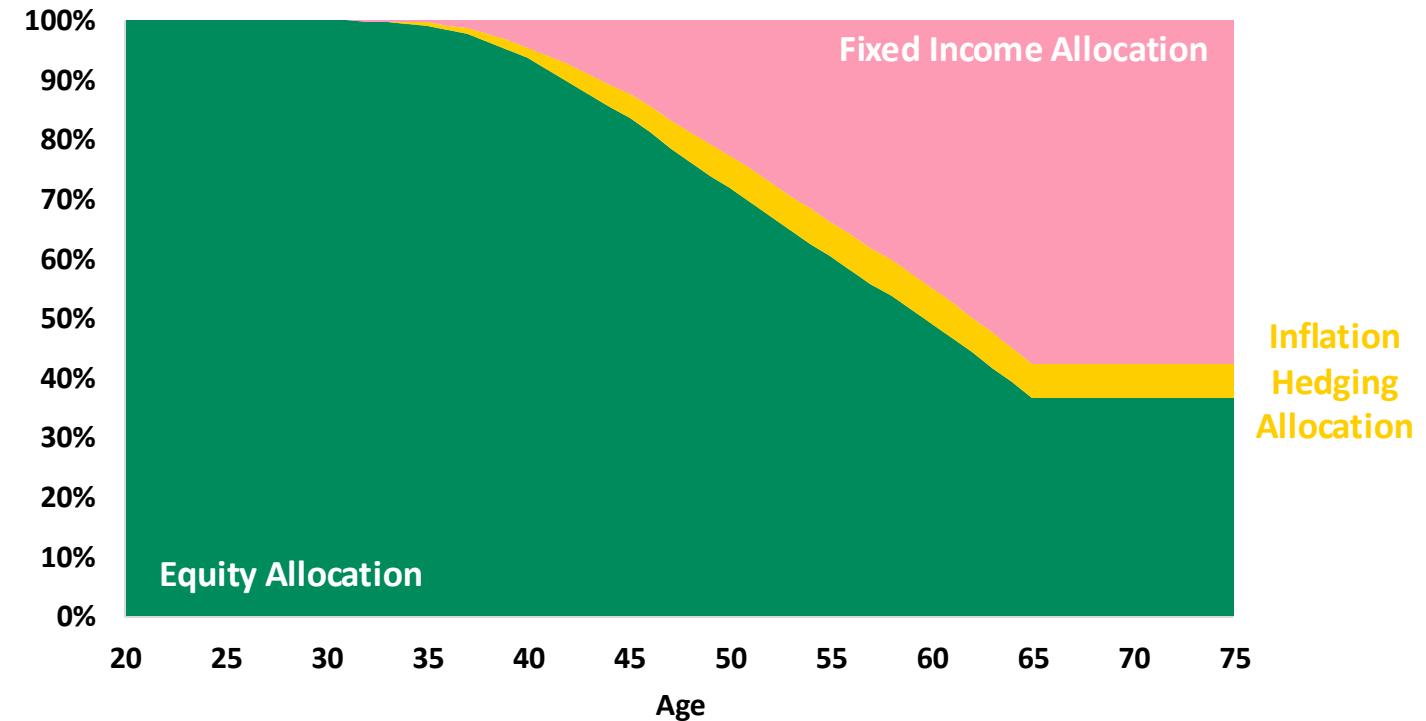
Source: Statistics Canada, as of 31 December 2023.

Human capital as a natural inflation hedge.



Source: BlackRock, Statistics Canada Survey of Labour Income Dynamics ("SLID"). The top chart reflects data as of 31 December 2003, and the bottom chart reflects data as of 31 December 2010.

When do participants need inflation hedging assets?



Source: BlackRock, as of 30 June 2024. For illustrative purposes only.

What are the inflation hedging assets?

	Role of Asset Class	
	Seek Return	Hedge Inflation
Inflation-Linked Bonds	✓	✓✓✓
Commodities	✓	✓✓✓
Infrastructure	✓✓	✓✓
Real Estate	✓✓	✓

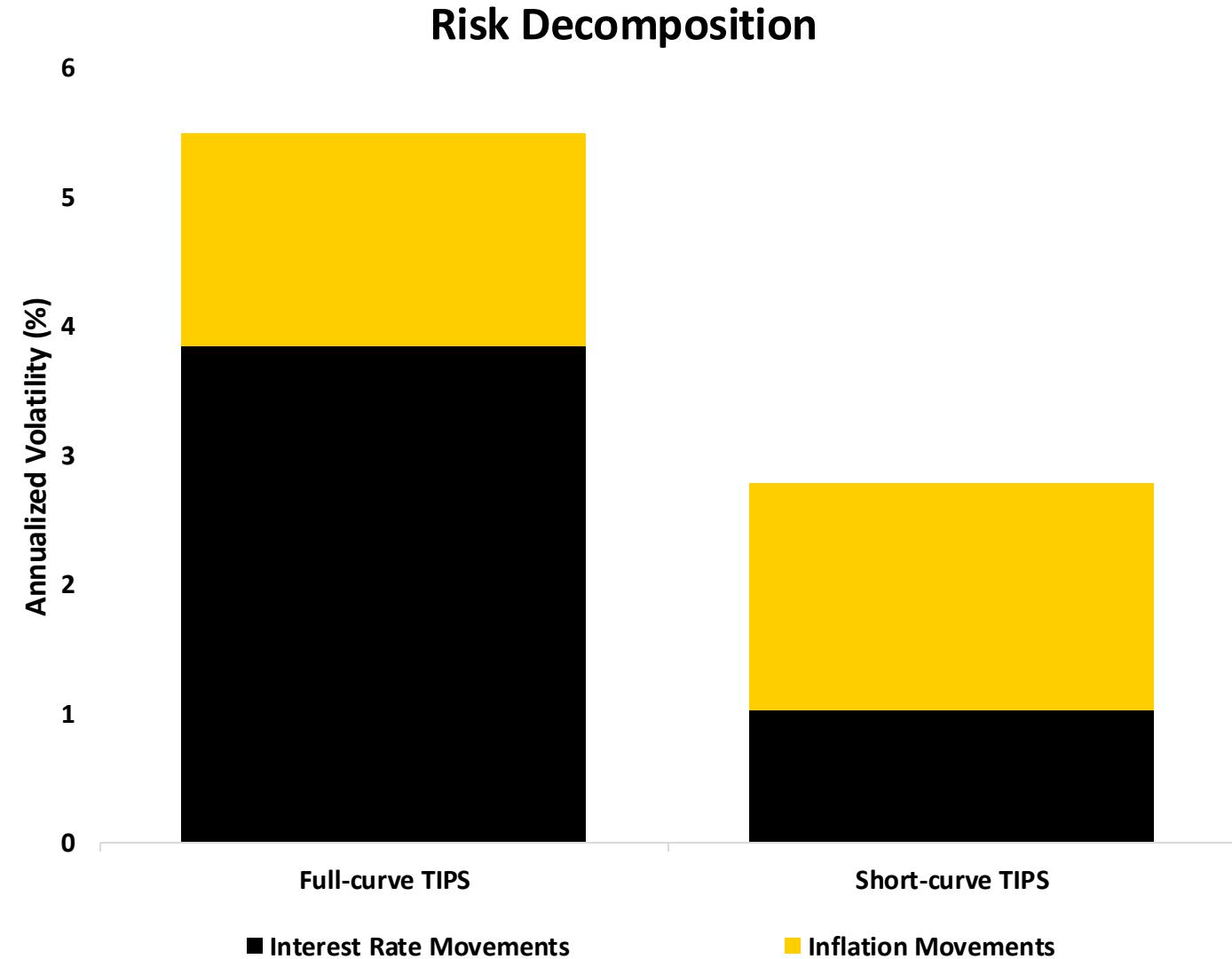
Source: BlackRock. For illustrative purposes only.

How should they be combined in a portfolio?

	Research Hypothesis	Canada Considerations
Inflation-Linked Bonds	Short-curve bonds could be a more effective inflation hedge than full-curve bonds	What could replace Real Return Bonds that are no longer being issued?
Commodities	Could provide the highest sensitivity to shock inflation but with opportunity cost	Are Canadian stocks more correlated with commodities?
Infrastructure	Could provide diversification, inflation hedging, and return potential	What is the optimal index exposure?
Real Estate	Focusing on “New Economy” could provide improved return potential	How would a different geographic focus alter overall portfolio risk?

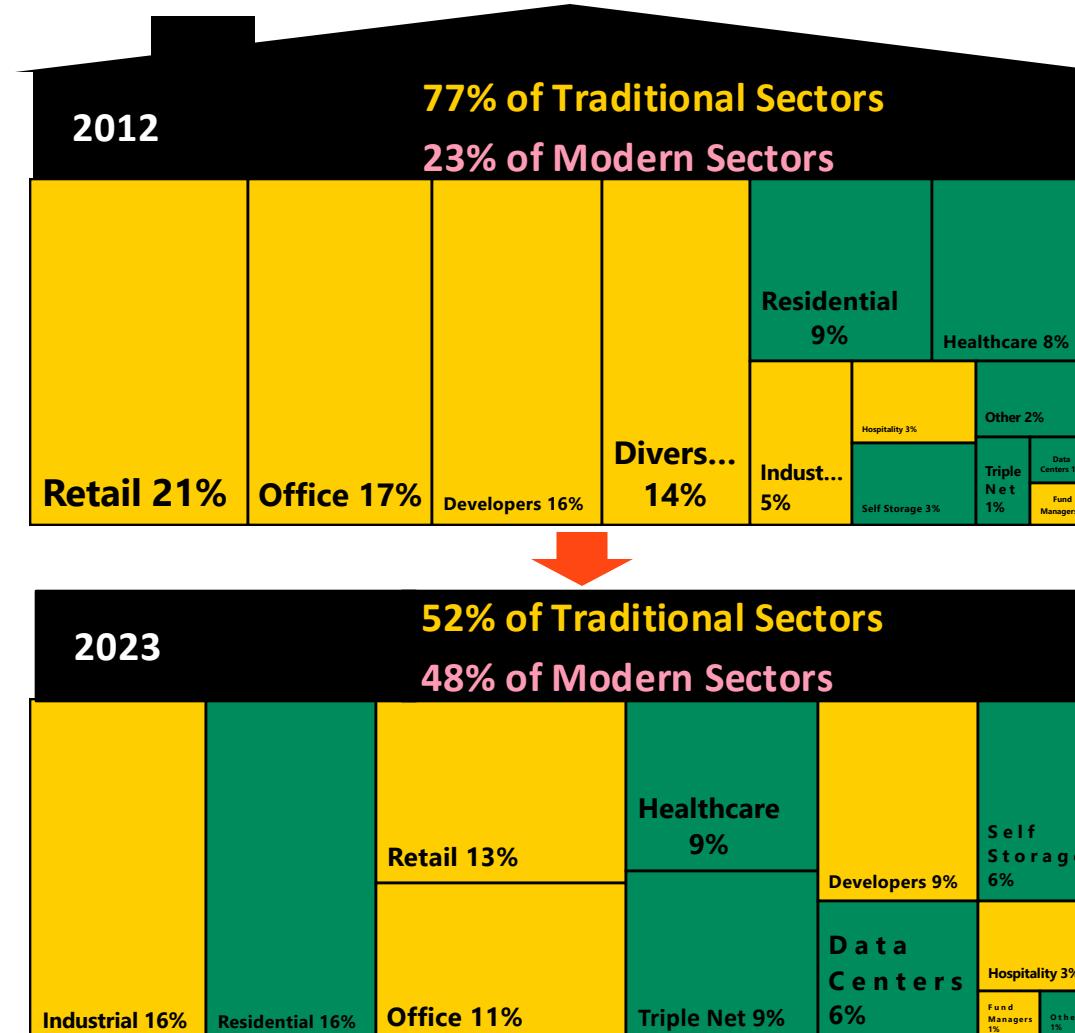
Source: BlackRock. For illustrative purposes only.

**Short-curve U.S.
TIPS are more
effective at
hedging changes in
inflation.**



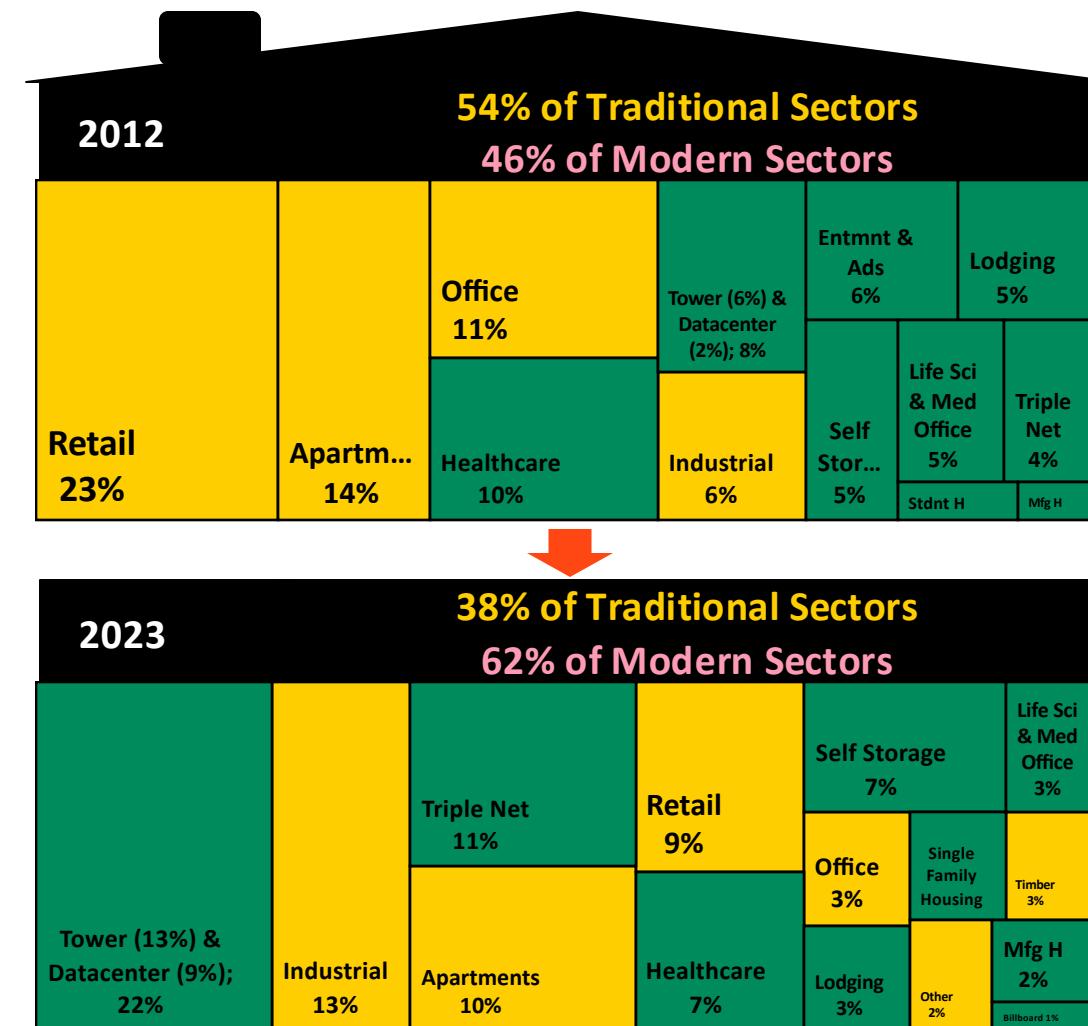
Source: BlackRock as of 31 December 2023. Full-curve TIPS represented by Bloomberg TIPS Index; Short-curve TIPS represented by the Bloomberg 0-5 TIPS Index. Indexes are unmanaged and one cannot invest directly in an index.

There is an evolution within REIT indices.



Source: BlackRock, Bloomberg. FTSE EPRA Nareit Developed Index as of 31 December 2012 and 31 December 2023. Indexes are unmanaged and one cannot invest directly in an index.
Indexes shown for illustrative purpose only

There is an evolution within REIT indices.



Source: BlackRock, Bloomberg. FTSE Nareit All Equity REITs Index as of 31 December 2012 and 31 December 2023. Indexes are unmanaged and one cannot invest directly in an index.
Indexes shown for illustrative purpose only.

What role should Fixed Income play in a target date fund?

Offset equity risk

Provide ballast in periods
when equities fall

Seek return

Provide potential return in
the portfolio

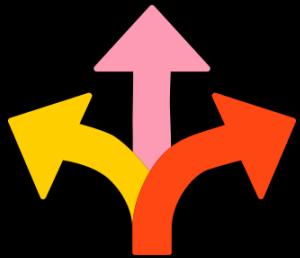
Source: BlackRock. For illustrative purposes only.

Could the Fixed Income exposure be more precise?

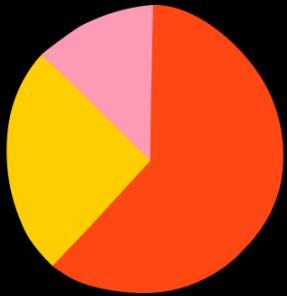
	Role of Asset Class	
	Seek Return	Offset Equity Risk
Long Credit	✓✓✓	✓
Intermediate Credit	✓✓	✓
Securitized	✓✓	✓✓
Long Government	✓✓	✓✓✓
Intermediate Government	✓	✓✓

Source: BlackRock. For illustrative purposes only.

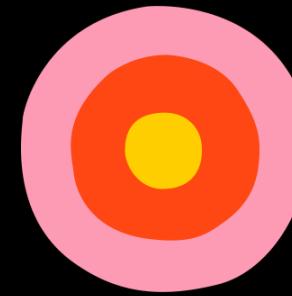
Key takeaways so far:



Address multiple risks through time with a lifecycle investment framework



Understand when, and how, a retirement portfolio should hedge inflation



Consider using precise fixed income allocations, to take the right risk at the right time

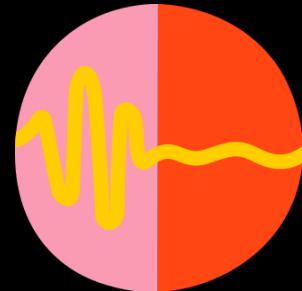
Expanding the lifecycle framework

What outcomes should retirement income strategies deliver?

**Maximize
spending
ability**



**Minimize
spending
volatility**



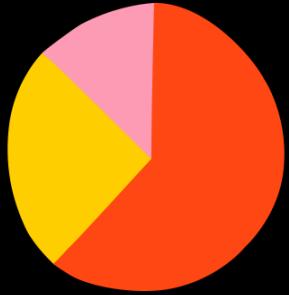
**Address
longevity
risk**



Consider optimizing retirement spending across major sources of income



Public Pension
(i.e., CPP, QPP, etc.)



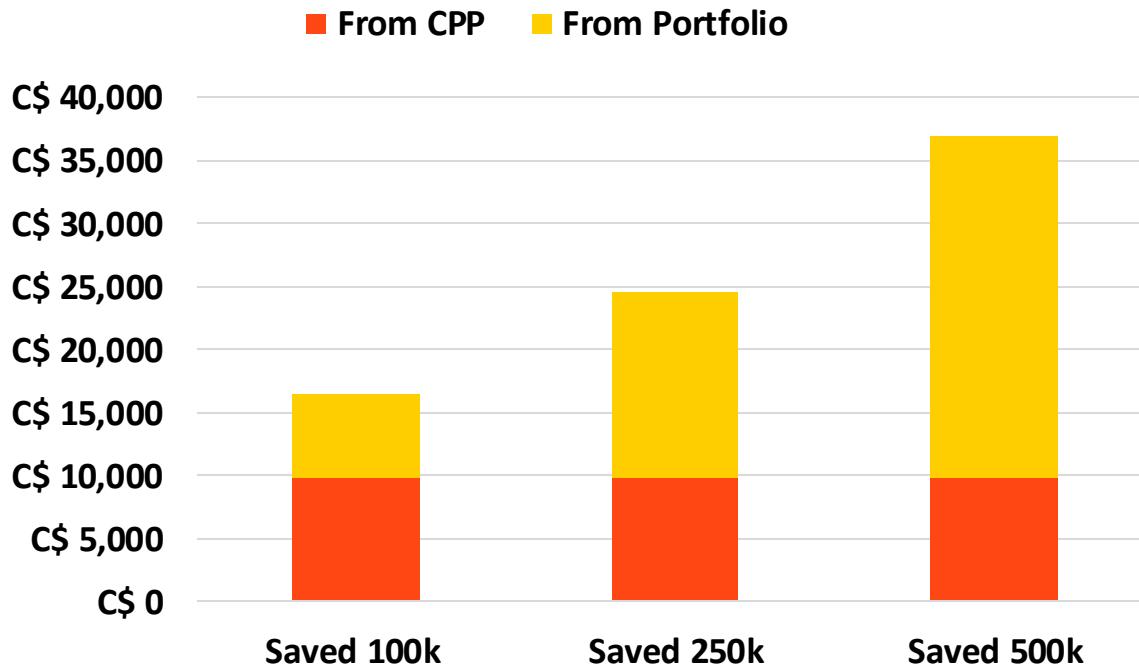
Investment Portfolio
(i.e., RRSP, GRRSP, etc.)



Guaranteed Income
(i.e., Annuity)

**The Public Pension
is a powerful
component for
many participants.**

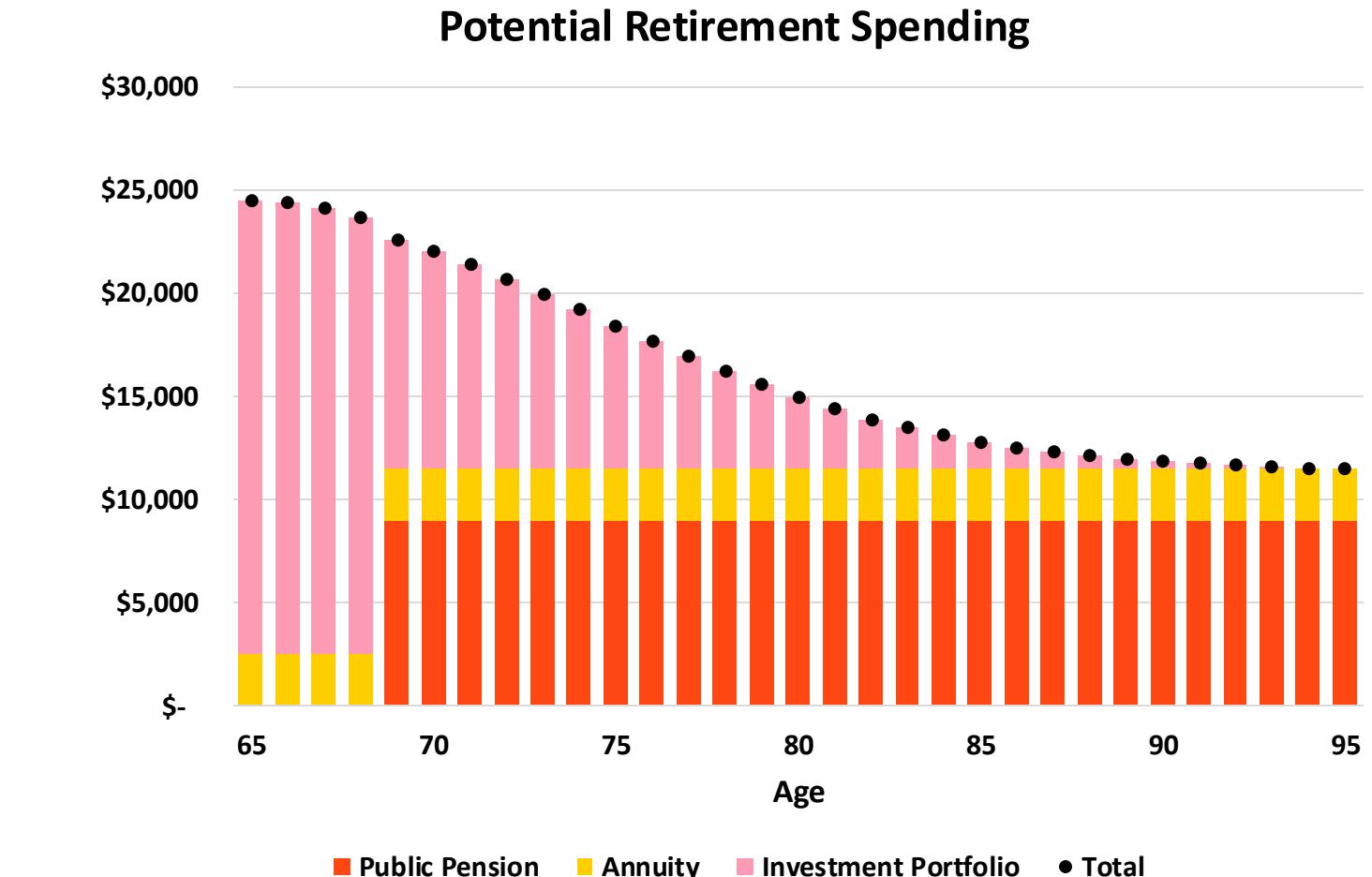
Spending at age 65



Source: BlackRock, Government of Canada, as of June 30, 2024. For illustrative purposes only and subject to change.

Notes: This chart illustrates optimal consumption from the investment portfolio based on BlackRock's utility model considering a riskless annual pension amount of CA\$9,804. The model accounts for time discounting and survival probability and so considers a declining consumption profile rather than a constant spending rate.

The whole is
greater than the
sum of its parts.



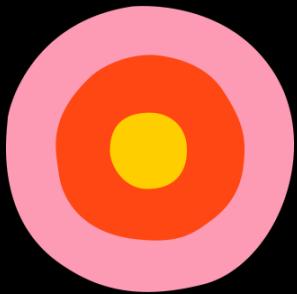
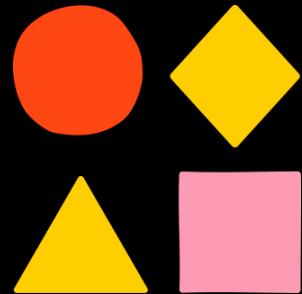
Q&A

Lifecycle investment strategies: Key takeaways

Diversified
multi-asset
portfolios

Precise risk
allocations
through time

Optimized
retirement
spending



Important notes

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