



SOCIETY OF
ACTUARIES®

2019 **ANNUAL
MEETING**
& EXHIBIT

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Session 178: Innovations in Reducing Pension Risks

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Innovations in Reducing Pension Risks

Robert L. Brown, Derek W. Dobson, Dani Goraichy

October 30, 2019



The Pension Debate: Finding Common Ground

Robert L. Brown, and Stephen A. Eadie





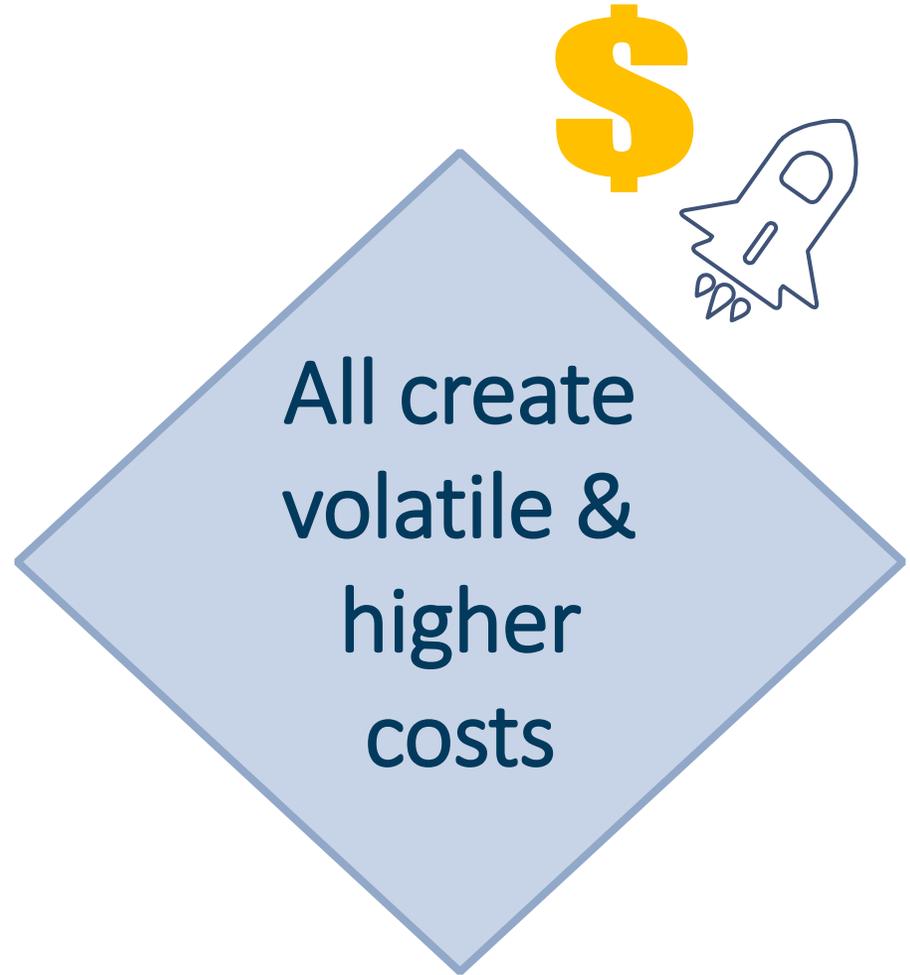
Agenda

- Why have Classical Designs failed?
- (Much) Better outcomes are possible

Coverage is too low!
Why have classic designs failed?



Why the Decline in DB Coverage?



Private sector response is sub-optimal



DC Plans including Group RRSPs



Assistance in setting up Individual CAPs



Nothing

Problems with most CAP plans



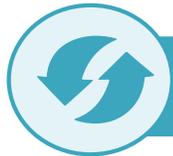
Increased Longevity



Low rates of Investment Return



Volatility of Investment Returns

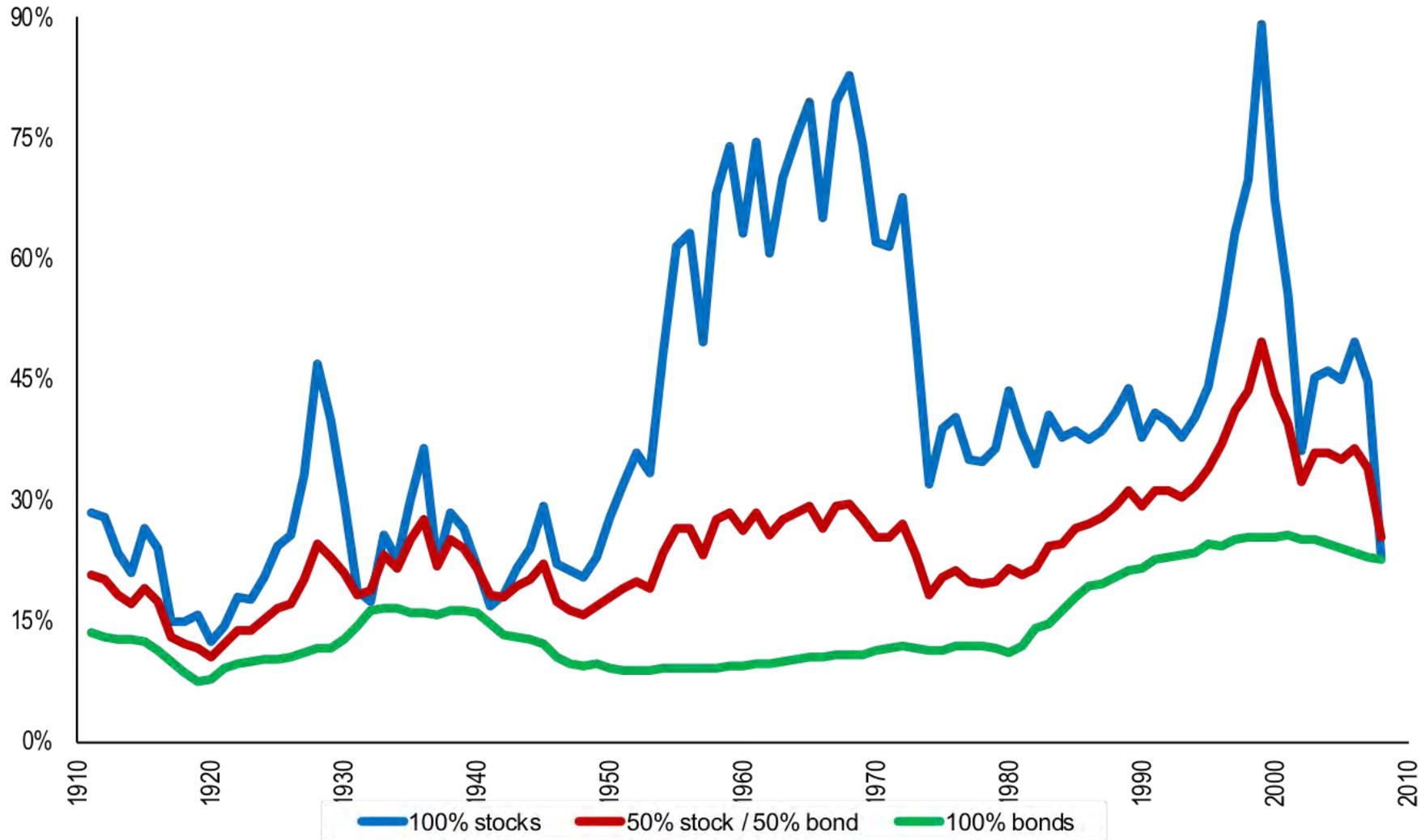


Two Market Crises



Expensive Life Annuities

Replacement rate obtained from personal account savings of workers who invest in alternative portfolios





Impact of Investment Expense Ratios on Pension

Expense Ratio	0%	0.4%	1.5%	3%
Acc. Value (,000) <i>After 40 years</i>	\$777	\$707	\$551	\$400
Annual Pension	\$45,000	\$41,000	\$32,000	\$23,000
Replacement Ratio	90%	82%	64%	46%

How to fail the pension debate

Classic
Defined
Benefit



Common
ground



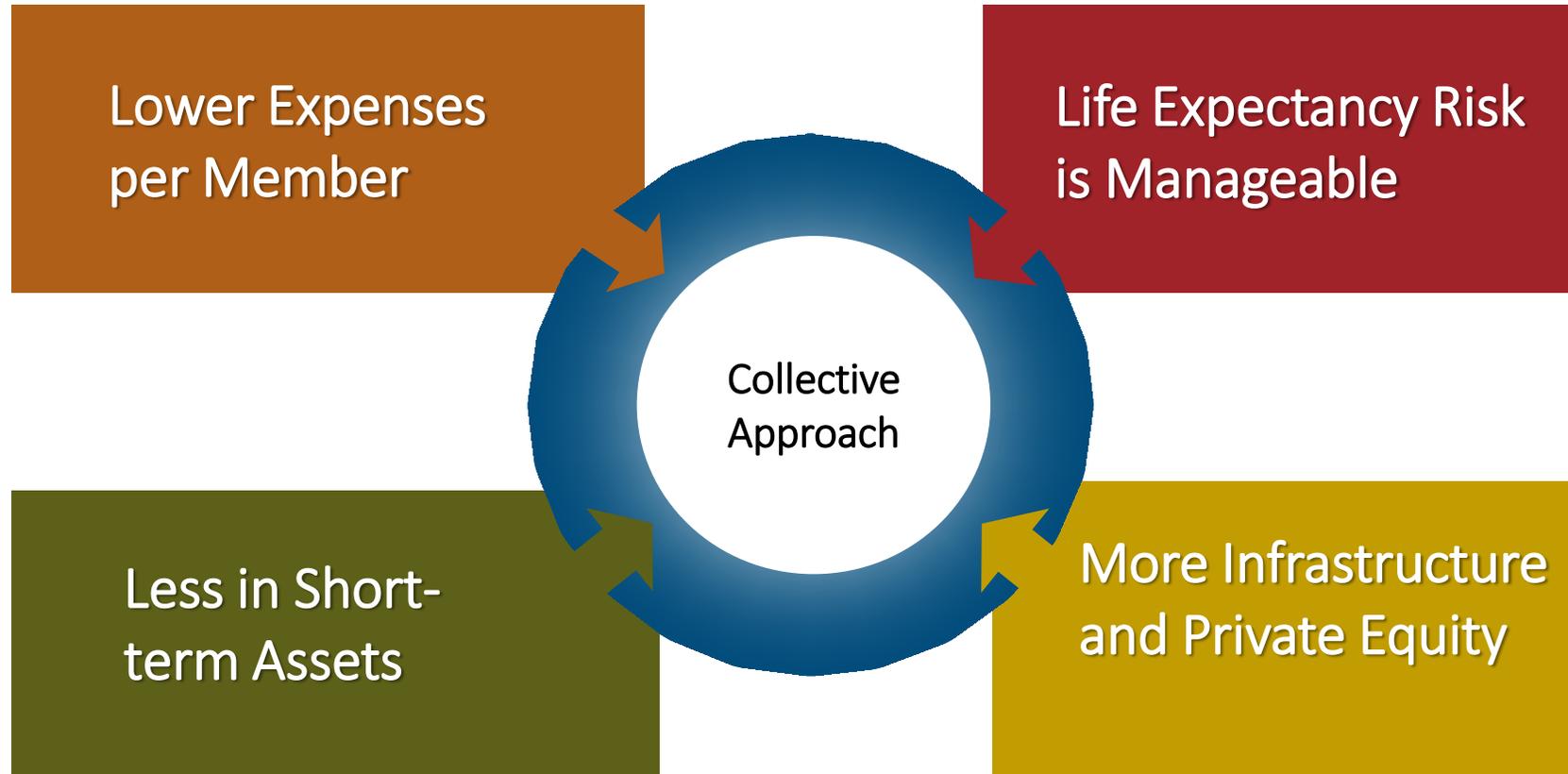
Classic Individual
Account
Defined Contribution

(Much) Better outcomes are possible





Providing Better Retirement Income Security Requires a Collective Approach





Much better outcomes are possible



HOOPP Research Indicates that a large DB plan can get **3.1** times as much retirement income as a Self-Directed Individual Acct with the same contribution



Plus carry the Longevity Risk
(and with no benefit volatility)

Finding Common Ground



Plan assets should be large (> \$1B)



Managed by an Independent Board of Experts



Plan can run Economically



Plan can buy Alternative Assets



Plan can carry the Longevity Risk



Laws and Regulations should allow SMEs to Join

Innovations in Reducing Pension Risks

Derek W. Dobson and Dani Goraichy



Introduction

- Retirement industry need fundamental changes to efficiently deliver value and pool risks
- Innovation and consolidation is here and growing
- The retirement industry should be bigger than it is today – expanded coverage, new opportunities to add value and reduce risk (consultant toolbox)



Should employers care?

Nest Wealth Survey (2018)

“Financial worry and retirement planning can have a negative impact on business performance, company culture and overall **employee** happiness”

- **69% of Canadian would choose a new job** with a group savings plan over a workplace without one

Should employers care?

Canadian Public Pension Leadership Council (2016)

- **51%** of Canadians say stress about retirement-planning having a medium-to-high **negative impact on their work**
- **60%** say stress about retirement-planning having a medium-to-high **negative impact on their health**

The result is higher benefit costs and lower engagement and reduced productivity

Should employers care?

Canadian Payroll Association (2018)

- **72% have saved one-quarter or less** of what they feel they'll need to retire

The result is “hidden pensioners”, i.e. employees with lower engagement and reduced productivity, or **higher severance costs**.

Predictable
income

Lifetime
income

Maintain standard
of living

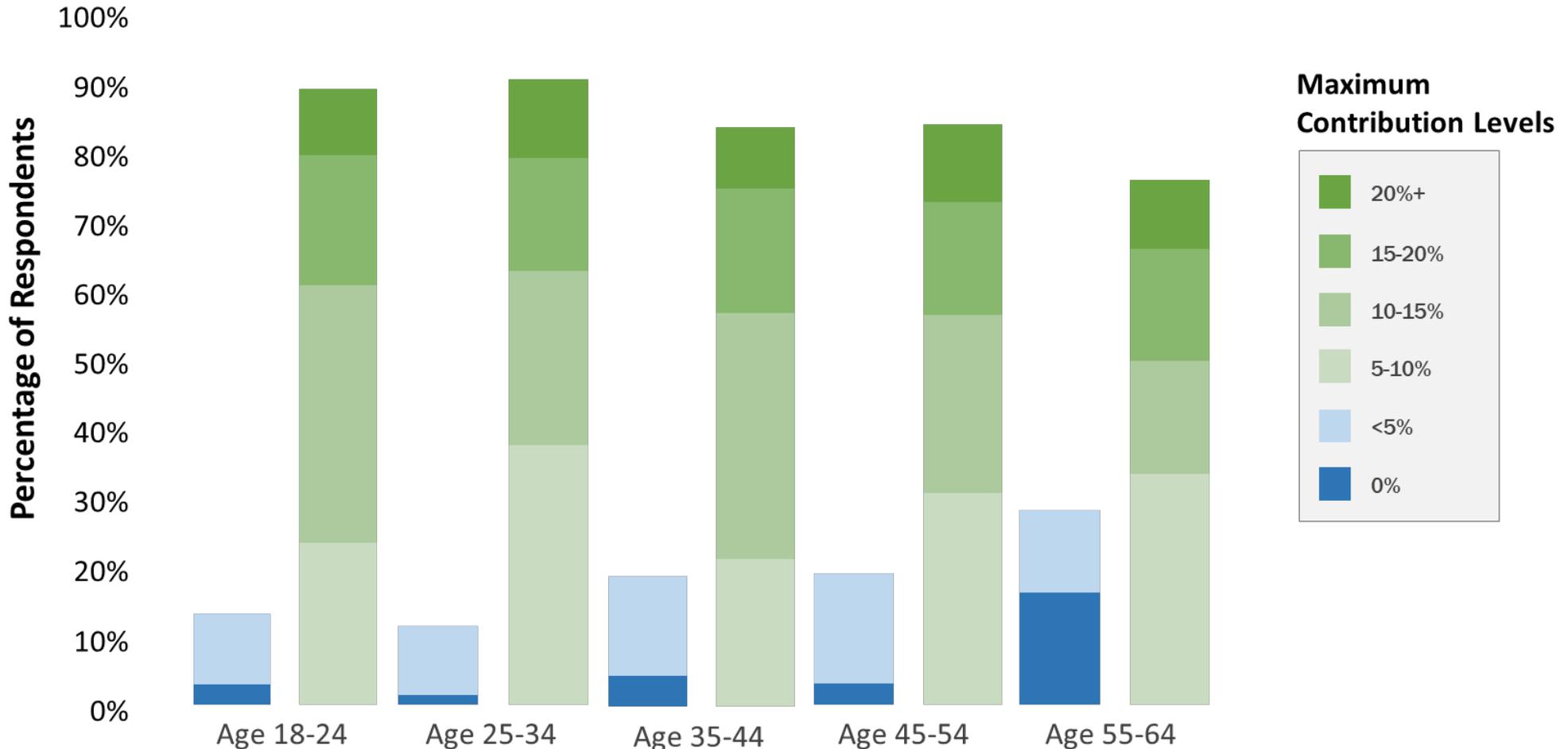
Early retirement



Photo by [rawpixel](#) on [Unsplash](#)

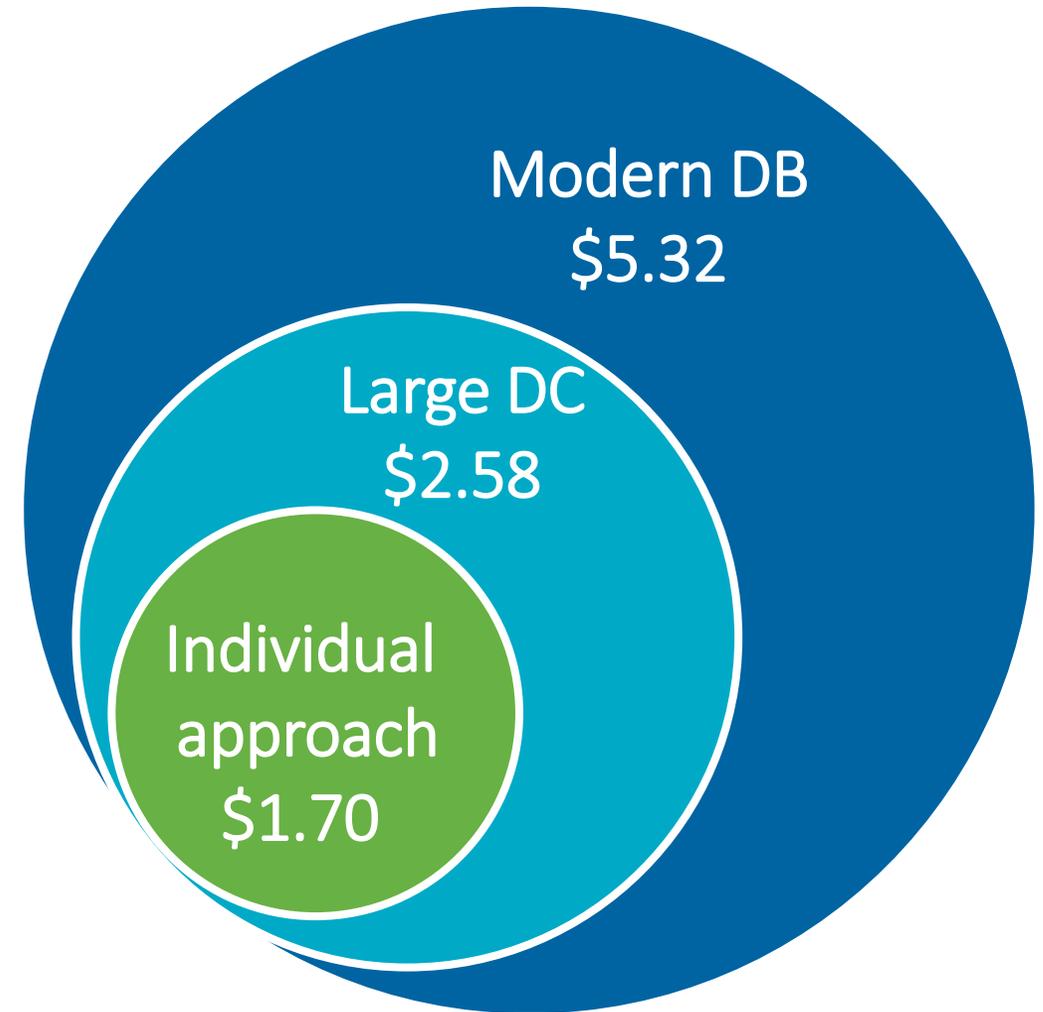
Eureka! Majority willing to pay for DB features

CPPLC survey data



More value (and easy)

The expected payout for each dollar contributed is much higher with a Modern DB plan (like CAAT and OPTrust)



Source: 2018 study *The Value of a Good Pension*, prepared by the Healthcare of Ontario Pension Plan

Summary of why innovation is needed

- Good pensions **reduce stress**, improve attraction and retention and engagement
- People want **predictable lifetime** income in retirement
- Change traditional win-loss trade-off to **win-win**
- **Efficiency per dollar - Double** standard of living for same cost at less risk
- **Simple** solutions

Best of both worlds



Key Takeaways

- More valuable plan designs are emerging to balance the needs of members and employers
- Risk sharing is becoming more common and is acceptable *if there is trust in the plan and joint governance*
- Secure core DB with conditional benefits on ancillaries are more acceptable than target benefit designs
- De-risking solutions exist today for all workplaces in Canada (past and future benefits)

From theory to practice!

A Canadian de-risking+ case study: CAAT

Derek Dobson



About the CAAT Plan

- Multiple employers
 - origins in 24 Ontario Colleges about 50,000 members
 - Now 31 additional organizations (15,000 members confirmed) across Canada and all sectors (2019)
 - Private
 - Public
 - Not-for-profit
- Joint independent governance



About the CAAT Plan

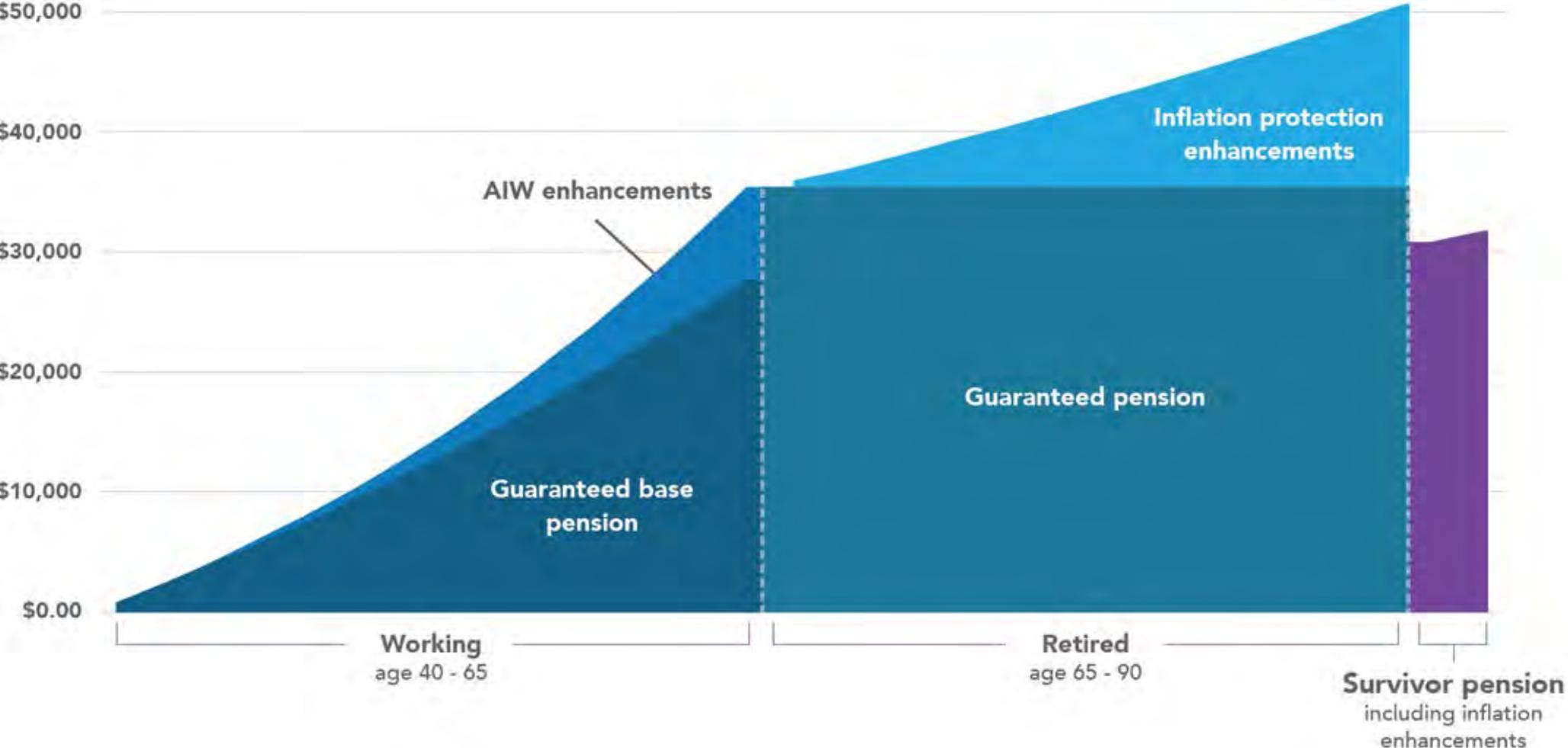
- Large and well-funded
 - \$10.8 billion net assets, with \$2.6 billion in funding reserves
 - 120% funded on going concern basis (5.5% discount rate)
- High performing (35% private markets)
 - Net 5-year = 8.7% annualized
 - Net 10-year = 9.9% annualized

As at January 1, 2019

Exceeding the tough requirements of employers

- Predictable and FIXED cost contributions
 - DBplus: employer's choice of 5% to 9% with phase-in available
- Annual accounting expense equals contribution
 - No balance sheet impact
- No overhead costs or investments for systems, tools, governance, compliance, etc.
- Works for (and is desired by) all types of employees
 - Attraction and retention for all ages, income, type of work

Fixed cost DB - how is this possible?



DBplus conditional design features

Element	Conditional based on funded position
Benefit formula	8.5% pension factor
Inflation enhancement	75% of CPI (inflation index)
Early retirement factor	3% to 5% per year from age 65
Wage enhancement	100% of AIW (wage index)
Reserves	Investment and liability shock reserves

* Conditional on funded status of the Plan

	LEVERS OF CONTROL	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6
DBprime	Stability contributions	3% or more	3%	3%	Consider 1% to 3%	Consider 0% to 1%	0% (Consider reducing basic contributions)
Common	Discount rate reserves	Fully used	Marginal	Consider up to 0.5%	Consider up to 1%	1% plus up to 7.5% increase in liabilities	Further build, up to tax limit
	Future benefits	Consider temporary reductions	Consider restoration of any temporary reductions				Consider improving benefits (e.g., ad hoc increases)
	Post-retirement conditional inflation protection (75% of CPI)	None	Applied	Applied plus consider-catch-up	Applied plus reserves	Applied plus reserves	Consider increases above 75% of CPI
DBplus	Pre-retirement benefit increase (100% of AIW)	None	None	Applied	Applied plus consider catch-up	Applied	Applied
	Lifetime annual pension factor (PF)	Consider reduction below 8.5%	8.5% plus consider catch-up	8.5%	8.5%	Consider 8.5% to 9.5%	9.5% (Consider an increase beyond 9.5%)
	Early retirement factor (ERF) (from age 65)	5% or higher	5%	5%	Consider 3%, 4% or 5% (currently 3%)	3%	3%



OPTrust Select experience

Dani Goraichy



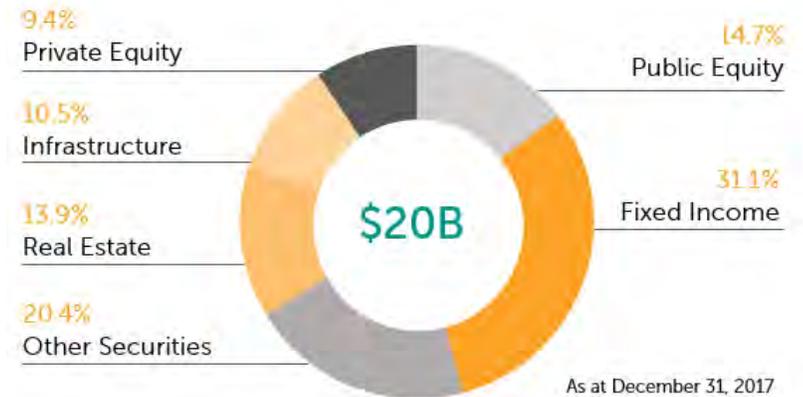
About OPTrust

Manages and administers the OPSEU Pension Plan, a jointly sponsored pension plan with over two decades of experience serving members and retirees



Fully funded defined benefit pension plan

Almost **95,000** members



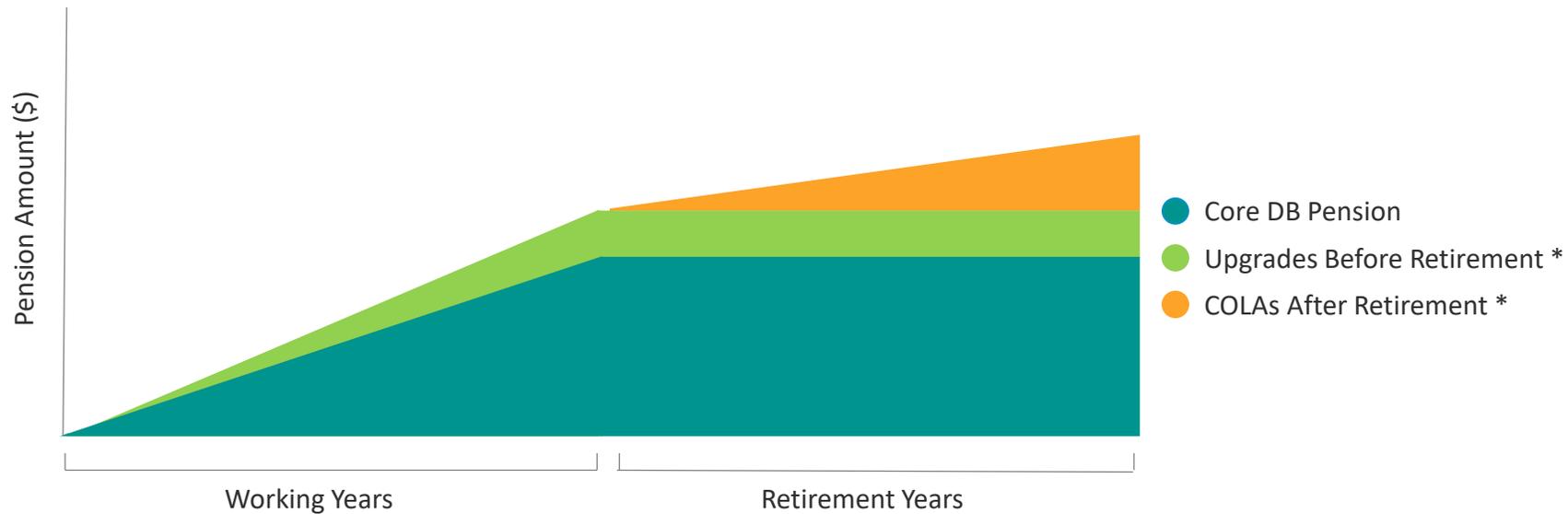
Sponsors



Introducing OPTrust Select

- Enhanced risk-sharing with active members and pensioners
- Significant reduction in employer contribution rate and pension expense volatility
- Minimal administrative burden for the employer as we manage all aspects of employee participation
- Targeted to Ontario workplaces in the broader public sector, charitable and not-for-profit groups that do not have a DB pension plan

OPTrust Select Benefit Components



* Benefit enhancements are dependent on the funded status of the Plan and annual Board approval and are intended to be equal to 100% of change in CPI

OPTrust Select

A new schedule of benefits that provides secure retirement income at a lower cost compared to our primary schedule

3%
Contribution Rate

0.6%
of career average
earnings for each
year of service

Unreduced
pension at
65

Benefit Enhancements

- Intended benefit upgrades before retirement and intended COLA after retirement equal to 100% of change in CPI
- Benefit enhancements are pre-funded
- Reserve set-up to pay benefit enhancements
- Subject to annual Board approval:

If Plan is **fully funded**



Grant intended benefit enhancements

If Plan is **not fully funded**



Level of benefits enhancements reduced to reflect funded portion of reserve

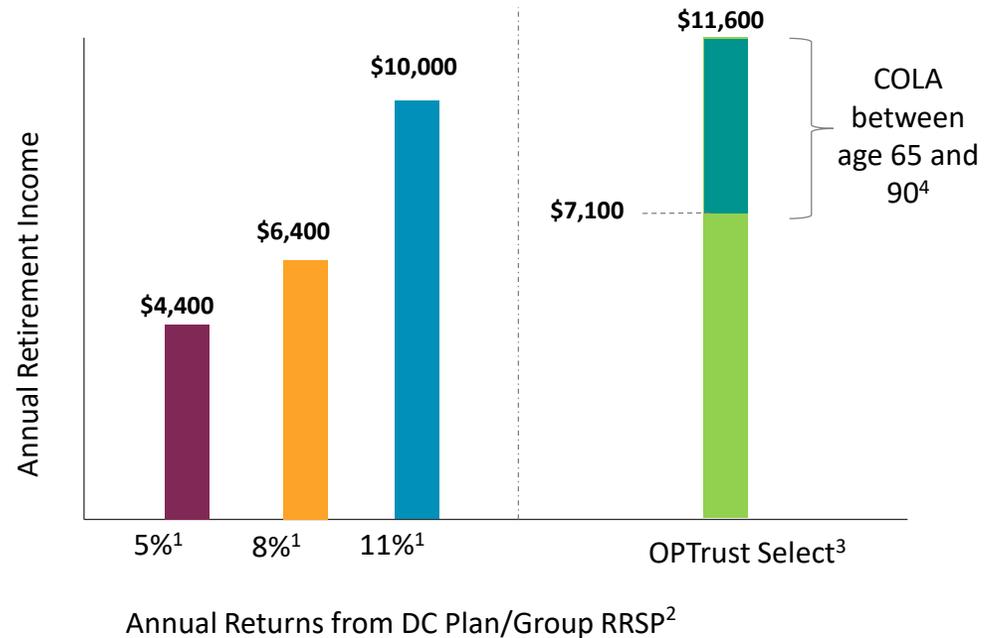
If Plan **recovers from a deficit**



Restore benefits to intended levels

OPTrust Select's Efficiency of Providing Retirement Income

- Member joins organization at age 40 and salary increases by 2.5% each year
- Member and employer each contribute 3% of salary towards retirements savings
- Member retires at age 65 with final salary of \$50,000 and starts receiving retirement income



¹ Annual returns include average management expenses of 2%

² Member's account balance used to purchase a life annuity (10-year guarantee) based on Sun Life annuity calculator results from August 6, 2019.

³ Pension reflects benefit upgrades and COLA of 2% a year

⁴ Age 90 is the average life expectancy of a 65 year old female according to Sun Life website

CAAT and OPTrust meet all of the elements from the “Finding Common Ground” Checklist



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Plan can carry the Longevity Risk



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