

**Board of Governors  
PENSION & BENEFITS COMMITTEE  
Friday 15 January 2021  
9:30 a.m. to 12:00 noon**

**This meeting will be held via Microsoft Teams  
Non-members may arrange to join the open session of the electronic meeting  
by contacting Melissa Holst, [mjholst@uwaterloo.ca](mailto:mjholst@uwaterloo.ca)**

<b>OPEN SESSION</b>		<b>ACTION</b>
9:30	1. Approval of the 15 December 2020 Minutes (Open Session)* and Business Arising	Decision
	2. Execution Against the Work Plan* [Grivicic]	Information
	3. Update on Government Pension Plan Initiatives [Shapira]	Information
9:35	4. Approval of Actuarial Valuation Assumptions* [Byron]	Decision
10:00	5. Draft Presentation – Recommended Changes re: Benefits Plans [Byron, Scott Palmer]	Discussion
	6. Other Business	
<b>CONFIDENTIAL SESSION</b>		
	7. Approval of the 15 December 2020 Minutes (Confidential)+ and Business Arising	Decision

Next Meeting: Thursday 11 February 2021, 9:30 a.m. – 12:00 noon

\*attached  
\*\* to be distributed  
+ distributed separately

11 January 2021  
*updated 12 January 2021 re: item 4*

Mike Grivicic  
Associate University Secretary

**Please convey regrets to Melissa Holst at 519-888-4567 x36125 or [mjholst@uwaterloo.ca](mailto:mjholst@uwaterloo.ca)**

Future Agenda Items

- a. Pension Contribution for Members of LTD
- b. Level of LTD coverage vs. practical requirements

**University of Waterloo**  
**Board of Governors**  
**PENSION & BENEFITS COMMITTEE**  
**Minutes of the 15 December 2020 Meeting**  
**[in agenda order]**

**Present:** Peter Barr, Terrence Birmingham, Ted Bleaney, Mike Grivicic (secretary), Dennis Huber, Ranjini Jha, Jim Rush, David Saunders, Michael Steinmann, Mary Thompson, Marilyn Thompson, Ken Vetzal

**Regrets:** Tony Giovinazzo, Michael Herz

**Consultant:** Linda Byron, Scott Palmer (5), Allan Shapira

**Resources:** Sarah Hadley, Lee Hornberger, Samantha Murray, Sue Palmer

**Organization of Meeting:** Peter Barr took the chair, and Mike Grivicic acted as secretary. The secretary advised that a quorum was present. The meeting was held via videoconference.

**1. APPROVAL OF THE 20 NOVEMBER 2020 MINUTES (OPEN SESSION) AND BUSINESS ARISING**

A motion was heard to approve the minutes as amended. Saunders and Jha. Carried. There was no business arising.

**2. EXECUTION AGAINST THE WORK PLAN**

This item was received for information. The secretary observed that the Pension Investment Committee is presently examining the SIPP for in detail.

**3. UPDATE ON GOVERNMENT PENSION PLAN INITIATIVES**

Shapira noted the joint UPP plan has listed status with transfer applications all approved, and is anticipated to launch fully in July 2021. That plan is building its operational infrastructure, and new university members could join in the next few years. Members discussed: current service cost of UPP; individual universities are responsible for the going concern deficits they bring into the plan; any new university to join would anticipate a multi-year process to do so; governance structure of UPP and investment processes are proceeding in development.

**4. MAXIMUM PENSION LIMITS AND CAPS – RPP AND PPP**

Hornberger provided an overview of the report, which was received for information.

**5. RECOMMENDATION FROM HOLISTIC BENEFITS WORKING GROUP**

Byron and Palmer provided an overview of the recommendations, including the process to date and recommended changes to the benefits plan as well as other related recommendations. Members discussed: if benefits plans are brought to market, other potential vendors would have programs similar to HCM and SMART; recommendations were developed with attention to avoiding new out-of-pocket expenses; reduction in LTD coverage was considered, and in consultations with stakeholders groups it would seem that this was unpalatable; future increases to health costs are difficult to predict/control; should add detail in the public presentation on why vision coverage is not included with the recommendation; plan is to arrange four public presentations, with web posting of video following the first event; website will provide a web form to glean feedback, in addition to questions at the live events; should aim to have one or more PB members at each session. A motion was heard to approve the recommendations in principle, with final recommendation to the Board of Governors occurring in January 2021 following the employee information sessions. Bleaney and Jha. Carried.

**6. OTHER BUSINESS**

There was no other business. The committee proceeded into confidential session.

**NEXT MEETING**

The next meeting is scheduled for Friday 15 January 2021, 9:30 a.m. – 12:00 noon.

11 January 2021

Mike Grivicic  
Associate University Secretary

## Execution against Work Plan

### Pension & Benefits Committee, Board of Governors, University of Waterloo

The below represents the annual responsibilities of the P&B Committee and has been prepared as an aid to planning only. The committee's activities are much broader, however, and include: legislative changes, plan changes and improvements; selection of managers and service providers; and requests from the UW community regarding pension and benefits plans.

Task	Frequency (Target month)	17 Jan 2020	21 Feb 2020	20 Mar 2020	15 May 2020	12 June 2020	18 Sept 2020	16 Oct 2020	20 Nov 2020	15 Dec 2020	15 Jan 2021
Approval of Actuarial Valuation Assumptions	Annual (Jan)	✓									✓
Investment Status of PPP	Annual (Feb)	✓									
Cost-of-living Increase for Pensioners	Annual (Feb)		✓								
Pensions for Deferred Members	Annual (Feb)		✓								
Salaries for Pension Purposes for Individuals on Long-term Disability	Annual (Feb)		✓								
Actuarial Valuations (RPP and PPP), with posting to website once approved	Annual (Mar)			✓							
Review of Contribution and Protocol Caps (RPP and PPP)	Annual (Mar)			✓							
Benefits Plan Premium Renewals	Annual (Mar)			✓							
Indexing of Long-term Disability Plan Benefits and Maxima	Annual (Mar)			✓							
Annual Committee Self-Assessment	Annual (Mar)			✓							
Budget Overview	Annual (May)				✓						
Previous Years' Fees and Expenses	Annual (May)				✓						
Annual Audit of the Pension Plan Fund Financial Statements	Annual (May)				✓						

D = deferred

Task	Frequency	17 Jan 2020	21 Feb 2020	20 Mar 2020	15 May 2020	12 June 2020	18 Sept 2020	16 Oct 2020	20 Nov 2020	15 Dec 2020	15 Jan 2021
Benefits Utilization Report	Annual (June)					✓					
Annual review re: benefits added/removed from insured plans in the market	Annual (June)					✓					
Review of Committee Terms of Reference	Annual (June)					✓					
Indexing of Plan Maxima – Health, Dental, Retiree Life Insurance	Annual (Nov)								✓		
Employee and Family Assistance Program – report on utilization	Annual (Nov)							✓			
Maximum pension limits and caps adjustments, based on average industrial wage increase (AIW)	Annual (Dec)									✓	
Total Fund Overview	Quarterly		✓			✓			✓		
Investment Manager Review	Semi-annually										
Approval of the Statement of Investment Policies and Procedures (SIPP)	Annual										
Annual Report to the Community	Annual		✓								
Actuarial Filing - Minimum every three years Most recent filings: 2017, 2018, 2020											



# Actuarial Assumptions

University of Waterloo Pension & Benefits Committee Meeting

January 15, 2021

Posted with Permission of Aon

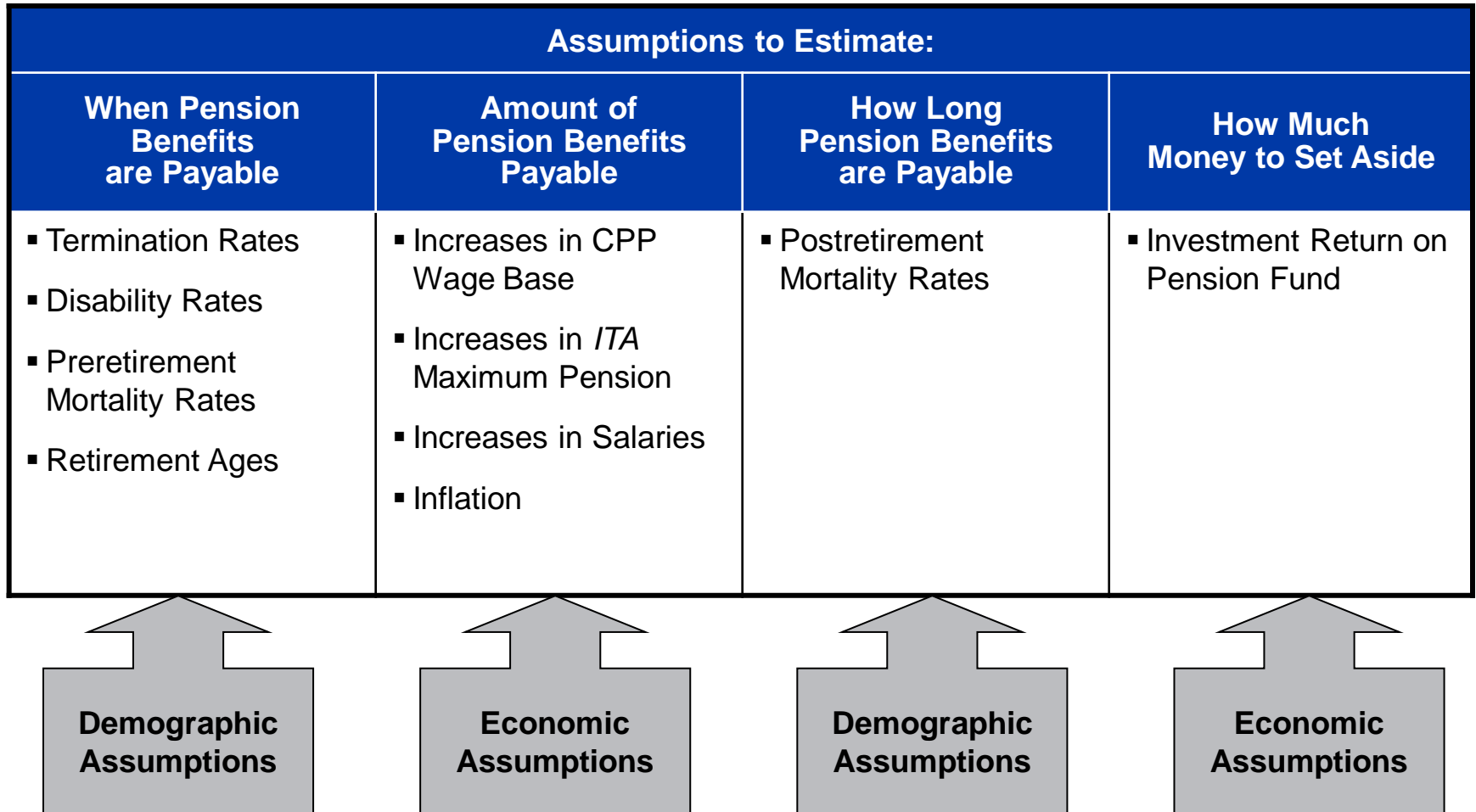
Prepared by Retirement & Investment

# About This Material

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- Review of actuarial assumptions for purposes of setting the actuarial assumptions to use for the January 1, 2021 actuarial valuation of the Registered Pension Plan (RPP) and Payroll Pension Plan (PPP)
- The January 1, 2021 actuarial valuation of the RPP is not required to be filed with the pension regulators (Financial Services Regulatory Authority and Canada Revenue Agency); it is prepared for Plan management purposes although the University may elect to file the January 1, 2021 valuation
- Under the funding rules which came into effect May 1, 2018 for Ontario-registered pension plans:
  - Going concern assumptions should be “best estimate”
  - An explicit provision for adverse deviation (PfAD) is added to the best estimate non-indexed going concern liabilities and normal cost
- These valuation results will include the impact of changes to member contributions and the RPP Cap

# Actuarial Assumptions For Going Concern Valuation



# Real Growth

## Benefits

### Pension Benefits Before Retirement

- CPP Wage Base increases
- ITA maximum pension increases
- Salary increases

### Pension Benefits After Retirement

- Indexation

**Inflation**

```
graph TD; Inflation[Inflation] --> BenefitsBefore[Pension Benefits Before Retirement]; Inflation --> BenefitsAfter[Pension Benefits After Retirement]; Inflation --> Assets[Investment Return on Various Assets Classes];
```

## Assets

**Investment Return on Various Assets Classes**

Since inflation drives both the pension benefits paid out and the funding made from investment return, it is the excess of interest rates and investment return over inflation, or “real return” and the excess of salary and government benefit increases over inflation that are the key factors.



# Actuarial Assumptions For Going Concern Valuation— Economic Assumptions – Prior Valuation

Economic Assumptions	January 1, 2020 Valuation (Last Filed Valuation)
Increase in Consumer Price Index (CPI)	2.00% per year
Increase in Year's Maximum Pensionable Earnings under Canada Pension Plan	2.75% per year (CPI + 0.75%)
Increase in Income Tax Act Maximum Pension	\$3,092.22 in 2020; increased after 2020 at 2.75% per year up to a dollar cap of \$3,400 which increases at 0.92% per year beginning in 2022
Increase in Salaries	4.00% per year (CPI + 2.00% <sup>1</sup> )
Increase in Salaries (Disabled)	2.00% per year (CPI + 0.00%)
Interest Rate Used to Discount Liabilities	5.60% per year (CPI + 3.60%)
Interest Rate Used to Calculate 50% Rule	1.20% per year for 10 years <sup>2</sup> ; 1.20% per year thereafter
Interest Rate for Crediting on Required Member Contributions	3.00% per year
Loading For Administrative Expenses	Explicit assumption for \$1,500,000 in 2020 added to current service cost increased at 4% per year
Provision for Adverse Deviation	9.00% of non-indexed liabilities and normal cost

<sup>1</sup> Reflects PTR/grid steps/merit

<sup>2</sup> 1.50% per year for 10 years: 1.60% per year thereafter for 75% indexed benefits in 2020

# Actuarial Assumptions For Going Concern Valuation— Demographic Assumptions – Prior Valuation

Demographic Assumptions	January 1, 2020 Valuation	
Mortality Rates	2014 Canadian Pensioners Public Sector Mortality Table (“CPM2014 Public”) with Improvements Under Scale MI-2017	
Retirement Rates	Age	Rates Per 100
	60	5
	61	5
	62	25
	63	10
	64	10
	65	50
	66	25
	67	25
	68	25
	69	50
	70	100

# Actuarial Assumptions For Going Concern Valuation— Demographic Assumptions – Prior Valuation

Demographic Assumptions	January 1, 2020 Valuation	
Termination Rates	Age	Rates Per 100
	20	10.0
	25	10.0
	30	5.6
	35	3.2
	40	2.2
	45	1.7
	50	1.2
	55	0.7
	60	0.2
	65	0.0

# Increase in Consumer Price Index (CPI)

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- As of December 31, 2020, underlying inflation rate implicit in the market yield of Government of Canada real return bonds (-0.28%) and nominal bonds (1.21%) is 1.49%
- Bank of Canada target range for inflation extends from 1% to 3%; monetary policy aimed at the 2% target midpoint
- Assumption for increase in CPI has been set at 2.00% per year since the January 1, 2015 actuarial valuation; other economic assumptions build off of the inflation rate

# Increase in Pensionable Earnings

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- Increase in pensionable earnings of 4.00% per year based on:
  - Assumed across-the-board increase of 2.00% per year
  - Assumed 2.00% increment representing PTR/grid steps/merit across Faculty and Staff groups

## Discount Rate

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- Based on expected investment return of UW pension fund reflecting long-term asset mix
- For purposes of calculating expected investment return, the following long-term target asset mix has been used:

Canadian Equities:	15.0%
Non-Canadian Equities:	40.0%
Nominal Fixed Income:	33.0%
Real Estate:	5.0%
Infrastructure:	5.0%
Cash:	2.0%

## Discount Rate (cont'd)

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- For the 2020 actuarial valuation, the target asset mix generated an expected return of 5.60% per annum net of passive investment expenses and before other expenses
- For the 2021 actuarial valuation, the target asset mix generates a preliminary expected return of 5.30% per annum net of passive expenses and before other expenses:
  - These results are based on Aon's September 30, 2020 capital market assumptions

# Expected Investment Returns on Various Asset Classes

Asset Class	30-Year Annualized Mean <sup>1</sup> (Nominal Return)	Annual Standard Deviation
Inflation	2.0%	1.4%
Cash (91-Day Bills)	1.5%	2.0%
Universe Bonds	2.0%	6.1%
Canadian Equities	6.8%	16.0%
Global Equities	6.7%	14.5%
Listed Infrastructure	5.7%	13.7%
Global Listed Real Estate	5.7%	17.3%

Note: Above returns determined at September 30, 2020

<sup>1</sup> Takes into effect the compounding for each underlying asset class



# Expected Investment Returns For UW Pension Fund

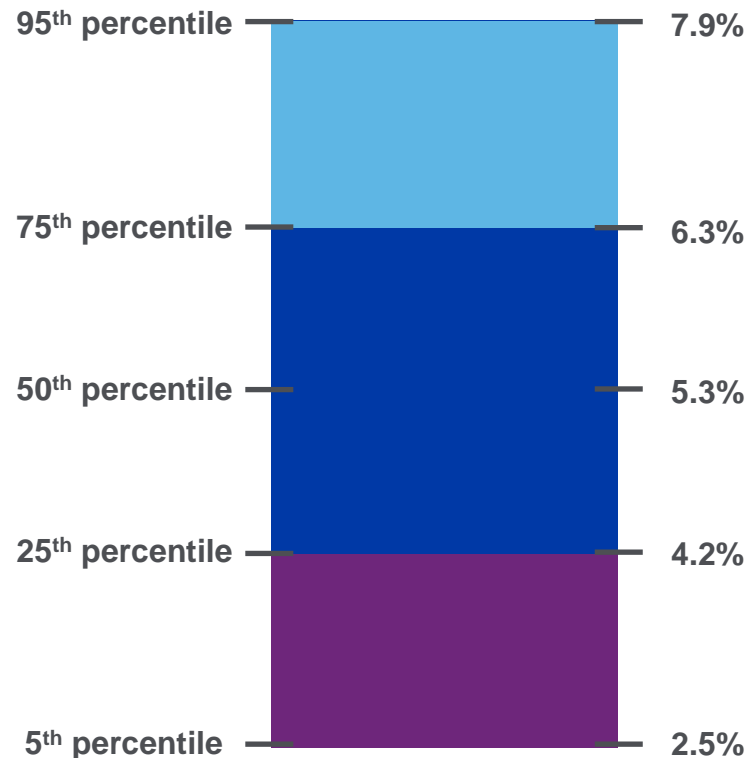
- Expected rate of return (net of passive investment fees) as of September 30, 2020 calculated based on the following target asset mix:

Asset Class	%
▪ Canadian Equities	15.0%
▪ Global Equities	40.0%
▪ Fixed Income	33.0%
▪ Cash	2.0%
▪ Infrastructure (Listed)	5.0%
▪ Real Estate	<u>5.0%</u>
	100.0%
<b>Annual Expected Return</b>	<b>5.30%</b>
<b>Annual Standard Deviation (Asset Only)</b>	<b>8.93%</b>
<b>Annual Drawdown Risk 95% (Asset Only)</b>	<b>-13.18%</b>

# Expected Investment Returns For UW Pension Fund (cont'd)

- The chart below provides the range of outcomes for 30-year rate of return based on the target asset mix of the University of Waterloo pension fund:

Annualized Rate of Return over a 30-Year Period (September 30, 2020)



# Provision for Expenses

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- An explicit provision of \$1,560,000 for administrative expenses is added to the normal cost in 2021 (increase of 4% over 2020 expense provision)
- Prior to 2018, the administrative expenses were accounted for as an adjustment to the discount rate

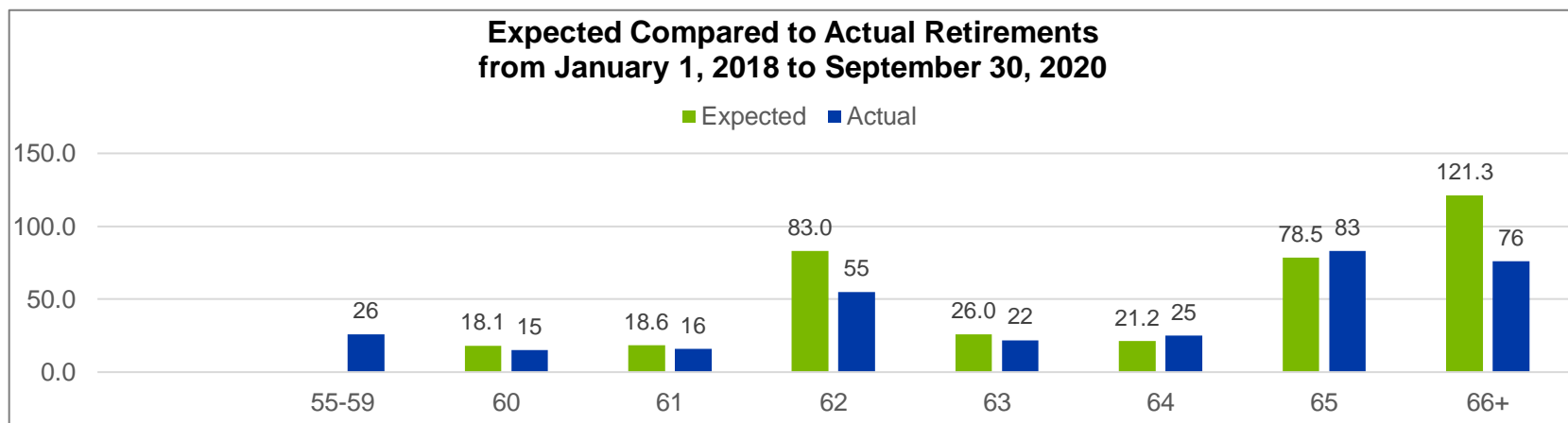
# Retirement Age Assumption

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- Effective with the January 1, 2020 valuation, the valuation uses retirement rates which are based on historical retirement experience
- Prior to the January 1, 2020 valuation, a single point retirement age of 64 but no earlier than one year following the valuation date was used

# Retirement Age Experience

- The following chart compares the actual retirements in the period January 1, 2018 to September 30, 2020 to the retirements that would have been expected during the period based on the assumed retirement rates adopted at the January 1, 2020 valuation:



Ages	Expected	Actual
55-59	0.0	26
60	18.1	15
61	18.6	16
62	83.0	55
63	26.0	22
64	21.2	25
65	78.5	83
66+	121.3	76

# Mortality Rates

- Since January 1, 2020 the mortality table being used is 2014 Canadian Pensioners' Public Sector Mortality Table with Improvements Under Scale MI-2017
- Following table shows actual versus expected deaths for members of the RPP for 2013 through 2020:

	2013	2014	2015	2016	2017	2018	2019	2020*	Total
Actual Deaths	53	57	51	57	53	62	61	57	451.0
Expected Deaths (2014 CPM Public Table with Improvements Under Scale MI-2017)	52.9	54.3	55.8	58.6	61.6	63.7	66.4	51.2	464.5

- Actual deaths over 8-year period (2013–2020) is 97% of expected deaths
- Mortality losses may result if demographic profile of pensioner deaths is different from expected

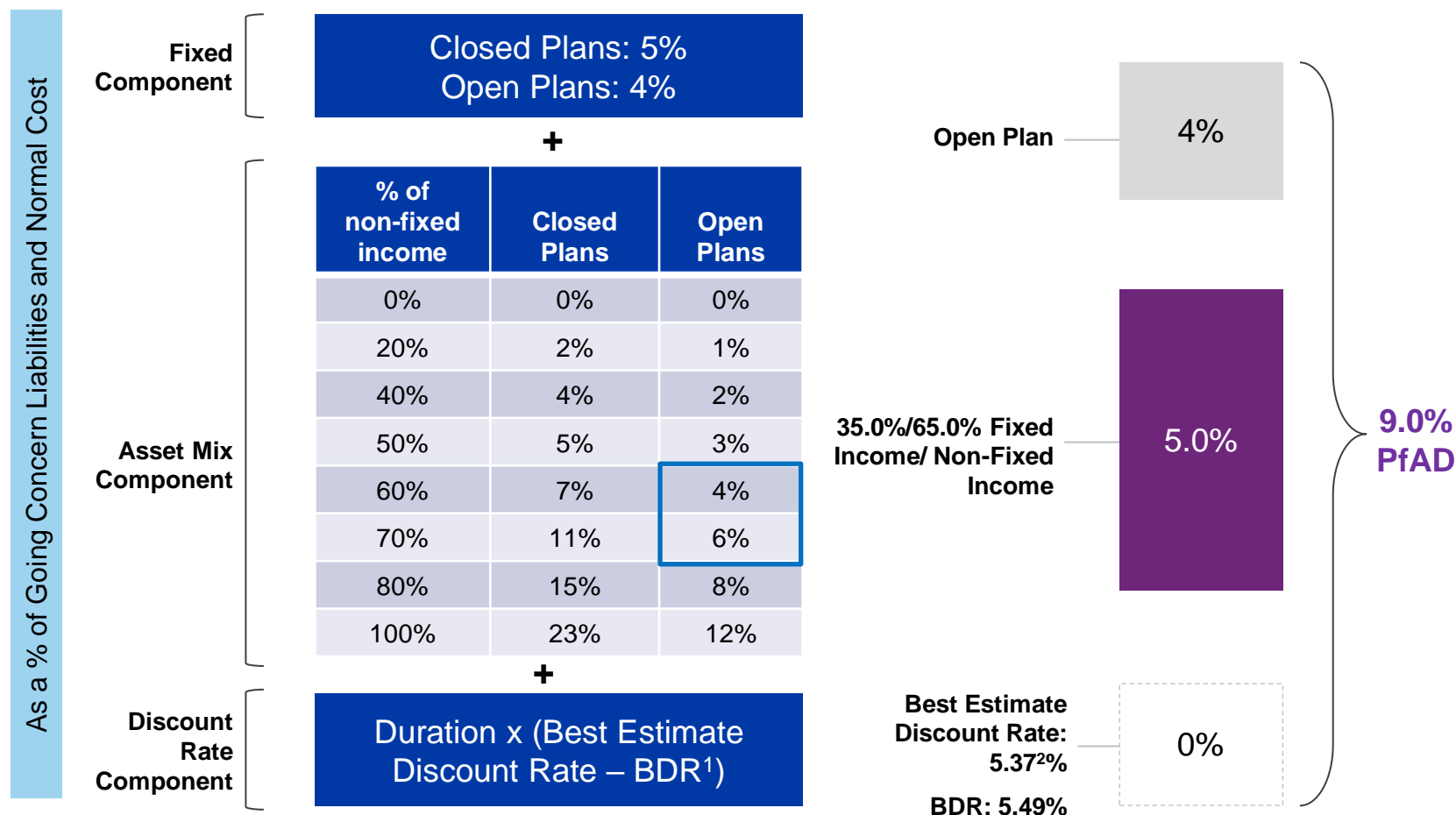
\* as of September 30, 2020

# Provision for Adverse Deviation (PfAD)

	Target Asset Mix
Canadian Equities	15%
Global Equities	40%
Fixed Income / Cash	35%
Real Estate (REITs)	5%
Infrastructure (Listed)	5%

- Fixed Income Allocation for PfAD and BDR = 35%
- PfAD = Base component of 4% (open plan) plus asset-based component, plus a component related to the Benchmark Discount Rate (BDR)

# Provision for Adverse Deviation (PfAD) (cont'd)



<sup>1</sup> Benchmark Discount Rate = V39056 Rate (1.21% at December 31, 2020) + 5% x % of Non-Fixed Income + 1.5% x % of Fixed Income + 0.5% for diversification

<sup>2</sup> Going concern discount rate before adjustment for passive investment fees



# Preliminary Actuarial Assumptions For January 1, 2021 Going Concern Valuation—Economic Assumptions

Economic Assumptions	January 1, 2021 Valuation
Increase in Consumer Price Index (CPI)	2.00% per year
Increase in Year's Maximum Pensionable Earnings under Canada Pension Plan	2.75% per year (CPI + 0.75%)
Increase in Income Tax Act Maximum Pension	\$3,245.56 in 2021; increased after 2021 at 2.75% per year up to a dollar cap of \$3,400 which increases at 0.92% per year beginning in 2022
Increase in Salaries	4.00% per year (CPI + 2.00% <sup>1</sup> )
Increase in Salaries (Disabled)	2.00% per year (CPI + 0.00%)
Interest Rate Used to Discount Liabilities	5.30% per year (CPI + 3.30%)
Interest Rate Used to Calculate 50% Rule	0.60% per year for 10 years <sup>2</sup> ; 0.80% per year thereafter
Interest Rate for Crediting on Required Member Contributions	2.50% per year
Loading For Administrative Expenses	Explicit assumption for \$1,560,000 in 2021 added to current service cost
Provision for Adverse Deviation	9.00% of non-indexed liabilities and normal cost

<sup>1</sup> Reflects PTR/grid steps/merit

<sup>2</sup> 0.80% per year for 10 years: 1.30% per year thereafter for 75% indexed benefits

# Preliminary Actuarial Assumptions For Going Concern Valuation— Demographic Assumptions – January 1, 2021

Demographic Assumptions	January 1, 2021 Valuation	
Mortality Rates	2014 Canadian Pensioners Public Sector Mortality Table (“CPM2014 Public”) with Improvements Under Scale MI-2017	
Retirement Rates	Age	Rates Per 100
	60	5
	61	5
	62	25
	63	10
	64	10
	65	50
	66	25
	67	25
	68	25
	69	50
	70	100

# Preliminary Actuarial Assumptions For Going Concern Valuation— Demographic Assumptions – January 1, 2021

Demographic Assumptions	January 1, 2021 Valuation	
Termination Rates	Age	Rates Per 100
	20	10.0
	25	10.0
	30	5.6
	35	3.2
	40	2.2
	45	1.7
	50	1.2
	55	0.7
	60	0.2
	65	0.0

# Actuarial Assumptions For Solvency and Wind-Up Valuations

Assumptions	January 1, 2020 (Last Filed Valuation)	January 1, 2021
Retirement Ages	Age between 55 and 65 that produces highest value	No change
Mortality Rates	CPM2014 Combined with Improvements Under Scale CPM-B	No change
Interest Rates— Solvency Valuation (Per Year)		
Active Members Age 55 and Over, Pensioners and Deferred Pensioners <sup>1</sup>	2.96% <sup>3</sup>	2.60% <sup>3</sup>
Active Members Under Age 55 <sup>2</sup>	2.50% for 10 years; 2.60% thereafter	1.20% for 10 years; 2.80% thereafter
Interest Rates— Wind-Up Valuation (Per Year)		
Active Members Age 55 and Over, Pensioners and Deferred Pensioners <sup>1</sup>	-0.29% (100% indexed) <sup>3</sup> 0.52% (75% indexed) <sup>3</sup>	-0.78% (100% indexed) <sup>3</sup> 0.07% (75% indexed) <sup>3</sup>
Active Members Under Age 55 <sup>2</sup>	1.20% for 10 years; 1.20% thereafter (100% indexed) 1.50% for 10 years; 1.60% thereafter (75% indexed)	0.60% for 10 years; 0.80% thereafter (100% indexed) 0.80% for 10 years; 1.30% thereafter (75% indexed)

<sup>1</sup> Settled through annuity purchase

<sup>2</sup> Settled through commuted value

<sup>3</sup> Depends on release of final guidance from Canadian Institute of Actuaries for January 1, 2021 actuarial valuations

# Legal Disclaimer

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