

November 21, 2023

**Longevity**<sup>®</sup>  
by Purpose

# Purpose Investments Inc.

Longevity Pension Fund  
Annual Report

Actuarial Review of the Longevity Pension Fund conducted by:





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**The Annual Report contains two primary sections. The first section of the report was prepared by Purpose Investments, providing a brief introduction to the Longevity Pension Fund and a recap of the Fund from October 1, 2022, to September 30, 2023. TELUS Health prepared the second section of the report and offers a detailed Actuarial Review of the Longevity Pension Fund for the same period.**

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**Canadians deserve a peaceful retirement:**

It shouldn't be a time of stress and anxiety.

**Life is unpredictable.**

Retirees should **enjoy the 3rd chapter in their life** as much as they can.

Retirees' financial strategy **shouldn't rely on hope.**

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# Executive Message

**We are pleased to present the Longevity Pension Fund's ("the Fund") 2023 Annual Report, highlighting another year of steadfast commitment to our core mission – securing financial wellbeing for retired investors and ensuring longevity security in an ever-evolving financial landscape.**



**Fraser Stark**  
President and Head of  
Longevity



**Simon Barcelon**  
VP Products & Services

## Financial Performance

The Fund continued to deliver consistent and reliable income to our investors/unitholders. With a conservative investment strategy focused on pension-style investing, the Fund generated a 12-month net return of 4.5%, safeguarding our members' retirement security.

## Risk Management

In an environment with elevated economic uncertainty, our robust risk management approach helped provide stability within the Fund. The monthly Risk Oversight meetings, external guidance from our Advisory Committee and support from a 3rd party actuarial firm helped us navigate a turbulent market and achieve our objective of providing a sustainable stream of retirement income. **We are pleased to announce that we are holding distribution levels steady for all cohorts in 2024.**

## Retirement Education

Another highlight of the past year was the success of our ongoing retirement education efforts. We hosted a series of webinars and in-person events designed to educate retirees and investment professionals on retirement planning concepts and the art of decumulation. These events were exceptionally well attended (over 500+ attendees across these events) and received positive feedback for their insightful content and practical guidance.

## Looking Ahead

The team at Purpose Investments remains committed to its core mission. The 2023 Annual Report provides a detailed review of the past year. We invite you to explore the full report to gain a comprehensive understanding of the Fund's performance and strategies. We thank you for your continued confidence in our organization.

# Longevity Pension Fund Overview

## Longevity Pension Fund

The Longevity Pension Fund is the world's first mutual fund that offers income for life by incorporating longevity risk pooling, a concept similar to that utilized by pensions and annuities to provide lifetime income. Its unique design has three key features that stand out:

- **Monthly Income for Life:** investors receive a monthly paycheque for as long as they live<sup>1</sup>
- **Distribution Increases:** The lifetime income payments, though variable each year, have been structurally designed to generally increase in the long run, and are expected to do so in most situations
- **Flexibility:** Investors can adapt to unexpected changes to their situation by accessing their unpaid capital<sup>2</sup>

The Longevity Pension Fund was created to provide Canadians with a stable financial foundation so that they can confidently live their post-work life.

## The Canadian Association of Retired Persons (CARP)

CARP continues to formally recommend the Longevity Pension Fund as an effective retirement solution for its members to consider. CARP is Canada's largest advocacy association for older Canadians, promoting equitable access to health care, financial security, and freedom from ageism. Backed by more than 330,000 members and 25 chapters across Canada, CARP is a non-partisan association that has been around for over 40 years, committed to working with all parties in government to advocate for older Canadians.



## The Advisory Committee

The Longevity Pension Fund Advisory Committee consists of a group of world-renowned experts in the retirement space, representing academia, pension plan design, actuarial science, financial planning, and pension investing & operations. This group meets on a quarterly basis to provide feedback on critical fund decisions and explores ways to expand our fund offering to help Canadians retire more confidently. The current members of the Advisory Committee are as follows:

### Keith Ambachtsheer

Director Emeritus, International Centre for Pension Management



### Jim Leech

Former President & CEO of Ontario Teachers' Pension Plan and Chancellor of Queen's University



### Bonnie-Jeanne MacDonald

Director of Financial Security Research at Toronto Metropolitan University's National Institute on Ageing



### Fred Vettese

Former Chief Actuary of Morneau Shepell and personal finance author



<sup>1</sup> The level of income in the form of Fund distributions is not guaranteed as the distribution levels may increase or decrease from time to time.

<sup>2</sup> The Fund has a unique mutual fund structure. Most mutual funds redeem at their associated Net Asset Value (NAV). In contrast, redemptions in the decumulation class of the Fund (whether voluntary or at death) will occur at the lesser of NAV or the initial investment amount less any distributions received.

# Market Performance

## Macro Commentary

The investment landscape of 2022 was rather challenging, marked by an 18.1% drop in the S&P 500 and negative returns across various asset classes. This was due primarily to the economic uncertainty stemming from rapidly rising global inflation with significant geopolitical instability. Central banks worldwide responded to inflation with aggressive rate hikes, attempting to tighten monetary conditions and slowdown a runaway economy. Previously, valuations had surged during a period of ultra-low interest rates, leading to a painful correction when bond yields spiked in response to tightened financial conditions. The traditional 60/40 portfolio had a significantly challenging year in 2022, as asset class correlations converged under stress.

Elevated inflation persisted through the first half of 2023. Money market funds provided higher yields, and therefore cash equivalents became a very attractive asset class, especially as marked volatility picked up from multi-year lows. The new year started with a bounce in oversold technology stocks, but March brought stress back into the economy due to the impact of tightening monetary policies. Regional banks faced crises, leading to concerns about broader economic impact. Temporary relief came in the form of quantitative easing, but monetary policy continued to tighten, weighing

## Fund Managers



**Greg Taylor, CFA**

CHIEF INVESTMENT OFFICER

on risk assets. As inflation remained elevated, safe-haven assets like the US Dollar and gold strengthened.

Through the summer months, the US economy remained hot, raising concerns about where terminal fed rates may end up. Global equities posted negative returns as bond yields increased and the narrative of 'higher for longer' echoed through the markets. Volatility surged, and cash became an even more attractive investment. Economies have been resilient despite aggressive monetary tightening, but the risk of credit defaults increasing is evident in rising delinquencies in credit cards and auto loans. Economic data still appears resilient, but the full impact of rate hikes is yet to be seen. Alternatives and dividend-paying international equities provided some relief to investors, while commodities outperformed on tightening demand conditions.

The investment landscape remains uncertain with risks associated to central banks' aggressive tightening



**Nawan Butt, CFA**

HEAD OF CAPITAL MARKETS  
& PORTFOLIO MANAGER

cycles. A 'hard landing' scenario is still a concern despite sound positioning in much of the economy. Investors are closely monitoring central bank actions, economic data, and the path forward.

## Fund Commentary

Due to its defensive positioning and emphasis on downside protection, the Longevity Pension Fund performed relatively well in 2022 by maintaining tactical cash balances and employing market hedges to navigate volatility. Within equities, positioning in dividend and defensive securities provided a downside cushion relative to equity market indices, which heavily favoured growth stocks. In Fixed Income, short duration positioning was key in protecting value relative to benchmarks. A combination of alternatives, including real assets and option writing strategies, were accretive in this period as traditional investments buckled under macroeconomic pressures.

The Fund continued its defensive positioning in 2023 with an emphasis on tactical cash balances as risk free rates increased, which allowed the Fund to reduce its allocation to riskier assets throughout the year to improve the overall reward/risk equation. This is evident within the Fund's fixed income allocations with a significant shift from high yield to investment grade bonds. Additionally, the Fund was able to slowly increase duration through the year as markets approached terminal rates, tightening the basis to benchmark.

The rise of the 'Magnificent Seven' has contributed to the lion's share

of equity returns for benchmark indices whereas the rest of the equity markets have been largely flat this year. These securities do not align with the Fund's conservative investment strategy as they do not offer the defensive reward/risk characteristics that the Fund seeks. The Fund has achieved accretive returns through its geographic diversification with equity investments in Europe and Japan.

Lastly, alternatives have been accretive to the Fund's performance, with their uncorrelated positive carry. Real assets including commodities have performed well throughout the year and derivatives-based strategies

have provided outsized carry returns in a highly volatile environment.

Going forward, the Fund continues to remain defensively positioned, however with significantly more duration and less credit exposure. High risk-free rates have allowed the Fund to achieve objectives without extending for yield and providing a more balanced return/risk exposure. We anticipate this to remain the case until the economy needs rate cuts, at which point exposure to equities will likely become much more attractive and the Fund will take more of an active-market-participation stance.

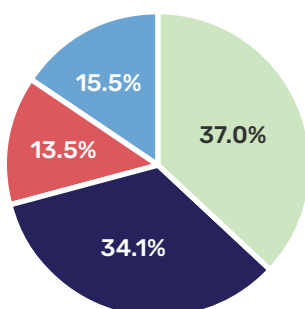
The following charts and tables summarize key metrics of the Fund's performance as of September 30, 2023, where its focus on minimizing drawdowns and volatility within the portfolio is illustrated within the Fund's outcomes and results.

## Fund Performance\*

1M	3M	YTD	1-YEAR	SINCE INCEPTION	VOLATILITY
-1.6%	-1.1%	1.5%	4.5%	-1.2%	5.8%

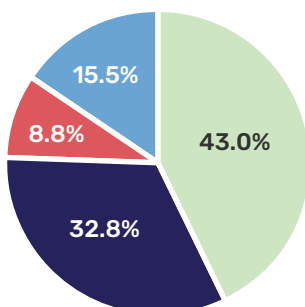
### Asset Class Breakdown

- Equities
- Fixed Income
- Alternatives
- Cash & Cash Equivalents



### Geographic Breakdown

- Canada
- International & Emerging
- United States
- Cash & Cash Equivalents



### SECTOR BREAKDOWN

### WEIGHT

Financials	33.67%
Energy	9.62%
Commodities	8.51%
Real Estate	6.60%
Materials	6.10%
Utilities	4.66%
Consumer Discretionary	4.64%
Consumer Staples	4.37%
Communication Services	4.28%
Health Care	3.80%
US Large Cap	3.71%
Information Technology	3.17%
Pooled Or Mutual Funds	3.15%
Industrials	3.13%
Other	0.59%

\* Performance reflects the Series F Accumulation Class as of September 30, 2023. The indicated rate of return is the historical annual compounded total return including changes in share/unit value and reinvestment of all distributions and does not take into account sales, redemption, distribution or optional charges or income taxes payable by any securityholder that would have reduced returns.



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**The Income Policy  
guides the Fund's  
long-term focus  
on achieving  
income for life.**



# The Income Policy

The Fund's Income Policy (Income Policy) provides transparency on how the distribution levels are managed to ensure the Fund will pay income for life. The three main principles of the Income Policy are as follows:

- The primary objective is to provide income for life to its unitholders;
- Maintaining stable distribution levels that do not shift more than once a year; and
- Maintaining a high probability that distribution levels will rise over time.

The Income Policy also clearly outlines a modeled analysis of how distribution levels are expected to evolve over time.

Purpose Investments takes the following steps to manage the distribution levels for the Fund:

- 1.** Similar to how a pension plan manages its funding levels, a funding-level approach is taken to compare the Fund's assets with the present value of expected future liabilities.
- 2.** The long-term funding-level target is 100%; however, this may be higher in the earlier years of a cohort to provide additional stability in distribution levels.

- 3.** The distribution levels are adjusted annually to bring the funding level to its target, which ensures the cohorts are adequately funded to provide income for life.

If the funding level lands below the target and is in an underfunded position, the distribution levels would be adjusted downwards to bring the Fund back to a 100% funded status. And vice versa, if the funding level lands above the target, the distribution levels would be adjusted upwards to bring the Fund back to its target.

By taking a holistic view of both the assets and liabilities, the Fund optimizes the level of income paid to unitholders while balancing against the risk of depleting assets. Adjusting the distributions according to funding levels provides a practical and sustainable approach that does not rely solely on initial actuarial assumptions within a model.

For more information on the Fund's Income Policy, please visit [www.RetireWithLongevity.com/fund/income-policy-distributions](http://www.RetireWithLongevity.com/fund/income-policy-distributions) or email us at [contact@retirewithlongevity.com](mailto:contact@retirewithlongevity.com).



**Robust governance  
results in long-term  
success**

# Fund Governance and Oversight

The Longevity Pension Fund is monitored through several layers, all taking place at various frequencies to help ensure the Fund is appropriately managed. This includes reviews by 3rd party independent groups. This Annual Report is

one component of the overall governance and oversight structure to provide stakeholders with transparency on how the Fund is being managed. The table below illustrates the pillars of oversight:

	LAYER	WHEN	WHO	WHAT
1	Performance and Trades	Daily	Portfolio Mgmt. & Operations	Monitor the asset allocation to the Fund's Statement of Investment Policies and Procedures, performance, trades, mortality and flows of funds
2	Risk Oversight Team	Monthly	Cross functional leaders at Purpose Investments	Manage the risk oversight e.g. review the Fund metrics and identify potential changes to distributions
3	Advisory Committee	Quarterly	External industry experts (current members of the committee are listed above)	Provides oversight through reviews of the overall Fund status and communication with stakeholders
4	Annual Report (this Report)	Annually	Purpose Investments and 3 <sup>rd</sup> party actuarial and retirement consultants	Published report that provides a summary of the Fund's performance, including insights into the funding levels, and the approach used to adjust distribution levels



# Funding Levels and Impact to Distribution Levels for 2024

With the Fund achieving a 1-year return of 4.5%, all the Decumulation cohorts funding level positions are between 102.77% to 112.52%. The following table<sup>3</sup> outlines the

ending funding levels for each Decumulation cohort as of September 30, 2023:

## Fund Details

AS AT JUN 30, 2023

DECUMULATION COHORT	1	2	3	4	5
NAV	\$85.85	\$83.11	\$83.54	\$83.06	\$80.83
<b>Ending Funding Levels</b>	<b>112.5%</b>	<b>110.1%</b>	<b>107.5%</b>	<b>105.9%</b>	<b>102.8%</b>
Current Distribution Level per unit (annual)	\$6.15	\$6.15	\$6.50	\$6.90	\$7.40
Current Yield	7.16%	7.40%	7.78%	8.31%	9.16%
Suggested Distribution Level following the Income Policy	\$6.15	\$6.15	\$6.50	\$6.90	\$7.40
Current Yield	7.16%	7.40%	7.78%	8.31%	9.16%
<b>Suggested change</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>

The calculation for determining 2024's Distribution Level is completed for each cohort group separately, since each pays a unique distribution level and has its own mortality experience. The initial Distribution Levels were intentionally set at a rate that provided a funding level of 115% to 120%. This was done to provide additional income stability in the event of early negative returns in the Fund. A portion of the surplus was consumed in 2022 due to the challenging market environment that year, especially for Cohort 1.

With the Fund returning 4.5% in 2023, the cohorts were able to maintain funding level positions between 102.77% and 112.52%. The surplus continues to serve its purpose of providing stability in distribution levels, which is very important for retirees who are relying on this income to meet their retirement goals.

Please see the **Actuarial Review by TELUS Health: Income Policy and Funding Levels** section for their full analysis on the topic.

<sup>1</sup> This table sets out the current distribution level as at the date of the report. Distribution levels are not guaranteed and the amount of distributions may increase or decrease.

# Communication Plan and Publication of this Annual Report

It remains our commitment to keep unitholders informed about their investment in the Longevity Pension Fund. We are committed to providing unitholders with at least 60 days' notice of any changes in the distribution levels. Given that all Decumulation Cohorts are holding distribution levels steady for 2024, there is no requirement to notify unitholders at this time. Investors can expect to receive the same level of distributions from the Longevity Pension Fund as they received in 2023.

As stated in the Income Policy, the distribution levels will be formally evaluated and potentially adjusted on an annual basis. In the event of any future annual changes in distribution levels, notification will include a Press Release,

and where possible, end investors will be informed directly or indirectly through their advisor, dealer, plan sponsors or plan record-keepers. The analysis behind the decision to adjust the annual distribution levels will be included in the Annual Report.

The publication of this report will take place around the 3rd to 4th week of November each year, using September 30 as the valuation point to determine the funding levels and any changes to distribution levels for the following year. Purpose Investments reserves the right to adjust distribution levels more frequently in the event there are material changes in the Fund (i.e., a large market correction) to ensure that it can continue to meet the Fund's objectives.

# Disclaimers

The Longevity Pension Fund is managed by Purpose Investments Inc. This document is not investment advice, nor is it tailored to the needs or circumstances of any investor. Talk to your investment advisor to determine if the Longevity Pension Fund is suitable for you and always read the prospectus before investing. Commissions, trailing commissions, management fees and expenses all may be associated with investment fund investments. The prospectus contains important detailed information about the investment fund. Please read the prospectus before investing. There is no assurance that any fund will achieve its investment objective, and its net asset value, yield, and investment return will fluctuate from time to time with market conditions. Investment funds are not guaranteed, their values change frequently, and past performance may not be repeated.

Income in the form of Fund distributions is not guaranteed, and the frequency and amount of distributions may increase or decrease. The Fund has a unique mutual fund structure. Most mutual funds redeem at their associated Net Asset Value (NAV). In contrast, redemptions in the decumulation class of the Fund (whether voluntary or at death) will occur at the lesser of NAV or the initial investment amount less any distributions received.

Information contained in this document is believed to be accurate and reliable, however, we cannot guarantee that it is complete or current at all times. The information provided is subject to change without notice.

Forward-looking statements are not guaranteed. Certain statements on this site may be forward-looking. Forward-looking statements ("FLS") are statements that are

predictive in nature, depend on or refer to future events or conditions, or that include words such as "may," "will," "should," "could," "expect," "anticipate," "intend," "plan," "believe," "estimate" or other similar expressions. Statements that look forward in time or include anything other than historical information are subject to risks and uncertainties, and actual results, actions or events could differ materially from those set forth in the FLS. FLS are not guarantees of future performance and are by their nature based on numerous assumptions. Although the FLS contained in this document are based upon what Purpose believes to be reasonable assumptions, Purpose cannot assure that actual results will be consistent with these FLS. The reader is cautioned to consider the FLS carefully and not to place undue reliance on the FLS. Unless required by applicable law, it is not undertaken, and specifically disclaimed, that there is any intention or obligation to update or revise FLS, whether as a result of new information, future events or otherwise.

The Fund is regulated by the Ontario Securities Commission (OSC), which is an active member of the Canadian Securities Administrators (CSA). The Fund is not regulated or overseen by the Financial Services Regulatory Authority of Ontario (FSRA) or other member organizations of Canadian Association of Pension Supervisory Authorities (CAPSA). As such, any actuarial consulting relating to the Fund is conducted by 3rd party actuaries qualified by the Canadian Institute of Actuaries (CIA), but is not conducted under FSRA supervision.

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**This concludes the section prepared by Purpose Investments.**  
**The following section was developed and prepared by TELUS Health.**

# Purpose Investments Inc.

Longevity Pension Fund Annual Report  
**Actuarial Review by TELUS Health**





# Executive Summary by TELUS Health

Purpose Investments Inc. (“Purpose Investments”) has engaged TELUS Health to undertake an independent review (the “Review”) of the Longevity Pension Fund (the “Fund”) through the lens of providing income for life to unitholders. This Review leverages TELUS Health’s experience in advising and assessing Canadian pension plans. The objective of the Review is to provide insights into the drivers of any changes in funding levels and distribution rates as a result of the Fund’s performance. The Review also considers whether Purpose Investments has followed the process and method set out in the Fund’s Income Policy.

The Fund’s funding level as at September 30, 2023 has increased slightly compared to the previous review as at September 30, 2022. While, the Fund’s investment returns were positive, these were slightly lower than the long-term return investment return assumption which results in a reduction in funding levels. In addition, a change was made to the membership profile assumption to more closely reflect the Fund’s experience to date which slightly reduces

funding levels. These changes were offset by an increase in expected future investment returns. Changes in the expected future investment returns were caused by:

- changes in the macro-economic environment; and
- updates to the proxies used to more closely match the strategic asset allocation within the Fund’s Statement of Investment Policy and Procedures.

The expected long-term evolution of distribution levels remains robust and broadly consistent with the previous review in the *Longevity Pension Fund Annual Report* dated November 25, 2022.

TELUS Health has reviewed the Fund’s Income Policy and can confirm that Purpose Investments has followed the process and methods set out in the Income Policy for setting distribution levels for 2024, which leads to holding distribution levels steady in 2024.

# Actuarial Opinion

This opinion is given with respect to the Longevity Pension Fund (the “Fund”). The purpose of the Review is to provide the Fund’s unitholders with insights into the drivers of any changes in funding levels and distribution rates as result of the Fund’s performance. The Review also considers whether Purpose Investments has followed the process and method set out in the Fund’s Income Policy. Use of the Review for other purposes may not be suitable.

Purpose Investments have confirmed that, between September 30, 2023 and November 21, 2023, no subsequent events, modifications or extraordinary changes have occurred that would materially affect the results of this Review, except as indicated in this report.

The economic assumptions used in this Review have been updated as at September 30, 2023 to allow for changes in economic market conditions and are summarized in Appendix A: Model Assumptions. The assumed starting cohort size and number of new unit holders in each year has also been updated to more closely reflect the Fund’s experience to date. All other assumptions and the methodology used have remained unchanged from those used in the Longevity Pension Fund Income Policy Review Report dated February 4, 2022. Please refer to that report and the Longevity Pension Fund Actuarial Review Report dated May 14, 2021, for all other detailed analysis of the assumptions and the process followed.

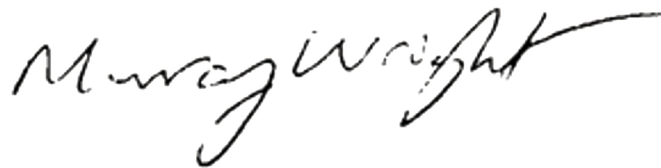
The models and any associated limitations of those models are described in the Longevity Pension Fund Actuarial Review Report dated May 14, 2021. In particular, Purpose Investments provided TELUS Health with the key outputs from modelling the 2,000 investment scenarios, including funding ratio, net asset value per member and distribution amount per member.

In our opinion, for the purposes of this Review:

- The assumptions are appropriate for the purposes of the Review.
- The methods employed are appropriate for the purposes of the Review.
- The information and results provided by Purpose are reasonable and sufficient for the purposes of the Review.
- The expected long-term evolution of distribution levels remains robust and broadly consistent with the previous review in the Longevity Pension Fund Annual Report dated November 25, 2022.
- TELUS Health has reviewed the Fund’s Income Policy and can confirm that Purpose Investments has followed the process and methods set out in the Income Policy for setting distribution levels for 2024, which leads to holding distribution levels steady in 2024.

**This Review has been prepared, and our opinion given, in accordance with accepted actuarial practice in Canada.**

The undersigned are available to provide supplementary information and explanation, as appropriate, concerning this report.



Murray Wright  
Fellow, Canadian Institute of Actuaries

TELUS Health  
411 Dunsmuir Street, Suite 400  
Vancouver, BC V6B 1X4

November 21, 2023

# Actuarial Review

Purpose Investments Inc. (“Purpose Investments”) has engaged TELUS Health to undertake an independent review (the “Review”) of the Longevity Pension Fund (the “Fund”) through the lens of providing income for life to unitholders. This Review leverages TELUS Health’s experience in advising and assessing Canadian pension plans. The objective of the Review is to provide insights into the drivers of any changes in funding levels and distribution rates as a result of the Fund’s performance. The Review also considers whether Purpose Investments has followed the process and method set out in the Fund’s Income Policy.

The design of the Fund relies on certain key assumptions, including long-term investment returns, mortality, and redemption rates. The economic assumptions used in this report have been updated as at September 30, 2023 and are summarized in Appendix A: Model Assumptions. In addition, the assumed starting cohort size and number of new unit holders in each year has been updated to more closely match the Fund’s experience to date. All other assumptions have remained unchanged from those used in the Longevity Pension Fund Annual Report dated November 25, 2022. Please refer to that report, alongside the *Longevity Pension Fund Income Policy Review Report* dated February 2, 2022 and the Longevity Pension Fund Actuarial Review Report dated May 14, 2021, for all other detailed analysis of the assumptions and the process followed. TELUS Health considers the assumptions to be appropriate for the purposes of this report.

## Information provided to TELUS Health

Purpose Investments provided TELUS Health with information to allow TELUS Health to carry out the Review, including:

- details of the Fund’s Income Policy rules for adjusting distribution levels;
- details of the Fund’s operational rules;

- the central assumptions underlying the modelling platform;
- the proposed long-term investment strategy; and
- the proposed fee structure.

Further, Purpose Investments provided TELUS Health with the key outputs from modelling the 2,000 investment scenarios, including funding ratio, target funding ratio, net asset value per member and distribution amount per member. The information and results provided were sufficient to allow TELUS Health to undertake the Review. The review provides results from hypothetical modelling data that has not been verified by Purpose Investments nor any securities commission or similar regulatory authority. Results from TELUS Health’s Economic Scenario Generator data are purely hypothetical and cannot be guaranteed.

## Model verification process

TELUS Health conducted an independent model verification process of Purpose Investments’ internal modelling platform during its initial review of the Fund when preparing the *May 2021 Longevity Pension Fund Actuarial Review Report*. The same model was used as the basis for producing the results outlined in this Review, with modifications implemented in order for the model to be able to adjust distribution levels based on the rules determined in the Policy. As such, TELUS Health did not conduct a full model verification process or a detailed review of the model’s underlying code for the purpose of this Review but did conduct both line-by-line checks on the progression of key outputs and reasonableness checks on the outputs reviewing both the direction of changes in outcomes and the magnitude of changes.

For more information on the initial model verification process, please refer to the *Longevity Pension Fund Actuarial Review Report*.

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## Stochastic simulations

An Economic Scenario Generator is a tool that simulates future paths of economies and financial markets. TELUS Health's Economic Scenario Generator produces 2,000 different future scenarios over a long time horizon for a wide variety of asset classes. The returns from the Economic Scenario Generator for a 40-year time horizon beginning September 30, 2023 (the actual investment returns up to this date were reflected in all scenarios) were applied to the Fund's proposed long-term strategic investment allocation, based on the asset classes available in TELUS Health's Economic Scenario Generator. Purpose Investments' internal modelling platform, which reflects the process and method set out in the Fund's Income Policy, was then applied across each of these 2,000 scenarios, which allows a stochastic distribution of possible economic futures to be produced. Purpose Investments extended the 40-year simulations to 45 years based on expected returns in order to be able to model results until unitholders reach age 110. We have focused our review on the first 35 years of results, as this period is expected to cover the lifetimes of a large majority of unitholders and we believe is the period over which the Fund's success may be determined.

The results from modelling the 2,000 investment scenarios are then ranked in order from poor outcomes to good outcomes so that analysis can be carried out on the likelihood of a particular outcome, based on the models used.

Further details on the assumptions behind TELUS Health's Economic Scenario Generator are provided in Appendix A: Model Assumptions.

## Limitations of the analysis

The *Longevity Pension Fund Actuarial Review Report* contains a thorough analysis of the different types of risk the Fund is exposed to (such as longevity risk) and considers alternative calibrations to the Economic Scenario Generator that allowed us to analyze different sets of economic scenarios.

However, this Review only considers a single, baseline set of stochastically simulated economic futures. Since other considerations have already been contemplated in detail in a separate report, we have not reflected them within this Review.

**Note that this Review does not consider all of the possible outcomes, nor the risks, to which the Fund is subject; such outcomes and risks could positively or negatively affect the distribution rates and investment value of the Fund.** The results generated by model simulations are inherently limited by their assumptions and do not consider scenarios outside of those assumptions. Please refer to the final page of this Review regarding the limitations of the modelling used in this document. For a full list of risks that apply to the Fund, please see the Fund's prospectus.

## Hypothetical performance data

This Review contains hypothetical performance data, specifically model performance data, which are simulated investment results of a notional portfolio of securities that are presented over a period of time. Be advised that the data models in this Review **are not the performance of actual client portfolios and are not a guarantee of anticipated investment performance or distribution levels.**

Given that this Review contains hypothetical performance modelling and other sophisticated investing concepts, we strongly recommend that retail investors review this document with their registered investment advisor.

All information contained herein is subject to change

Purpose Investments retains the ability to adjust the Income Policy and change the assumptions from time to time to ensure it continues to meet the Investment Objectives of the Fund. Changes to the Policy or assumptions have not been contemplated within this Review.



# Income Policy and Funding Levels

## The Income Policy aims to achieve its objectives by managing the Fund’s funding levels, similar to how a defined benefit pension plan manages its funding levels.

The funding level at any particular date is determined as the ratio of the Fund’s net asset value (the “assets”) divided by the present value of future expected redemptions and distribution payments (the “liabilities”) at the distribution level effective at that particular date, using a discount rate that is set equal to the expected return on assets less expenses. This is determined for each cohort group separately.

### Changes compared to the previous review

The second review of the Fund’s funding levels was carried out as part of the *Longevity Pension Fund Annual Report* dated November 25, 2022. A number of changes have been made since that review:

- Actual investment performance up to September 30, 2023 has been reflected.
- TELUS Health’s Economic Scenario Generator has been updated from September 30, 2022 to September 30, 2023.
- The discount rate has been updated from 5.7% to 6.2% to reflect the changes in future expected returns and the updated proxies to more closely match the strategic asset allocation within the Fund’s Statement of Investment Policy and Procedures.
- The membership profile assumption has been changed from 5,000 initial investors with no new investors subsequently to 350 initial investors with 350 new investors each year until age 80 to capture the impact of new investors joining the Fund on an ongoing basis and to showcase how their distribution levels are expected to evolve over time.

- The distribution levels reflect a dollar per unit instead of a percentage of initial investment. This aligns with the change in membership profile assumption and allows new investors to interpret how their distribution level is expected to evolve over time irrespective of when they invest in the Fund.

### Evolution of Funding Levels

For this analysis we focus on an assumed membership group with assumed ages from 65 to 67 as at June 30, 2021. The funding level for this hypothetical group was 120% as at June 30, 2021, fell to 111% as at September 30, 2022, and then increased to 113% as at September 30, 2023 based on the assumptions within the model. As seen in the section on Funding Levels and Impact to Distribution Levels for 2024, all cohorts have a funding level of 100% or higher as at September 30, 2023.

An analysis of the drivers of the change in funding level for the hypothetical group is shown in the table below.

September 30, 2022 Funding Level	111%
Investment experience lower than the assumed return	-1%
Changes in membership profile assumption	-1%
Changes in future expected investment returns and updated proxies	+4%
September 30, 2023 Funding Level	113%

While investment returns were positive for the period, actual returns were lower than the previous report’s discount rate of 5.7%, leading to a funding level actuarial loss of 1%.

The membership profile assumption has been changed from 5,000 initial investors with no new investors subsequently to 350 initial investors with 350 new investors each year until age 80, which led to a 1% reduction in the funding level.

There were also changes in expected future investment returns due to changes in the macro-economic environment and updates to the proxies used to match the strategic

asset allocation within the Fund’s Statement of Investment Policy and Procedures. These changes led to the discount rate increasing from 5.7% to 6.2%, which improved the funding level by approximately 4%.

When sufficient experience is available for future annual reviews, the analysis of the drivers of the change in funding level will include additional experience items, including mortality and redemption experience. During the very early stages of a cohort’s lifecycle, the anticipated mortality, and mortality credits accrued into the Fund, are immaterial.

Application of the Policy

TELUS Health has reviewed the Fund’s Income Policy and can confirm that Purpose Investments has followed the process and methods set out in the Income Policy for setting distribution levels for 2024, which leads to holding distribution levels steady in 2024.

Evolution of Distribution Levels

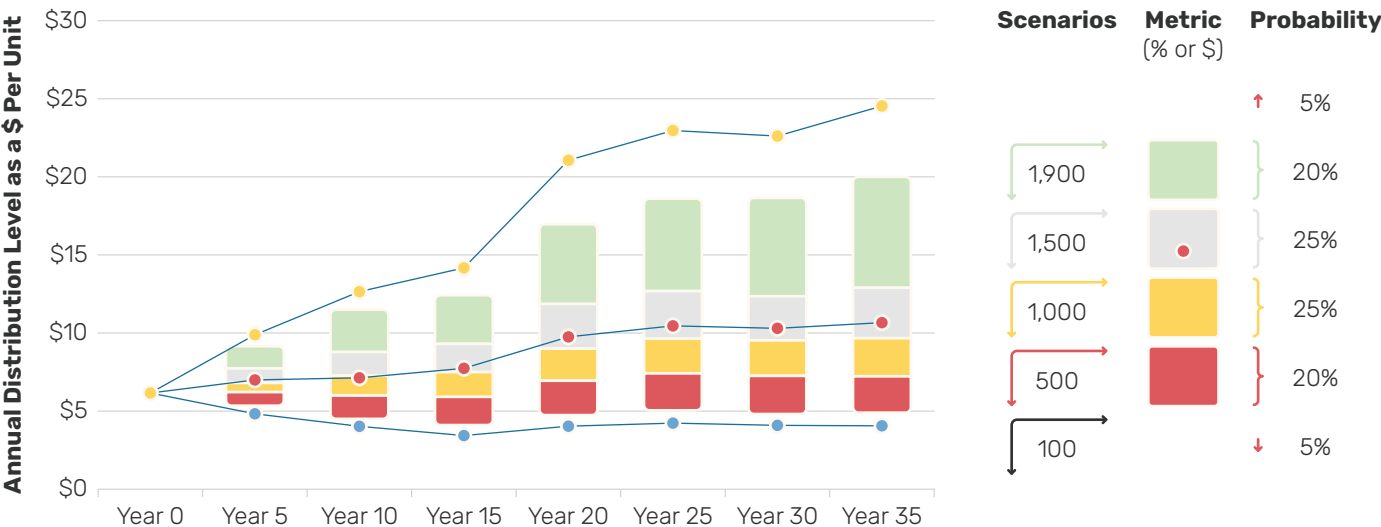
In this section, we provide an updated analysis on the distribution level provided over time when applying the Policy to the 2,000 stochastically generated future scenarios based on the assumed membership group. All figures are as at September 30, 2023.

Modelling Results

Figure 1<sup>4</sup> below shows the percentiles of annual distribution levels as a \$ per unit at 5-year intervals during the first 35 years. This figure shows that in the median (50th percentile) scenario, the distribution level is expected to slowly increase as the unitholders age. The median annual distribution level (\$/unit) gradually increases from \$6.15 to \$9.64 during year 35.

In addition to the percentile values, the average of the worst 5% (worst 1 in 20) of scenarios is also shown in Figure 1, as indicated by the blue circles. This metric is useful in analyzing the model’s worst-case scenarios. Based on the modelled results, the average of the worst 5% of scenarios ranges from \$3.44 to \$4.82 over the projection period, decreasing until reaching its lowest point during year 15 but increasing in later years. On the opposite side of the spectrum, we see the average of the best 5% (best 1 in 20) of scenarios increases to as high as \$24.57 in year 35, as indicated by the yellow circles.

Figure 1



<sup>4</sup> This chart models hypothetical performance data. It was created using TELUS Health’s Economic Scenario Generator data as of September 30, 2023, which includes 2,000 stochastically generated future economic scenarios. The projections as at September 30, 2023 include two years of known distribution levels for the years ending September 30, 2023 and September 30, 2024. The results shown are purely hypothetical and do not provide a guarantee of expected performance of the Fund. This table does not take into account all risks, fees, unique financial circumstances, or the costs of redeeming an investment in the Fund.

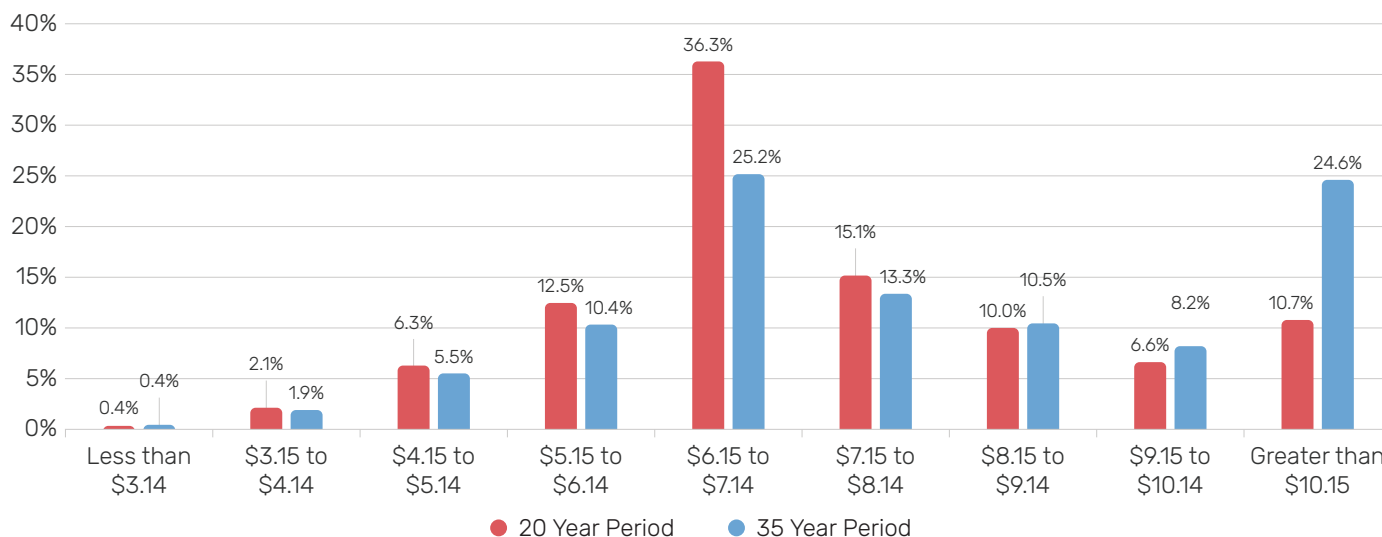
**Table 1**
**DISTRIBUTION LEVEL  
AS A \$ PER UNIT AT  
SEPTEMBER 30, 2023**

	Year 0	Year 5	Year 10	Year 15	Year 20	Year 25	Year 30	Year 35
95th Percentile	\$6.15	\$9.17	\$11.49	\$12.39	\$16.97	\$18.60	\$18.66	\$20.00
75th Percentile	\$6.15	\$7.71	\$8.73	\$9.23	\$11.81	\$12.63	\$12.31	\$12.88
50th Percentile (Median)	\$6.15	\$6.72	\$7.21	\$7.43	\$8.94	\$9.58	\$9.47	\$9.64
25th Percentile	\$6.15	\$6.15	\$5.96	\$5.86	\$6.90	\$7.35	\$7.19	\$7.17
5th Percentile	\$6.15	\$5.28	\$4.46	\$4.04	\$4.70	\$4.99	\$4.80	\$4.86
Average of best 5% of scenarios <span style="color: #FFD700;">●</span>	\$6.15	\$9.87	\$12.65	\$14.18	\$21.07	\$22.97	\$22.61	\$24.57
Mean <span style="color: #C00000;">●</span>	\$6.15	\$6.95	\$7.48	\$7.70	\$9.74	\$10.42	\$10.26	\$10.66
Average of worst 5% of scenarios <span style="color: #0000FF;">●</span>	\$6.15	\$4.82	\$3.97	\$3.44	\$3.99	\$4.24	\$4.10	\$4.05

The primary objective of the Fund is to provide income for life to unitholders. The results in **Figure 1 & Table 1<sup>5</sup>** show that the Policy has reasonably strong capabilities to meet this objective by allowing for some variability in the distribution levels such that the Fund continues to provide income to investors throughout their lifetime. Further, we see that the range of outcomes is relatively small in the earlier years of the Fund, suggesting stable distribution levels, which is a secondary objective of the Policy.

**Figure 2<sup>6</sup>** shows the distribution of annual distribution levels as a dollar per unit during the first 20 and 35 years across all scenarios. The likelihood of annual distribution

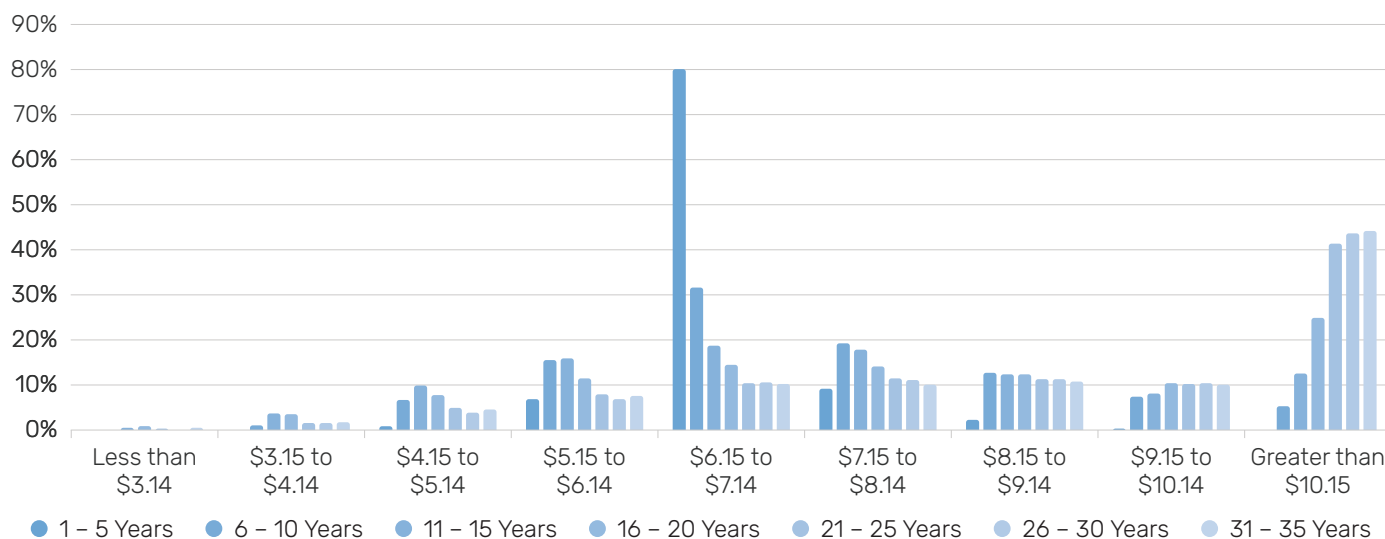
levels at or above \$6.15 over the first 20 or 35 years produced by the model is approximately 79% and 82%, respectively. This indicates a high likelihood that annual distribution levels are greater than or equal to the initial distribution level. Within the first 35 years, the model shows only a 0.4% chance that the distribution would fall below \$3.15 and a 2.3% chance that it will fall below \$4.15. This represents a very strong probability of roughly 99.6% that the Fund should be able to distribute at least half of the initial annual distribution level in any given year over the life of a unitholder.

**Figure 2** Annual Distribution Level as a \$ Per Unit

**Figure 3<sup>7</sup>** shows the annual distribution level as a dollar per unit for 5-year periods up to year 35 across all scenarios. The periods are shaded from dark blue (first 5 years) to light blue (years 31 to 35). This chart illustrates that earlier in the modelled years, income levels are concentrated in the \$6.15 to \$7.14 range. In later years, the model is showing income

levels more heavily concentrated in higher income bands on the right-hand side of the chart, which indicates a high probability of increases over the lifetime of an investor. Based on this, the modelled results show that the Policy has strong potential to meet its secondary goal of maintaining a high probability that distribution levels rise over time.

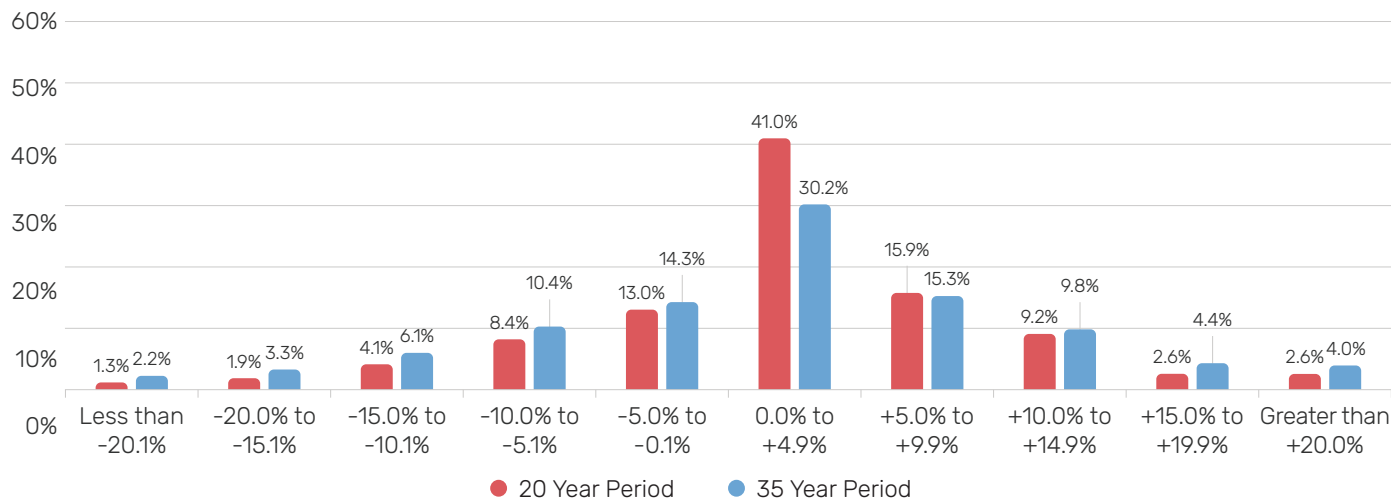
**Figure 3** Annual Distribution Level as a \$ Per Unit



**Figure 4<sup>8,9</sup>** shows the distribution for year-over-year percentage change<sup>10</sup> in distribution levels during the first 20 and 35 years across all modelled scenarios. Over the first 35 years, approximately 45% of the distribution level changes are within 5% (positive or negative), while approximately 70% are within 10% (positive or negative). The most likely

distribution level change is between 0 and +5%, which accounts for almost 30% of distribution level changes over 35 years. While the Policy allows for larger increases or decreases, this suggests the Policy does a reasonable job at maintaining a stable distribution level, which is one of the secondary goals of the Fund.

**Figure 4** Distribution of Year-Over-Year Changes in Distribution Level



<sup>7</sup> Ibid

<sup>8</sup> Ibid

<sup>9</sup> The described percentage changes or adjustments in distribution level are multiplicative. For example, a 5% positive adjustment to a distribution level of \$6.15 is \$6.46, not \$11.15.

<sup>10</sup> This represents the percentage increase/decrease in distributions made to a unitholder during one year compared to the distributions one year later.

**Table 2<sup>11,12</sup>** below shows additional key statistics and modelling results for the first 20 and 35 years.

	Over 20 Years	Over 35 Years
Average # of positive adjustments year-over year	12.3	20.4
Average # of negative adjustments year-over year	5.9	12.8
Average adjustment year-over-year (net positive and negative)	2.3%	1.8%
Average positive adjustment year-over-year	7.2%	8.3%
Average negative adjustment year-over-year	-7.2%	-8.2%
Average # of years with distribution level at or above the initial rate	15.7	28.6
Probability distribution level at or above the initial rate	78.7%	81.8%
Average distribution level as a \$ per unit	\$7.40	\$8.63

## Changes from the previous analysis of distribution rates

The second review of the Fund's expected distribution rates was carried out as part of the *Longevity Pension Fund Annual Report* dated November 25, 2022. **Table 3<sup>13</sup>** below shows a comparison between the September 30, 2023, and September 30, 2022, key statistics and modelling results for the first 20 and 35 years.

**Table 3**

	September 30, 2023	September 30, 2022
<b>20 Years</b>		
Average distribution level of best 5% of scenarios at year 20	\$21.07	\$18.67
Average distribution level at year 20	\$9.74	\$9.32
Average distribution level of worst 5% of scenarios at year 20	\$3.99	\$4.04
Probability distribution level at or above the initial rate over 20 years	78.7%	87.3%
Average Distribution Level as a \$ per unit over 20 Years	\$7.40	\$7.73
<b>35 Years</b>		
Average distribution level of best 5% of scenarios at year 35	\$24.57	\$27.90
Average distribution level at year 35	\$10.66	\$11.60
Average distribution level of worst 5% of scenarios at year 35	\$4.05	\$4.49
Probability distribution level at or above the initial rate over 35 years	81.8%	85.5%
Average Distribution Level as a \$ per unit over 35 Years	\$8.63	\$8.55

There has been an improvement in some of the key statistics and modelling results, alongside a deterioration in others. Overall, the results are comparable to the results shown in the previous annual report.

<sup>11</sup> The described percentage changes or adjustments in distribution level are multiplicative. For example, a 5% positive adjustment to a distribution level of 6.15% is to 6.46%, not to 11.15%.

<sup>12</sup> **This chart models hypothetical performance data.** It was created using TELUS Health's Economic Scenario Generator data as of September 30, 2023, which includes 2,000 stochastically generated future economic scenarios. The projections as at September 30, 2023 include two years of known distribution levels for the years ending September 30, 2023 and September 30, 2024. The results shown are purely hypothetical and do not provide a guarantee of expected performance of the Fund. This table does not take into account all risks, fees, unique financial circumstances, or the costs of redeeming an investment in the Fund.

<sup>13</sup> Ibid

# Appendix A: Model Assumptions

## Asset Valuation Method

**Table 4** below sets out a summary of the assumed operational structure and the key assumptions underlying the core modelling undertaken. The rest of this section discusses these assumptions in more detail.

**Table 4**

	Assumption
Initial <sup>14</sup> Cohort Age	65, 66 and 67 year old males and females
Male / Female proportion	50% male and 50% female investors
Initial <sup>14</sup> cohort size	350 unitholders
New unitholders	350 unitholders per year until age 80
Unitholder investment	\$100,000 per unitholder
Voluntary Redemption / Death formula	Lesser of [Initial unitholder investment – income received up to voluntary redemption / death] or [Net Asset Value]
Initial <sup>14</sup> distribution level	\$6.15 per unit
Modelled investment returns	TELUS Health's Economic Scenario Generator applied to the proposed asset allocation provided by Purpose Investments
Investment expenses	0.75%
Annual Voluntary Redemption Rate	2.00% of unitholders each year before age 80
Current mortality rates	Canadian Pensioners' Mortality (CPM) 2014 Unadjusted Public Sector Mortality Table
Future improvements in mortality rates	MI-2017 improvement scale

## Modelled investment returns

Purpose Investments provided us with the long-term strategic investment allocation to be used for modelling purposes, shown in **Figure 5** below. Purpose Investments informed TELUS Health that this allocation was chosen to maintain their desired risk exposure over time. We note that the long-term strategic investment allocation shown below has been updated from the allocation used to produce the results outlined in the *Longevity Pension Fund Annual Report* dated November 25, 2022.

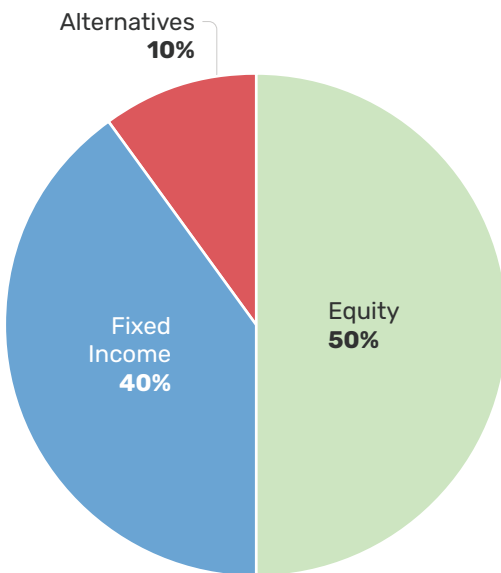
<sup>14</sup> "Initial" is as at June 30, 2021.



## Modelled investment returns

Purpose Investments provided us with the long-term strategic investment allocation to be used for modelling purposes, shown in **Figure 5** below. Purpose Investments informed TELUS Health that this allocation was chosen to maintain their desired risk exposure over time. We note that the long-term strategic investment allocation shown below has been updated from the allocation used to produce the results outlined in the Longevity Pension Fund Annual Report dated November 25, 2022.

**Figure 5** Long-Term Strategic Investment Allocation



For each asset in the provided asset allocation, Purpose Investments chose an associated index to model the long-term expected return of the asset in the Economic Scenario Generator, based on a list of modelled indices within the Economic Scenario Generator. As some indices were not explicitly modelled by the Economic Scenario Generator, Purpose Investments selected a proxy index that best matched the asset strategy.

The arithmetic average of simulated returns for the modelled portfolio is 6.2% per annum, net of investment and management expenses, as at September 30, 2023.

## Investment Expenses

For the purpose of the core modelling, investment expenses are assumed to be 0.75% per annum. These investment expenses are applied to the gross returns assumed. The modelling focuses on Series F investors (i.e., retail investors). This is a reasonable assumption as Purpose intends to cap the total fees that may be passed on to Series F investors at 0.73% per annum. It is important to note that institutional investors (i.e., those investing through a workplace program) may qualify for lower fees and thus achieve higher net returns.

## Economic Assumptions

Economic stochastic projection assumptions are updated quarterly by TELUS Health using a multi-stage process. The methodology used to develop key capital market assumptions is the same as that used to develop the assumptions for the Longevity Pension Fund Income Policy Review Report. Further details are available on request.

For the purpose of this report, assumptions as at September 30, 2023 were used compared to the *Longevity Pension Fund Annual Report* which used assumptions as at September 30, 2022.

## Returns, Volatility, and Correlations by Assets Class

The following expected return and volatility by asset class were used as at September 30, 2023.

**Table 5**

September 30, 2023		
	Expected Annualized Long-Term Return	Volatility (Standard Deviation) of Annual Return
Inflation (change in the consumer price index)	2.00%	1.35%
<b>Asset Classes</b>		
Cash/Short-term	2.45%	1.65%
Canadian Corporate Bonds	4.75%	6.65%
U.S. High Yield Bonds	5.75%	12.95%
Canadian Equity	7.45%	16.40%
U.S. Equity (unhedged)	6.10%	16.40%
U.S. Equity Low Volatility (unhedged)	5.60%	13.10%
U.S. Equity (hedged)	6.55%	18.20%
U.S. Equity Low Volatility (hedged)	6.05%	14.55%
International Equity (unhedged)	7.50%	15.50%
Commodities (hedged)	5.05%	19.20%

The following is the correlation among the various asset classes identified in Table 5 used as at September 30, 2023:

**Table 6**

ASSET CLASSES	1	2	3	4	5	6	7	8	9
1. Canadian Corporate Bonds	1.00								
2. U.S. High Yield Bonds	0.29	1.00							
3. Canadian Equity	0.00	0.52	1.00						
4. U.S. Equity (unhedged)	0.16	0.42	0.44	1.00					
5. U.S. Equity Low Volatility (unhedged)	0.11	0.29	0.31	0.70	1.00				
6. U.S. Equity (hedged)	0.15	0.59	0.76	0.82	0.57	1.00			
7. U.S. Equity Low Volatility (hedged)	0.10	0.41	0.53	0.57	0.40	0.70	1.00		
8. International Equity (unhedged)	0.01	0.43	0.59	0.83	0.58	0.83	0.58	1.00	
9. Commodities (hedged)	-0.27	0.28	0.56	-0.14	-0.10	0.23	0.15	0.10	1.00

The correlations are assumed to remain constant over the entire projection period.

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**Asset class mapping**

For each asset in the provided asset allocation, Purpose Investments chose an associated index to model the long-term expected return of the asset in the Economic Scenario Generator, based on a list of modelled indices within the

Economic Scenario Generator. As some indices were not explicitly modelled by the Economic Scenario Generator, Purpose Investments selected a proxy index that best matched the asset strategy.

**Table 7**

<b>ASSET CLASS</b>	<b>ASSOCIATED INDEX FOR MODELLING PURPOSES</b>
Cash/Short-term	FTSE Canada T-Bills
Canadian Corporate Bonds	FTSE Canada Corporate Bonds
US High Yield Bonds (Hedged)	Barclays US High Yield Bonds \$US
Canadian Equity	S&P/TSX Can. Stocks Composite Capped
U.S. Equity (unhedged)	S&P 500 U.S. Stocks \$C
U.S. Equity Low Volatility (unhedged)	S&P 500 Low Volatility Index \$C
U.S. Equity (hedged)	S&P 500 U.S. Stocks \$US
U.S. Equity Low Volatility (hedged)	S&P 500 Low Volatility Index \$US
International Equity (unhedged)	MSCI EAFE Stocks \$CA
Commodities (hedged)	S&P Goldman Sachs Commodity Index Light Energy \$US

# Appendix B: Disclaimers

## Limitations of this report

Users of this report should refer to the Fund's offering documentation for further details on the operation and risks related to investing in the Fund. This report does not constitute legal, tax or individual investment advice. Instead, this report focuses on the actuarial aspects of the Fund.

This report contains analysis and results that rely on assumptions about future events, including actions that will be taken by Purpose Investments in response to external events. While we believe that the model inputs and assumptions are reasonable at the time this report has been prepared, other reasonable model inputs and assumptions could be used, potentially resulting in materially different distributions of forecasted outcomes. Examples of other reasonable inputs include alternative future investment scenarios, mortality assumptions or voluntary redemption rates. The methodology used to develop key capital market assumptions is the same as that used to develop the assumptions for the Longevity Pension Fund Income Policy Review Report. Further details are available on request.

Future events and actual experience will vary from the simulated outcomes produced with this analysis. As these differences arise, Purpose Investments may be required to adjust or modify certain aspects of the Fund as necessary.

It is not possible or practical to reflect every variable in a model that is based on the real world. Therefore, we use summary information, estimates, and simplifications to facilitate the modelling of future events. We also exclude factors or data that we consider immaterial. For example, mortality rates only differ at each integer age, where in reality mortality rates will vary on a continuous basis. However, any refinement beyond integer ages would provide spurious levels of accuracy improvement.

The results presented in this report are not intended nor should they be interpreted to represent a guarantee or warranty with respect to the future financial condition of the Fund. Furthermore, any determination of probabilities based on the model represent simulated outcomes and should not be interpreted as being actual probabilities.

## Restriction on use of this report

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## About TELUS Health

TELUS Health is the global leader in total wellbeing that provides technology-enabled solutions to our clients to support the mental, physical, social and financial wellbeing of their people. By improving lives, we improve business. Our approach spans services in employee and family assistance, health and wellness, recognition, pension and benefits administration, retirement consulting, actuarial and investment services. TELUS Health employs over 6,000 employees who work with some 24,000 client organizations that use our services in more than 160 countries. TELUS Health is a wholly owned subsidiary of TELUS Corp. a public company trading on the TSX ("T") and NYSE ("TU").

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