2023 survey:

Economic assumptions in accounting for pension and other post-retirement benefits.

December 2023

TELUS Health

Contents

Highlights of our annual survey results.

TELUS Health is pleased to provide a survey of the assumptions used by 79 Canadian public companies, reporting under IAS 19 (64) and US GAAP (15), to account for the costs of their defined benefit plans. Information is collected from audited financial statements as at December 31, 2022. This is the twenty-third year the survey has been conducted.

The survey is intended to provide information regarding the assumptions disclosed by a wide range of companies based on economic conditions as at December 31, 2022. Consideration should be given to the rise of bond yields since the end of 2022 as this could be tied to many factors including inflation and could have impacts on other assumptions besides discount rate, including salary increases and medical cost trend. Moreover, long-term impact due to the COVID-19 pandemic on many aspects including mortality is still uncertain at this point. Hence, readers should exercise caution with the interpretation and use of these results. As budget discussions begin for 2024, your TELUS Health consultants would be pleased to discuss how the market changes since the end of 2022 may impact your employee benefit plans.

Discount rate for pension plans.

Discount rates at December 31, 2022 have increased significantly when compared to the prior year. The median discount rate was 5.11% as at December 31, 2022 compared to 3.00% a year earlier. All companies surveyed increased their discount rate in 2022. The following figures summarize the discount rates used in the valuation of defined benefit pension plans as at December 31, 2022 (rounded to the nearest 25 bps), as well as the historical evolution of the median discount rate over the last 10 years, based on our past surveys.

FIGURE 1 I Discount rate / pension plans.

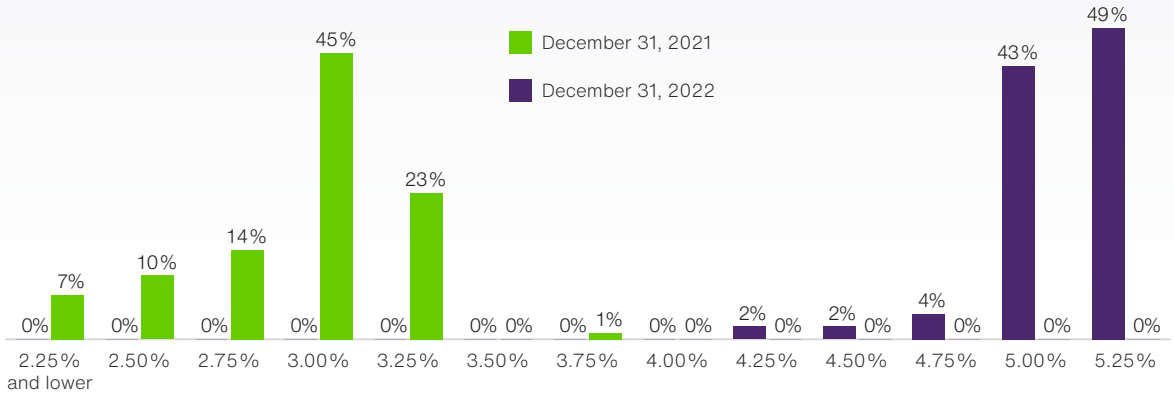
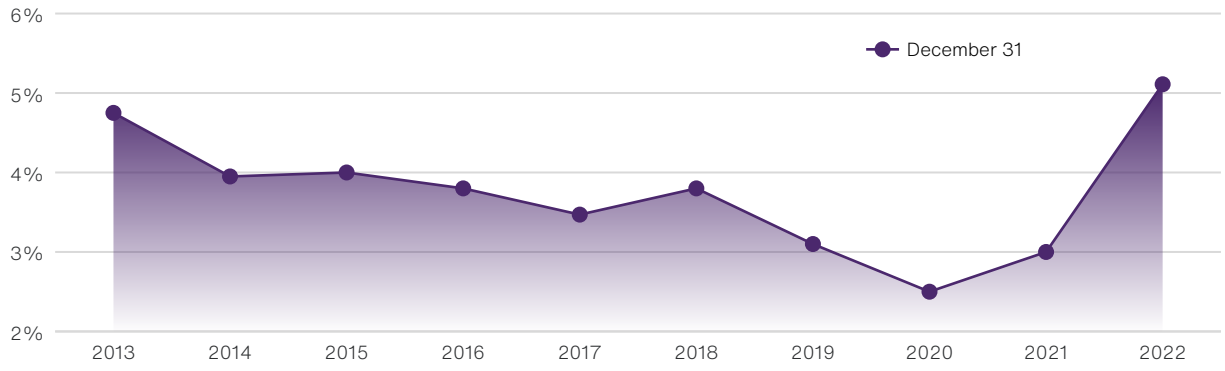


FIGURE 2 I Historical evolution of the median discount rate.



The spread in discount rates has decreased since last year as the yield curve has flattened in 2022. About 92% of companies used a discount rate between 5.00% and 5.25% (a spread of 0.25%), while 82% of companies used a discount rate between 2.75% and 3.25% (a spread of 0.50%) at the end of the preceding year. The change in discount rates over the year is consistent with the Government of Canada (GoC) bond yields. The average GoC rates for maturities over 10 years (V39062) have increased from 1.66% at the end of 2021 to 3.31% at the end of 2022.

As stated in the accounting standards, the discount rate must reflect the estimated timing of benefit payments. In practice, companies often achieve this by applying a single weighted average discount rate that reflects the estimated timing and amount of benefit payments (US GAAP also allows discount rates to reflect current prices of annuity contracts that could be used to effectively settle the obligation as an alternative). Consequently, the discount rate used by one company will vary depending on the duration of the pension plan. Not all companies in the survey disclosed the duration in their financial reports.

Over time, the yields on high-quality long-term corporate bonds may vary considerably. The discount rate should be expected to vary in a similar fashion. Figure 3 compares the spot rate curves as at December 31 for the years 2021, 2022, and more recently for September 30, 2023. Spot rate curves, provided by TELUS Health, conform to the principles of the CIA Educational Note, revised in December 2020 (Second Revision).

If the spot rate curve were to remain at September 2023 levels until the end of the year, the expected accounting discount rates at December 31, 2023 would be approximately 40 to 55 bps higher than those used at December 31, 2022 for typical pension plans with a duration between 10 to 20 years.

Figure 4 compares the median discount rates in our survey to the median discount rates from a U.S. study[1].

1. Source: 2023 Study of Economic Assumptions, prepared by Deloitte & Touche Human Capital Advisory Services (U.S.). (At the time of preparing this survey, the 2023 U.S. study had not yet been published by Deloitte and the average discount rate at December 31, 2022 for U.S. companies was unavailable. This survey will be updated once the U.S. study is published.)

FIGURE 3 I High-quality corporate bonds.

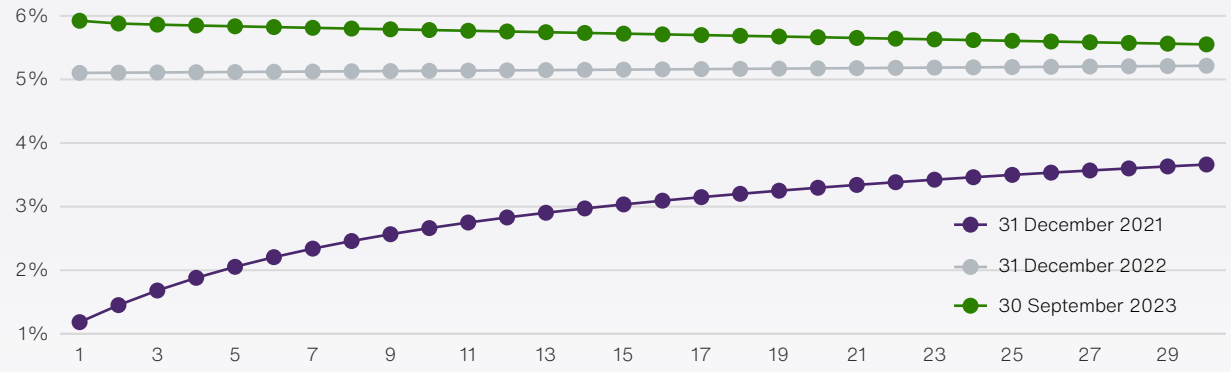
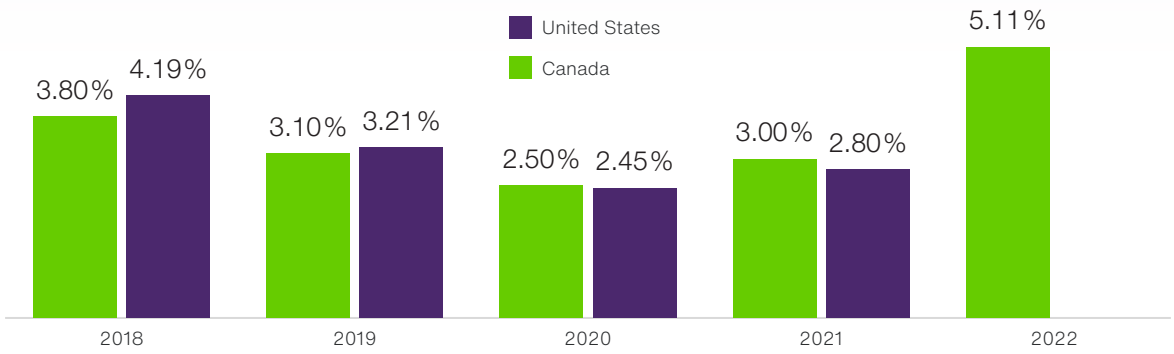


FIGURE 4 I Median discount rate by country.



2023 update

If maintained to the end of the year, the additional increases in discount rates over those in 2022 will lead to further decreases in employer service costs and therefore overall pension expense for 2024. There will also be a further decrease in defined benefit obligation on the balance sheet which may trigger additional pension asset ceiling issues, as many pension plans will reveal growing accounting surpluses in 2023. Moreover, plans that adopted de-risking glide paths based on accounting funded status may have reached their trigger points. The overall impact will vary from plan to plan depending on the maturity and plan investment strategy.

Discount rate for non-pension benefits.

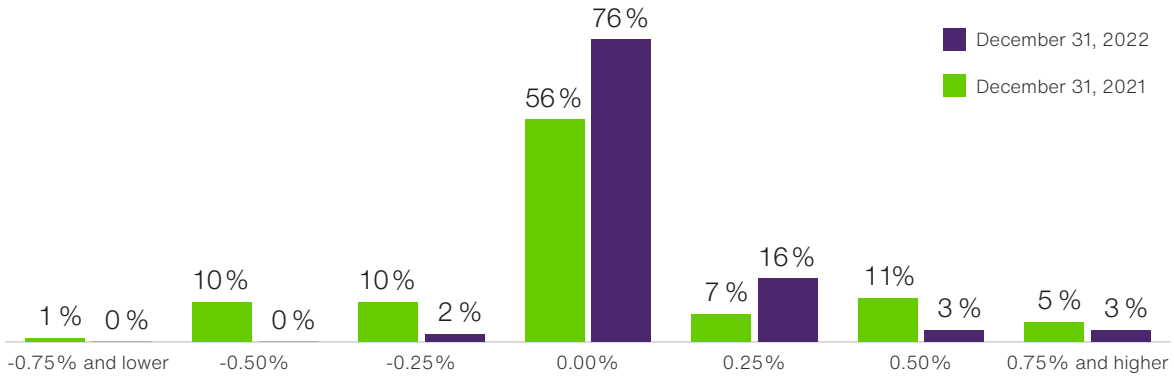
The duration of non-pension post-employment benefits is often significantly different from that for pensions. For example, the duration of the defined benefit obligation ("DBO") for a retiree medical plan is often longer than that for pension plans, while the durations of the DBO for an accumulating non-vesting sick leave program and a severance or retirement allowance program is often shorter. As a result, the choice of discount rate for the valuation of post-employment benefits can be different than it is for pensions, in theory (see the Appendix on selecting the discount rate for more on this). While some companies use rates that differ by type of plan, many elect to use a single blended rate, or they simply use the rate for the most material plan.

The median rate used as at December 31, 2022, for non-pension benefits is 5.20%, a rate slightly higher than the median rate used for pensions.

Figure 5 shows the difference between the discount rate used in the valuation of non-pension benefits and that used for pension plans, rounded to the nearest 25 bps (a positive value indicates a higher rate for non-pension benefits than for pensions and vice versa).

In 2022, 76% of the companies surveyed used similar discount rates for pensions and non-pension benefits, while 24% of companies used a significantly different discount rate for non-pension benefits (compared to 44% in our previous survey). The reduction in the proportion of companies using a significantly different discount rate is likely largely due to the flattening of the yield curve in 2022.

FIGURE 5 I Non-pension discount rates vs. pension discount rates.



Rate of compensation increase.

Plans that provide pay-related benefits are required to make an assumption about the rate of compensation increases (figure 6). IAS 19 indicates that it should reflect “inflation, seniority, promotion and other relevant factors, such as supply and demand in the employment market”.

The median long-term compensation increase assumption as at December 31, 2022 was 3.00%, which is the same as last year’s median. We found 71% of companies are using rates between 2.50% and 3.50%. In some cases, however, this assumption is much lower than the median, leading one to question whether some companies are reflecting the long-term expectation before taking into account the high inflation and labour shortage we are currently experiencing in the market, while others are reflecting the current impact of individual job progression in their disclosed assumption and/or adjusting the expectation on the inflation assumption which is typically used as a basis to set the compensation increase assumption. In compiling our survey, we have noticed an increase in the prevalence of select and ultimate assumptions as companies reflect higher than normal compensation increases in the short-term.

Figure 7 shows the spread between the discount rate and the rate of compensation increase. The spread can have a significant impact on the DBO for defined benefit pension plans. The median spread is 2.08% as at December 31, 2022, which is 208 bps higher than last year. An increase in the spread between discount rate and the rate of compensation increase results in a lower DBO.

Our survey shows that about 26% of companies changed the rate of compensation increase assumption by approximately 25 bps or more (down or up) at December 31, 2022 (figure 8). There is some debate over how frequently this assumption should be changed. IAS 19 states that financial assumptions should be based on market expectations at the end of the reporting period. Under US GAAP, this assumption is not required to be changed each time the discount rate is updated, but it should be consistent with the future economic conditions used to establish other financial assumptions. These results on salary increase assumption should be interpreted with care as they may be skewed due to employers with closed plans that are part of this survey. Thus, they may not fully consider the effect of future salary increases for new entrants.

FIGURE 6 I Rate of compensation increase.

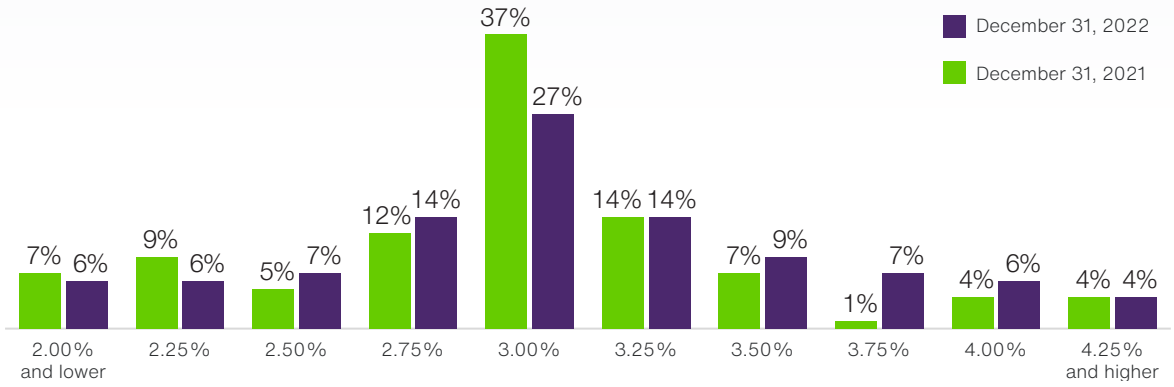


FIGURE 7 I Discount rates vs. Compensation increase rates.

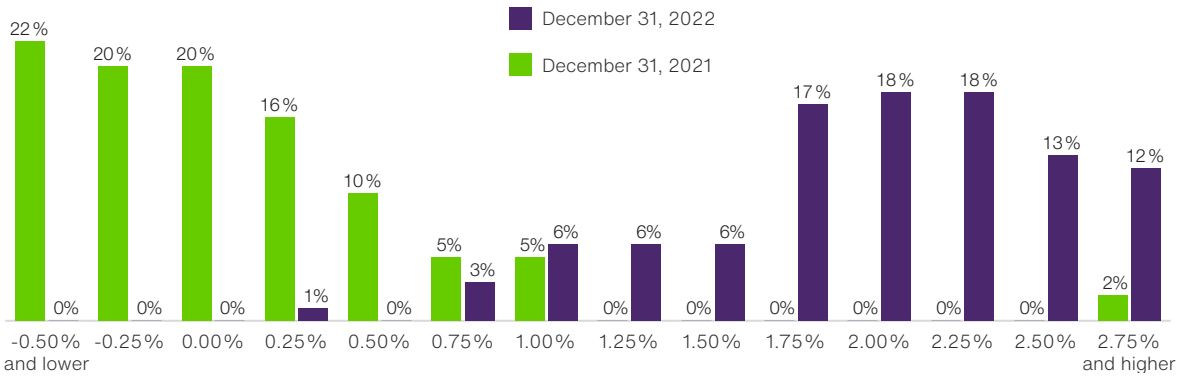


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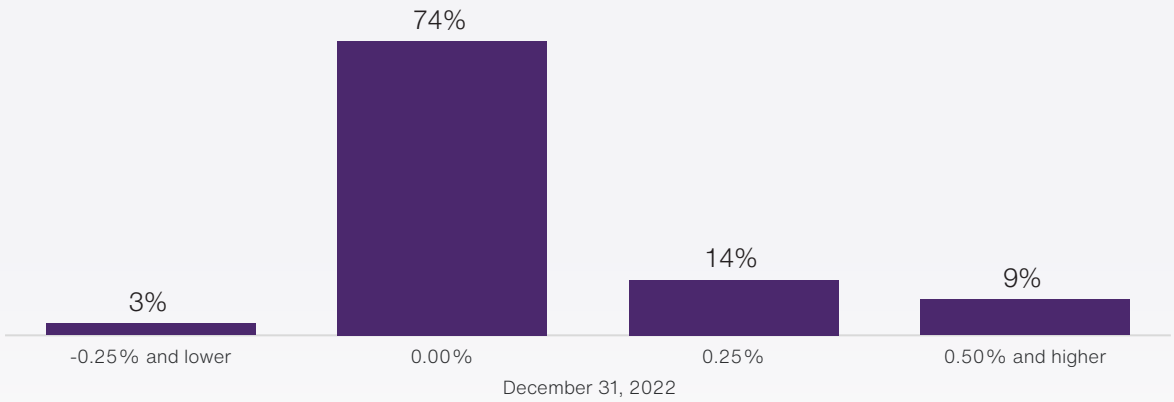
FIGURE 8 I Change in compensation increase assumption (2022 vs. 2021).



2023 update

The current inflation environment has led to a number of companies using select and ultimate compensation increase assumptions to reflect higher than normal increases in the short term. Long-term compensation increases depend on long-term inflation in addition to other factors, including the effects of the COVID-19 pandemic and the labour shortage on the company or industry in which the company operates. At the time of preparing this survey, the Bank of Canada is projecting inflation to stay around 3.5% until the middle of 2024, returning to the 2% target in 2025. It still aims to keep long-term inflation at 2% which sits in the middle of a range from 1% to 3%.

Pension plan financial situation and financial assumptions.

The companies in our survey show a 106% overall ratio of pension assets to DBO for accounting purposes. While every attempt is made to extract just the financial results for Canadian funded defined benefit pension plans, this level of detail is not always available. As such, the funding ratios may be slightly understated since they include some non-registered plans for which no funding is legally enforced under the Canadian regulatory environment and may be slightly over or understated since they include some non-Canadian pension plans which are funded according to regulations in their country of registration.

The ratio is highly influenced by the actual return on plan assets, the discount rate assumption and special contributions made to cover pension plan deficits. The distribution of companies based on their overall ratio at December 31, 2022 is shown in figure 9. Historical data on asset returns and discount rates is summarized in figure 10.

FIGURE 9 I Pension plan ratio of asset value to accounting DBO (distribution of companies).

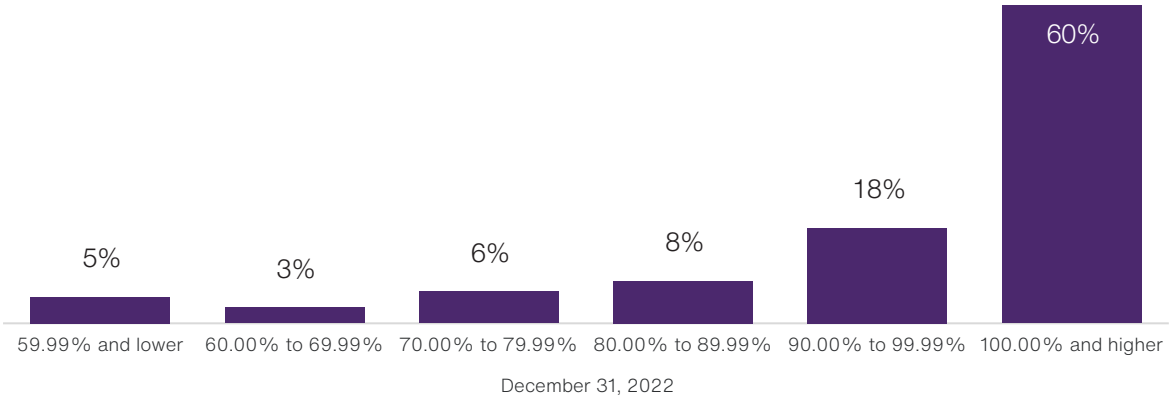
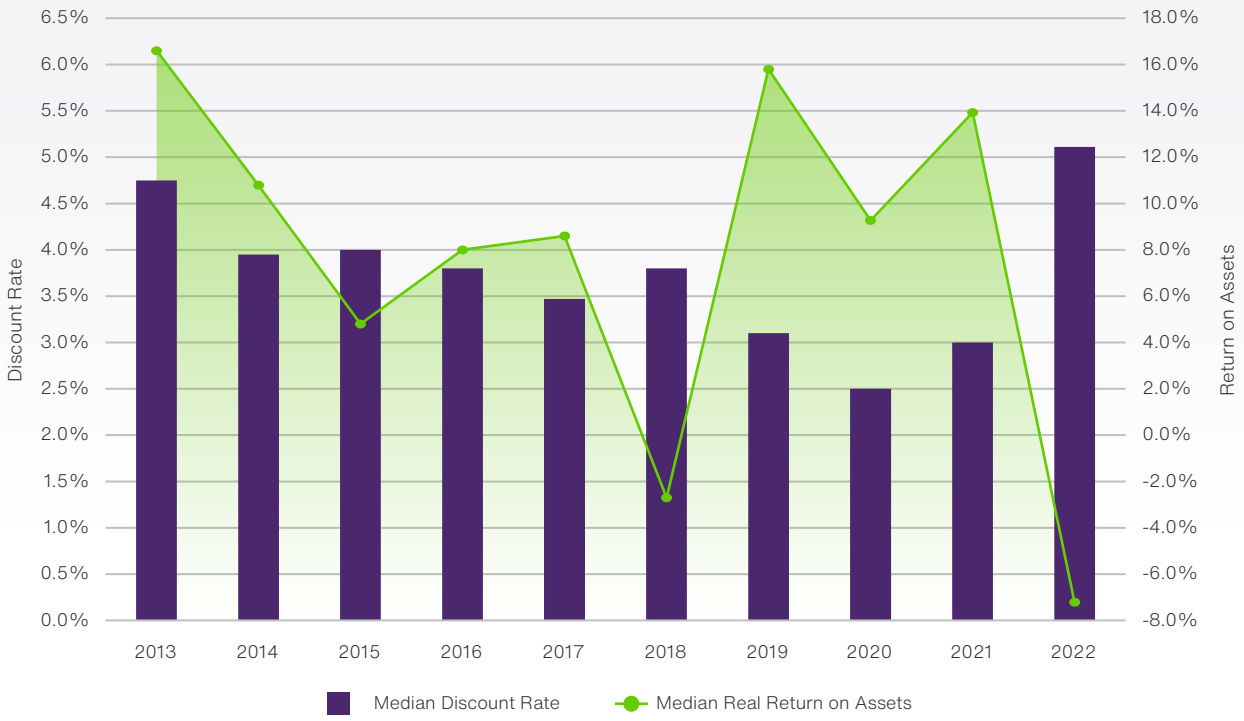


FIGURE 10 I Discount rate and actual return on assets.



2023 update

We estimate that the overall funding ratio of 106% at the end of 2022 would have risen to about 109% at the end of September. Our estimate is based on the evolution of corporate bond yields in 2023 year-to-date. It is also based on an average plan duration of 15 years and on TELUS Health's benchmark portfolio of 50/50 debt/equities 2023 year-to-date return. The average duration and portfolio mix are consistent with data collected through this survey.

Medical cost trend.

When retiree medical coverage is offered, a key assumption in the valuation of the DBO is the rate of future medical cost increases. IAS 19 provides guidance on factors that companies should consider in selecting this assumption. In addition, the Canadian Institute of Actuaries (CIA) and the Society of Actuaries (SOA) released a jointly sponsored report in March 2018, Model of Long-Term Health Care Cost Trends in Canada. The purpose of this report was to develop a model to forecast long-term health care inflation in Canada (known as the "McMaster Model").

Often, medical costs are assumed to increase at a higher rate in the short-term, declining in steps to an ultimate rate over a period of several years.

Figures 11 and 12 show the December 31, 2022 medical cost trend assumption compared to December 31, 2021. About 64% of the companies surveyed that are offering retiree medical coverage used an ultimate trend rate between 4.00% and 5.00%. The median rate as at December 31, 2022 is 4.05%, which is the same as last year.

The median assumption for the short-term medical cost trend rate was 5.12% at December 31, 2022, which is 3 bps lower than last year's median rate (5.15%). Approximately 80% of companies used an assumption between 4.50% and 6.50% (72% in 2021).

The medical cost increase rate reaches its ultimate level in 2031 (median), which is 1 year later than the median year of last year's survey (2030)[2]. The median select period has remained reasonably stable at about 8 years. We will continue to closely monitor to this assumption in future surveys. See figure 13 for the distribution of the year for ultimate level reach.

FIGURE 11 I Ultimate medical cost trend.

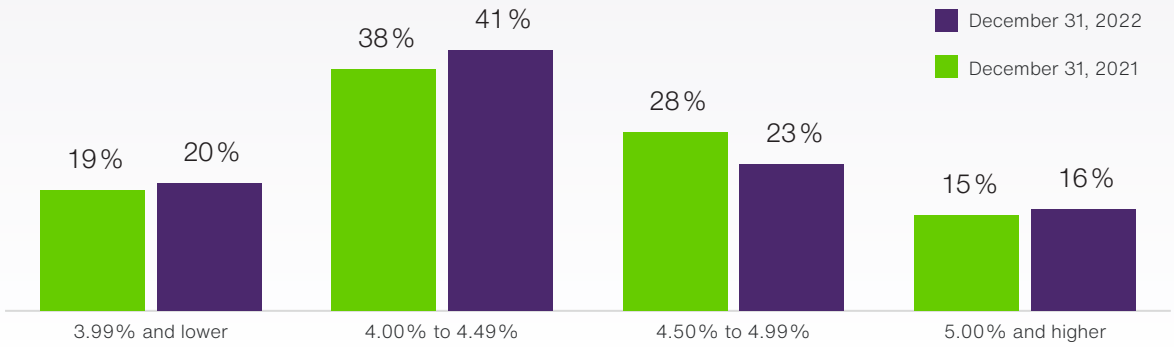
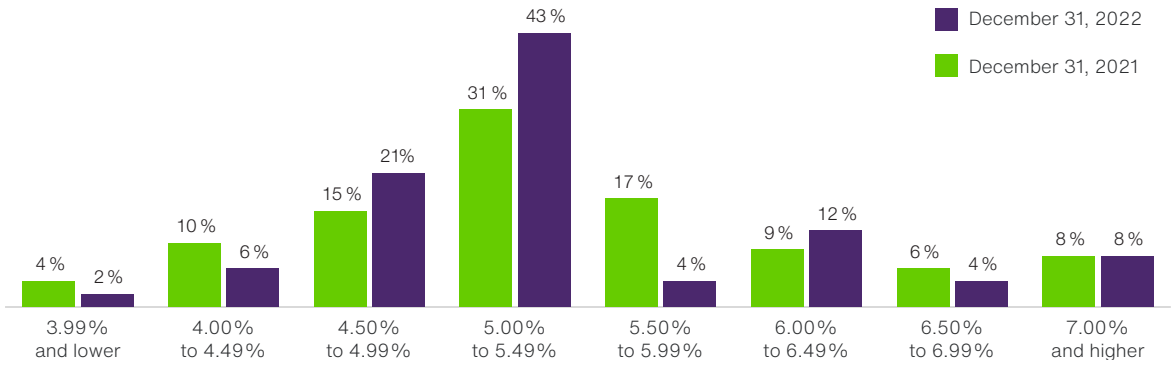
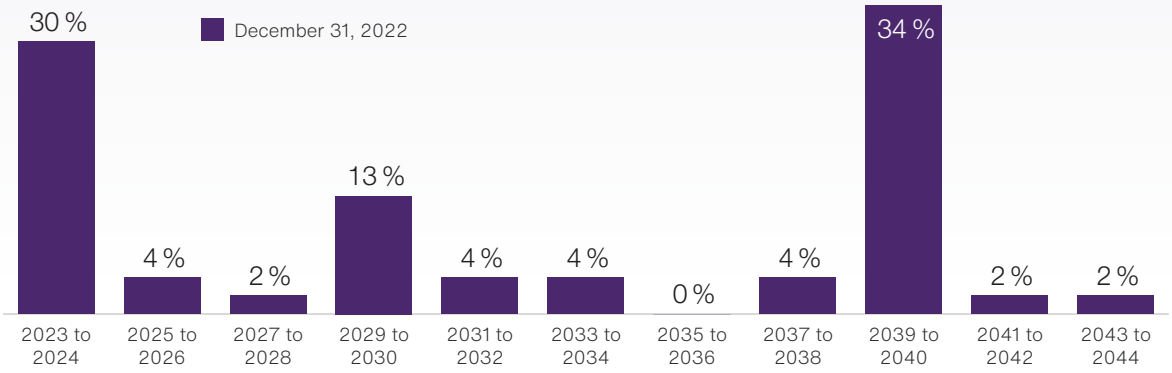


FIGURE 12 I Short-term medical cost trend.



2. For the 2023 survey, companies with flat medical trend assumptions were recorded as attaining their ultimate rate in 2023. In prior surveys, flat medical trend assumptions would have been excluded from the year in which the ultimate rate is attained statistics and figures. The median year the ultimate rate was reached under the prior methodology shown in last year's survey was 2032 rather than 2030.

FIGURE 13 I Year in which ultimate medical cost trend is attained.



2023 update

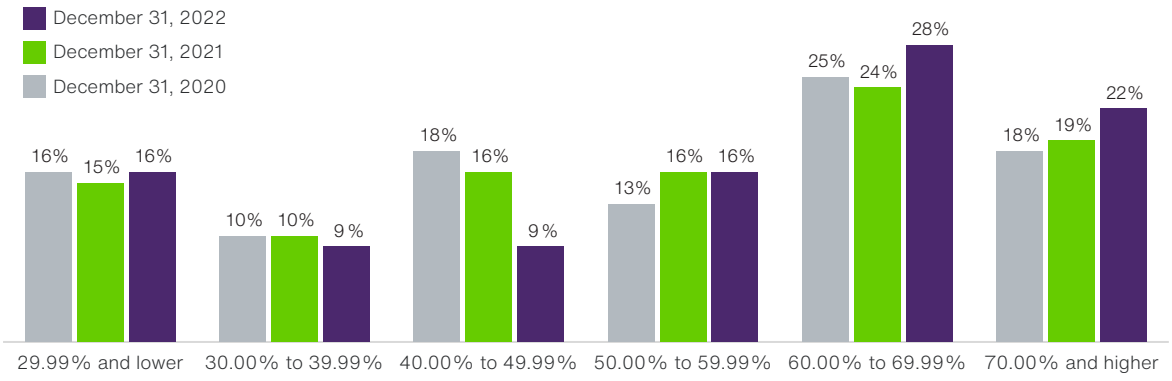
The McMaster Model, using it's baseline inputs and a general inflation assumption of 2.00%, suggested the ultimate medical cost trend assumption should be 3.57% starting in 2040. Updating the model to reflect the latest forecasts from the Canadian Institute of Heath Information's National Health Expenditure Trends Report released November 3, 2022, suggests that the year the ultimate rate of 3.57% is attained may be delayed until 2043. We do not anticipate a significant change in the ultimate medical trend rates but expect the year the ultimate rate is attained to continue to be delayed, keeping the select period relatively consistent.

Pension plan asset allocation.

Under IAS 19, the allocation of pension fund assets between equities, fixed income and other assets must be disclosed. Additional categories may be added to facilitate the readers' understanding of the investment risks faced by the fund. Under US GAAP, additional information about plan assets, such as the classes of plan assets, the fair value of each class and level, and how investment allocation decisions are made, are also required to be disclosed.

The average asset allocation as at December 31, 2022, was 35% in equities, 46% in fixed income and 19% in other assets. This is slight shift from the asset allocation as at December 31, 2021 of 40% in equities, 47% in fixed income and 13% in other assets, likely due to companies taking advantage of higher bond yields in 2022 to de-risk a portion of the pension obligations by investing more in fixed income or entering into buy-in annuity arrangements. The distribution of the proportion of funds invested in equities and in other assets (excluding fixed income) is shown in figure 14.

FIGURE 14 I Company distribution by pension plan equity and other assets weighting.



2023 update

The further rise of bond yields since the end of 2022 may present opportunities for more plans to invest in fixed income as well as to implement certain de-risking activities.

Defined benefit cost – IAS 19.

With respect to pension plans reporting under IAS 19, figure 15 shows the aggregate amount recognized in profit or loss (sum of the service cost and the net interest on the net defined benefit liability) and the aggregate amount recognized in other comprehensive income (remeasurements of the net defined benefit liability).

For 2022, these amounts are $2.2 billion and $-3.2 billion respectively. The remeasurements of $-3.2 billion consist mainly of actuarial gains on the defined benefit obligation resulting from the revision of the discount rate assumption as at December 31, 2022, net of losses on plan assets in 2022 (compared to the interest generated by using the discount rate).

In IAS 19, remeasurements may be transferred to any other component in equity. Alternatively, they may be left in accumulated other comprehensive income ("AOCI"). About 69% of the companies in our survey are transferring the remeasurements immediately to retained earnings, while the others (31%) are recognizing the amounts in AOCI.

With effect from January 1, 2019, IAS 19 requires a re-measurement of the defined benefit cost following a special event, based on the assumptions at the date of the event. As the discount rates were slightly less than December 2022 rates throughout the first half of 2023 before increasing above December 2022 rates in Q3, the re-measurement requirement may have an upward or downward impact on expense for certain entities that have special events in 2023, depending on whether the event occurred in the first or second half of the year.

FIGURE 15 I Historical amounts recognized in profit or loss and remeasurements recognized in other comprehensive income ($ billion).

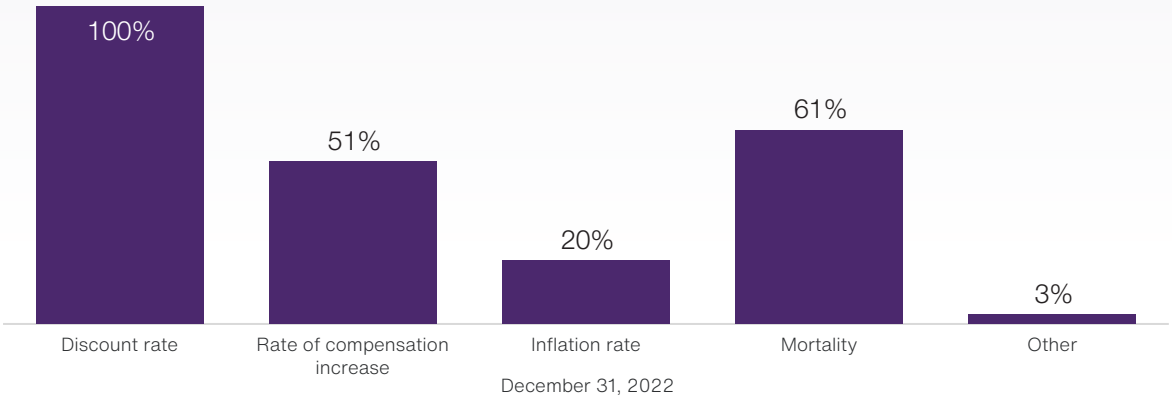
2023 update

Since the beginning of 2023, the pension expense has decreased by approximately 23% mainly due to the increase in the discount rates (all other things being equal).

Additional disclosures – IAS 19.

In IAS 19, some information with respect to the level of risk inherent in an entity's defined benefit plans have to be disclosed. However, some parts of the standard may be subject to interpretation and require professional judgment. Consequently, the level of detail in the disclosures may vary from one company to another. For example, 95% of the companies surveyed disclosed a sensitivity analysis of the defined benefit obligation, as required by IAS 19, while 5% did not disclose any. Figure 16 shows which actuarial assumptions were used for those companies that disclosed a sensitivity analysis.

FIGURE 16 I Actuarial assumptions used in the sensitivity analysis.



2023 update

In March 2021, the IASB published an exposure draft on proposing changes to the disclosure requirements of IAS 19, the disclosure focus would shift from a "checklist" approach to a more "objective-defined" approach. The consultation period closed in January 2022. After deliberating on the feedback provided to the exposure draft the IASB decided against proceeding with any further work on disclosure requirements under IAS 19. At the time of preparing this survey, we would not anticipate any material changes to disclosure requirements before the end of 2023.

For more information.

This survey is intended to provide information regarding the assumptions disclosed by a wide range of companies and, as such, can provide an indication of trends. The assumptions used for your own employee benefit plans will depend on several factors. For more information, please speak to your TELUS Health consultant.

Appendix: Selecting the discount rate.

In general, the DBO for defined benefit plans is highly sensitive to the discount rate assumption. For example, a 25 bps decrease in the discount rate can increase the DBO by as much as 5%.

IAS 19 provides general guidance for the selection of the discount rate assumption. The discount rate should be determined by reference to market yield on high-quality corporate bonds. In countries where there is no deep market in such bonds, the market yield on government bonds should be used. The discount rate should reflect the estimated timing of benefit payment, but it is common practice to apply a single weighted average rate. However, the precise methodology for computing this rate is not prescribed.

Under US GAAP, the guidance for the selection of the discount rate assumption is similar to those under IAS 19, with an alternative to reflect the rates at which the pension benefits could be effectively settled.

The Canadian Institute of Actuaries (CIA) published an Educational Note in September 2011 (subsequently revised in June 2018 as well as in December 2020), which offers advice to pension actuaries who are engaged by an entity to provide guidance on the discount rate to use for accounting purposes. The Educational Note describes a methodology to extrapolate the long end of the high-quality corporate yield curve that the Task Force believes would be appropriate in the current economic environment. This methodology uses high-quality corporate and provincial (adjusted) bonds. It is possible that some entities may not have applied the proposed methodology set forth by the CIA in establishing the discount rate as at December 31, 2022, instead using an alternative model that still conforms to the principles of the Educational Note. This could result in different discount rates for similar pension plans, given current conditions in financial markets.

Information on high quality Canadian corporate and provincial bonds (rated AA or higher) is generally available from independent sources and can serve as a starting point in the determination of the discount rate.

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