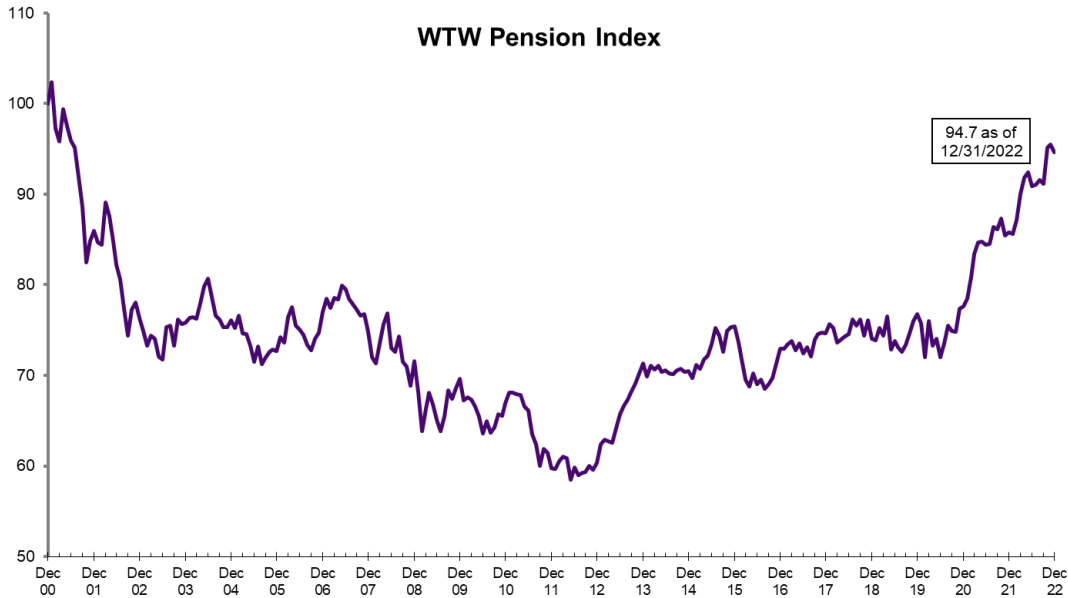


Pension Finance Watch

Fourth Quarter 2022

Results for Canadian defined benefit pension plans

The WTW Pension Index has increased in the fourth quarter due to positive investment returns. The asset increase was offset partially by a slight increase in liabilities. The net effect on our benchmark plan was an increase of 3.9% in the WTW Pension Index (from 91.1 to 94.7) for the quarter.



About this report

This report reviews how capital market performance affected Canadian defined benefit pension plans, with a focus on linked asset/liability results. Specific plan results depend on liability characteristics, portfolio composition and actual investment results, among other factors.

This information has been prepared for clients of WTW. For information on how this issue affects your organization, please contact your consultant, or one of the following consultants:

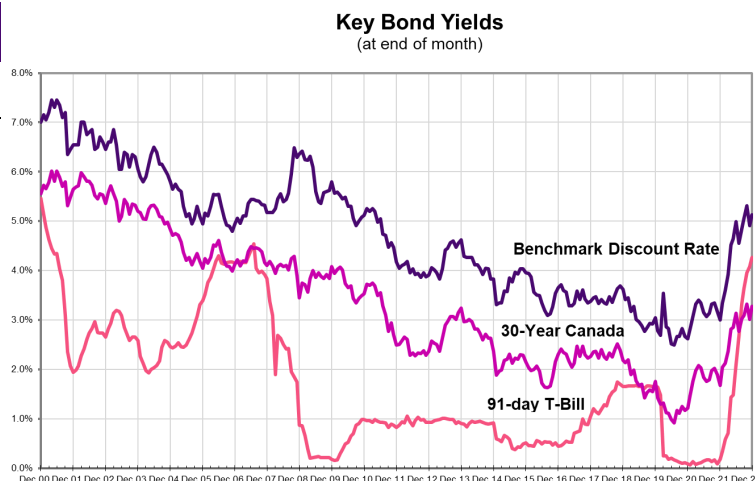
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Canadian interest rates

The Bank of Canada continued its aggressive increases in its overnight lending rate during Q4, in an attempt to curb inflation. They increased the rate by 1.00% during the quarter (0.50% in October, followed by another 0.50% in December) pushing the policy interest rate to 4.25% to end the quarter, the highest it has been since early 2008. The yield on 30-year Canada treasuries increased during the quarter to finish 19 bps higher than it started. Credit spreads decreased by approximately 10 bps during the quarter. The benchmark discount rate determined under the RATE:Link methodology used to determine defined benefit obligations increased by 7 bps, leading to a slight increase in accounting liability measures over the quarter when combined with the effect of interest accumulation.

Canadian Bond Yields (End of Period)			
	Dec. 2022	Sept 2022	Dec. 2021
Canada Treasuries⁽¹⁾			
30-year	3.28	3.09	1.68
10-year	3.30	3.16	1.42
91-day T-bill	4.27	3.64	0.18
Corporate Bonds⁽¹⁾			
FTSE	5.27	5.20	2.45
Benchmark Discount Rate	5.13	5.06	3.00



(1) Source: Information prior to June 2015 and FTSE Corporate bond yield provided by FTSE Global Debt Capital Markets Inc. Copyright © FTSE Global Debt Capital Markets Inc. All rights reserved. The information contained herein may not be redistributed, sold or modified or used to create any derivative work without the prior written consent of FTSE Global Debt Capital Markets Inc. Effective June 2015, Canada 10 and 30 year yield were obtained from the Bank of Canada; the 91-day T-bill yield was obtained from Scotiabank.

Investment returns

Global equity markets started the quarter with a boom, hitting double digit positive returns by the end of November. December saw a bit of a pull back, however the quarter still ended on a positive note. This as rising hope, from signs of peaking inflation, that central banks would succeed in their efforts to quell out of control inflation gave way to further increases in interest rates and rising risk of recession across economies. Most major global equity markets saw mid-to-high single digit returns for the quarter. Similarly, Canadian equities saw mid single digit positive returns, however they still underperformed (in local currency terms) both U.S. and International equities.

During Q4 we saw a strengthening in the CAD relative to USD which for unhedged Canadian investors decreased CAD returns on US equity investments. Conversely, we saw a weakening in the CAD relative to other international currencies which for unhedged Canadian investors increased CAD returns on international equity investments, propelling it into the mid-double digits.

Bond yields were volatile, fell to start the quarter but bounced back in mid December finishing the quarter higher than they started. Long duration bonds showed slightly negative returns for the quarter, while universe bond returns were slightly positive. Combined with the effect of falling credit spreads corporate bonds saw, with their relative shorter duration, a slightly positive return for the quarter while government bonds were slightly negative.

Asset Class Returns

	Q4 2022	YTD	Last 12 months
Stock Returns			
Canadian Equities – S&P/TSX Composite ⁽²⁾	6.0%	-5.8%	-5.8%
U.S. Equities – S&P 500 (Canadian dollars) ⁽³⁾	5.6%	-12.4%	-12.4%
Non-North American Equities – MSCI EAFE (Canadian dollars) ⁽⁴⁾	15.2%	-8.5%	-8.5%
Canadian Fixed Income Returns			
91-day T-Bills	1.0%	1.8%	1.8%
FTSE Universe Bonds	0.1%	-11.7%	-11.7%
FTSE Long Bonds	-1.0%	-21.8%	-21.8%

(2) Source: Bloomberg LP. All S&P/TSX Composite indices are registered trademarks of The Toronto Stock Exchange Inc. and Standard & Poor's Corporation.

(3) Source: Bloomberg LP. All S&P indices are registered trademarks of Standard & Poor's Corporation

(4) Source: Bloomberg LP. All MSCI indices are registered trademarks of Morgan Stanley Capital International Inc.

The benchmark plan's 50% equity / 50% fixed income portfolio increased 4.2% for the quarter. The more conservative 30% equity portfolio increased 2.2% for the quarter, and the more aggressive 70% equity portfolio increased 6.4% for the quarter.

Pension plan liabilities under Canadian, International and U.S. accounting standards are measured using a discount rate based on yields available on high-quality corporate bonds as of the measurement date. Using the same RATE:Link methodology as we use for the WTW Pension Index in other countries, the discount rate for our benchmark plan increased over the quarter by 7 basis points to 5.13% at December 31, 2022. Among other factors, the selected discount rate depends on projected plan cash flows, the bond data and the methodology utilized for constructing the yield curve. The RATE:Link approach represents one possible methodology; other acceptable methodologies may result in higher or lower discount rates, and consequently lower or higher plan liabilities.

WTW tracks the monthly change in its Pension Index in a series that dates to December 31, 2000. Like bond prices, pension liability values move in the opposite direction to interest rates. The WTW Pension Liability Index increased by 0.3% for the quarter, reflecting the combined effect of interest accumulation and the discount rate change.

The impact of the increase in the liability discount rate together with positive investment returns resulted in a net increase in the WTW Pension Index over the quarter, from 91.1 to 94.7 as at December 31, 2022. The change in the WTW Pension Index does not reflect any contributions made to reduce the size of any deficit or any contribution holiday taken on account of any surplus.

Canadian Pension Index Results

	Q4 2022	YTD	Last 12 Months
Portfolio Returns			
30% Stocks/70% Fixed Income	2.2%	-18.1%	-18.1%
50% Stocks/50% Fixed Income	4.2%	-15.7%	-15.7%
70% Stocks/30% Fixed Income	6.4%	-13.2%	-13.2%
Benchmark Plan Liability Results			
Change in Pension Liability Index	0.3%	-23.6%	-23.6%
Percentage Change in Pension Index	3.9%	10.4%	10.4%

A note to our readers

This publication tracks the asset/liability performance of a hypothetical Canadian benchmark pension plan, based on a 50/50 asset mix and a typical liability profile. The index is not intended to represent an average funded ratio. Rather, the intent is to provide plan sponsors with a consistent and relevant measure to serve as a general indicator of the effects of capital market events on pension plan financing.

Definition of terms

Bond yields

- The 30-year Canada semi-annual bond yield reflects the yield on the actively-traded Government of Canada bond maturing in 30 years.
- The 10-year Canada semi-annual bond yield reflects the yield on the actively-traded Government of Canada bond maturing in 10 years.
- The 91-day T-Bill semi-annual yield refers to the yield on Government of Canada treasury bills which mature in 91 days.
- The FTSE Corporate semi-annual bond yield reflects the yield on the FTSE Corporate Bond Index composed of corporate bonds with varying maturity.

Asset class returns

- Total return incorporates the combined effect of price changes and interest or dividend income. This will typically differ from the daily results published in financial journals, which are based only on price changes.
- S&P/TSX Composite refers to the “S&P/TSX Composite Index”, which tracks larger companies in the Canadian market.
- S&P 500 refers to the “S&P 500 Index”, which tracks the largest 500 companies in the U.S. based on the market value of their equity. Total return is reported in terms of the Canadian dollar and therefore includes the effect of currency changes.
- MSCI EAFE refers to the “Morgan Stanley Capital International Europe, Australasia, Far East Index” of equity securities. Total return is reported in terms of the Canadian dollar and therefore includes the effect of currency changes.
- 91-Day T-bill returns are based on the “FTSE 91-day Treasury Bill Index”.
- FTSE Universe Bonds refers to the “FTSE Universe Bond Total Return Index” for government and corporate bonds of all maturities in excess of one year.
- FTSE Long Bonds refers to the “FTSE Long Term Bond Total Return Index” for government and corporate bonds with maturities in excess of 10 years.



Portfolio returns

- The WTW Pension Index 50% / 50% portfolio return is based on a diversified portfolio of 50% equity (10% Canadian, 20% U.S. and 20% MSCI EAFE) and 50% fixed income (FTSE Long Bonds).
- The 30% and 70% equity portfolios are constructed with similar composition within their equity and fixed income components.

Benchmark discount rate

- The discount rate is determined each month for this benchmark pension plan based on observed yields for high-quality corporate bonds and the benchmark plan's projected cash flows. Higher or lower discount rates may be more appropriate for other plans with different expected cash flows.* Furthermore, a variety of methodologies may be used to interpret the data available on long-term Canadian corporate bonds. This calculation uses the same RATE:Link methodology as we use for the WTW Pension Index in other countries. Other acceptable methodologies may result in higher or lower discount rates, depending on market conditions.

WTW Pension Liability Index

- The Pension Liability Index tracks the change in the benchmark plan's obligations due to the accumulation of interest and changes in financial assumptions. For this purpose, the obligations are measured based on the requirements of U.S. and International accounting standards.*
- Contributions are set equal to the level of benefit payments for the benchmark plan.

WTW Pension Index

- The WTW Pension Index is the ratio of market value of assets to accounting obligations for the benchmark plan. Assets change from month to month based on the investment performance of the 50% / 50% portfolio, assumed contributions and benefit payments. Liabilities change from month to month due to accumulated service cost and interest, benefit payments and the effects of any other changes in the WTW Pension Liability Index. The WTW Pension Index is an accounting measure, not a funding measure. As such, it is not appropriate to consider this as a measure of a pension plan's funding, which is based on statutory requirements.

* The discount rate assumption is adjusted to reflect changes in market interest rates. Our benchmark plan is a traditional final-pay pension plan with approximately half of the liabilities in respect of active employees and half of the liabilities in respect of terminated vested and retired employees. Plans with different designs or demographic characteristics will see different results in terms of both the level of appropriate discount rate and the plan's response to changes in financial assumptions.
