Teachers' Pension Plan

Annual Report 2022

Safe and secure, strong and sustainable

tpp.pensionsbc.ca

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Trustees' Message

The Teachers' Pension Plan and responsible investing

For every pension dollar plan members receive in retirement, about 75 cents is generated from investment returns. The rest—about 25 cents—comes from member and employer contributions.

To help us achieve the investment returns required to pay pensions, we practise responsible investing. This means integrating environmental, social and governance (ESG) factors directly into investment decisions. We believe that companies with strong ESG business practices will provide better investment returns compared to companies with less favourable practices.

We have followed this philosophy of responsible investing for many years. It has helped the plan become the 10th largest in Canada, with assets of more than $35 billion.

> To help us achieve the investment returns required to pay pensions, we practise responsible investing.

BCI's role in responsible investing

We provide guidelines to our investment agent, BC Investment Management Corporation (BCI), on how we want the plan's assets invested. You can read these guidelines, including the Statement of Investment Policies and Procedures and the funding policy, on the plan website.

We believe that one of the biggest systemic risks facing the world today is climate change. As an investor and asset owner, the best way to reduce that risk is through engagement. Engagement means that BCI, on behalf of the plan, uses its influence and shareholder votes to urge companies and partners to be transparent about their ESG risks and adopt best practices.

Some think that broad-based divestment—the practice of selling all shares in a company or particular sector—is a better way to reduce the risk of climate change. We believe, however, that divestment is not as effective as engagement because it takes away our voice and rights as a shareholder and removes our ability to drive and influence positive change.

That being said, BCI may selectively divest if its evaluation of a company shows the risk–reward characteristics are no longer appropriate for the plan. That could include cases where critical ESG issues are identified that could impair the long-term value of a company, and the company is either not responsive or offers insufficient solutions to address those material risks.

BCI's Climate Action Plan and ESG Annual Report, available at **bci.ca** and on the plan website, provide more information on our belief in responsible investing.

Thank-you

Thank you for taking the time to read this *Annual Report*. We hope after reading it you'll understand our pride in the Teachers' Pension Plan and the security and dignity the plan provides retired educators throughout our province.

Executive summary

2022 by the numbers

Net assets

(as at December 31)

2020	2021	2022
$34.3 billion	$37.8 billion	$35.9 billion

Benefits

The plan paid out

$1.4 billion

in benefits in 2022

As at December 31, 2022, there were

41,242 pensions being paid

Membership

The plan has more than

104,900

members

Growth of active members in 2022 1.0%

Growth of retired members in 2022 1.9%

Performance

6.7%

5-year annualized rate of return exceeds the performance benchmark of 5.2%

8.6%

10-year annualized rate of return exceeds the performance benchmark of 7.3%

Plan financials

Investment strategy

The primary objective of the Teachers' Pension Plan Board of Trustees is to ensure the pension plan remains secure and stable over the long term. This depends on several factors, including whether the plan earns sufficient returns on its investments.

The board oversees and monitors the performance of the British Columbia Investment Management Corporation (BCI), which manages the plan's investments based on the board's investment beliefs and financial goals of the plan.

To meet the plan's long-term commitment to its members, the board takes a long-term approach to investing. The board aims to meet or exceed the plan's investment return objective each year, which is necessary to cover its pension obligations. The board sets an investment strategy that balances meeting this goal without taking on excessive risk.

> To meet the plan's long-term commitment to its members, the board takes a long-term approach to investing.

Risk management is a primary responsibility of the board and BCI. It involves analyzing short- and long-term risks and taking appropriate actions to mitigate those risks or capitalize on opportunities. Risks can come from a variety of sources, including market trends and environmental, social and governance (ESG) factors such as climate change.

The board and BCI have constructed a portfolio that is invested in multiple asset types, industry sectors and global markets in order to manage risk effectively. With investments across a wide range of assets, the portfolio is protected if one type of asset generates lower returns in any given period. Depending on the market outlook, investment holdings will be adjusted to either protect the plan or take advantage of opportunities to add value.

In recent years, the plan's long-term asset mix policy has increased focus on investing in private markets and real assets (tangible investments, such as land and buildings). These types of assets typically increase in value over time and help buffer the portfolio against the short-term volatility associated with public markets. Many of these investments also present opportunities for direct asset management, which enables BCI to influence the strategic direction of these companies and create long-term value for the plan.

Investment highlights

What defined 2022 was the highest rate of inflation in 40 years. In an attempt to bring down inflation, central banks raised their key benchmark interest rates to the highest levels in more than a decade. The speed with which markets contracted in response, along with high inflation, geopolitical tension and slowing economic growth, weighed down the plan's year-end returns. These were all challenges that BCI considered when managing the plan's portfolio throughout the year.

Overall plan performance

As a long-term investor, we know it is important to look at both short- and long-term performance as a measure of plan health. Considering the volatile market environment in 2022, the long-term results remain positive. The plan delivered a 6.7 per cent return over five years, which is above both the 5.2 per cent five-year benchmark as well as the plan's 5.75 per cent return objective.

The challenging market conditions did impact the plan, as is covered below, and as a result delivered an annual return of -3.4 per cent. Despite the negative performance, the portfolio outperformed its one-year benchmark of -5.9 per cent, which reflects the importance and benefits of an active management approach. The plan also ended the year with $35.9 billion in assets, down slightly from $37.8 billion the year before.

BCI's strategy of managing more assets in-house enables it to be both responsive and defensive in the face of market uncertainty. The plan has ample liquidity and is under no pressure to sell assets we want to continue to hold. While markets may be challenging, BCI remains well positioned to look for opportunities to add value in the long term. BCI and the board continue to work together to meet the plan's long-term objectives and safeguard the financial futures of plan beneficiaries during this challenging period.

6.7%
five-year returns

$35.9 billion
in assets

Public markets

Within public markets, the plan is invested in public equities (e.g., publicly traded stocks) and fixed income (e.g., government and corporate bonds). Both were heavily impacted by rising inflation and slow economic growth in the second half of the year.

The plan's public equity returns ended the year in negative territory as challenging market conditions and higher interest rates affected expectations for corporate earnings. As of December 31, 2022, the plan's public equity portfolio returned -12.1 per cent for one year. This was below the benchmark return of -11.6 per cent. Five-year returns were stronger at 6.4 per cent, compared to a 6.2 per cent benchmark.

Five-year performance:

6.4%
public equity

17.8%
private equity

Generally, fixed income assets provide stability and liquidity for the portfolio; however, these assets were directly impacted over the year as central banks raised policy interest rates. And, as rates rose, the value of existing fixed income assets fell. As a result, the plan generated a one-year fixed income return of -7.9 per cent, which was better than the benchmark return of -9.0 per cent, and the five-year performance was 1.2 per cent versus the benchmark return of 0.8 per cent.

Private equity

Private equity added the most value for the plan over the year. Even though public equity conditions were volatile, private market asset values remained relatively stable. BCI's private equity team took advantage of high prices and sold several assets when markets were at their peak, locking in high returns for the plan's portfolio. This timing was crucial, as global private equity deal activity slowed considerably in the latter part of 2022. Ultimately, the plan returned 5.3 per cent for the year versus a benchmark return of -10.4 per cent. Five-year returns were also positive at 17.8 per cent, compared to the 8.9 per cent benchmark return, demonstrating the quality and positioning of the plan's private equity portfolio.

Real estate

Real estate was another positive contributor to the plan's overall performance. The plan's annual real estate equity performance was driven by strong returns in residential and industrial real estate (e.g., warehouses and e-commerce distribution centres). The industrial sector benefited from the trend toward a more digital world, and QuadReal, the plan's real estate manager, was well positioned to take advantage of this growth. Overall, the plan's real estate one-year and five-year returns were 7.2 per cent and 7.6 per cent respectively, outperforming the one-year benchmark of 6.8 per cent and five-year benchmark of 6.4 per cent.

Infrastructure and renewable resources

As inflation rose over the year, so did demand for real assets with long-term inflation protection. This is one of the benefits of portfolio diversification, as real assets tend to hold their value better in a market downturn and can help buffer the plan against short-term volatility in public markets.

> As inflation rose over the year, so did demand for real assets with long-term inflation protection.

The plan was able to take advantage of this market opportunity and sell assets at attractive prices because of BCI's focus on high-quality, regulated investments within the infrastructure portfolio. This resulted in outperformance over both one and five years. The plan returned 9.4 per cent versus the benchmark return of 6.3 per cent over one year, and 8.7 per cent versus a 6.8 per cent benchmark over five years. Looking forward, BCI will continue to seek out sustainability-focused and renewable energy investments for the plan's portfolio, as global demand for those sectors increases.

BCI will continue to seek out sustainability-focused and renewable energy investments.

Responsible investing

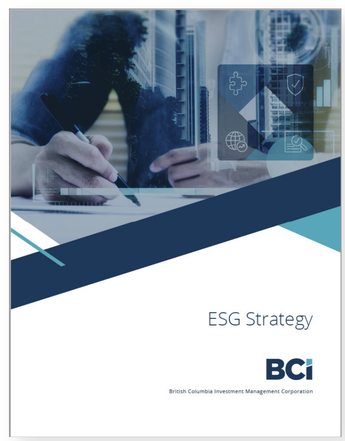
Responsible investing is a key part of the plan's investment approach and beliefs. Responsible investing means taking into account ESG factors when making investment decisions. These factors can be company-specific, like board compensation or employee safety. They can also be widespread and systemic, like climate change, water management and data security. Both the board and BCI believe that responsible investing is critical to understanding and managing the opportunities and risks associated with long-term investments, and to growing the plan in a sustainable way.

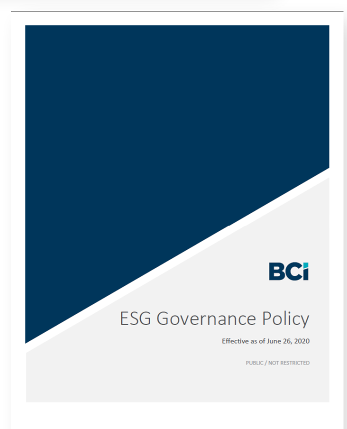
BCI takes material ESG factors into account in every investment decision made for the plan and monitors these factors throughout the life of an investment. Taking a multi-pronged approach, BCI:

- **Integrates** ESG factors together with traditional financial analysis into assessments of new investments or monitoring the portfolio
- **Influences** companies and policy-makers to promote good ESG practices and policies
- **Invests** in ESG-related opportunities that have positive risk or return characteristics for the plan
- Uses ESG-related **insight** to adapt and improve its investment strategies to better support the plan's investment goals

To support this strategy over the past year, BCI appointed its first global head of ESG and welcomed specialized team members to support BCI's private market programs.

BCI is a signatory to the Principles for Responsible Investment (PRI), a United Nations–supported international network of investors that share the goal of incorporating ESG elements into the processes and activities of institutional investors. As part of this commitment, BCI takes part in an annual assessment of its responsible investing activities and progress. BCI's 2021 PRI assessment results showed it significantly outperformed in the category of investment and stewardship policy. This reflects BCI's overall approach to responsible investment.





BCI's *ESG Strategy* and *ESG Governance Policy*

Visit bci.ca *to read these documents.*

Engagement on behalf of the plan

As a large, long-term investor, BCI uses its influence on behalf of the plan to encourage companies and partners to be transparent about their ESG risks and to adopt best practices for corporate governance, disclosure and operations.

In 2022, BCI participated in engagement initiatives targeting nearly 2,300 public companies on issues such as climate change, gender diversity and sustainable finance.

BCI is developing the 11th edition of its proxy voting guidelines. The new edition will substantially increase BCI's expectations for public companies on key ESG matters like climate risk disclosure, board diversity, corporate governance roles and shareholder rights.

In addition, the board supports BCI in responsible investing as a member of the steering committee for the 30% Club, which advocates for companies to enhance gender diversity, and the Sustainability Accounting Standards Board, which has a mandate to promote standards of sustainability reporting.

Climate change

Climate change is a complex, global issue and remains a concern for the board, plan members, BCI and global investors. It affects many dimensions of ESG from biodiversity to income inequality. Stabilizing climate change and achieving net-zero emissions globally by 2050 must occur to reduce the most severe physical and economic impacts of climate change.

In November 2022, BCI published an update to its Climate Action Plan, which affirms its commitment to using its influence to drive actions aligned with the global goal of achieving net-zero greenhouse gas emissions by 2050. The Climate Action Plan reinforces BCI's emphasis on engagement to improve climate action across the companies in its portfolio, with policy-makers and through broader markets.

In November 2022, BCI published an update to its Climate Action Plan, which affirms its commitment to using its influence to drive actions aligned with the global goal of achieving net-zero greenhouse gas emissions by 2050.

In 2022, BCI used its ESG Risk and Opportunity Framework to stress-test the portfolio against various climate change scenarios. This evaluation showed that from 2018 to 2022, the portfolio's climate change risk level decreased overall; this was due to asset allocation decisions, a focus on actively assessing and integrating climate change into investment decisions, and increased exposure to climate-related opportunities.

BCI also collaborates with other organizations to advance its objectives in mitigating climate change risks. These include the International Corporate Governance Network, CDP (formerly Carbon Disclosure Project) and Investor Network on Climate Risk. In addition, BCI participates in Climate Action 100+, an investor initiative to engage the world's largest greenhouse gas emitters in taking necessary action in the transition to a lower-carbon world in line with the goals of the Paris Agreement. Through its participation, BCI leads or co-leads engagement with North American companies in the oil and gas, and mining sectors.

> BCI participates in Climate Action 100+, an investor initiative to engage the world's largest greenhouse gas emitters in taking necessary action in the transition to a lower-carbon world in line with the goals of the Paris Agreement.

Where it is in the financial best interests of clients, BCI also seeks investment opportunities created from the global energy transition. BCI is increasing its investments in sustainable bonds, which are bonds that offer returns for the plan as well as exposure to positive environmental and social outcomes. As at December 31, 2022, BCI had cumulative historical participation of more than $4 billion in sustainable bonds and anticipates reaching $5 billion by 2025.

To learn more about BCI's ESG and Climate Action Plan activities, visit **bci.ca/ESG**.

Views on divestment and engagement

Divestment is a practice in which an investor sells their shares in a company that may not be meeting its ESG goals.

Neither the board nor BCI believe that broad-based divestment is an effective strategy to address long-term and persistent ESG risks. Instead, by engaging with companies and using ownership rights, investors are able to raise concerns and influence corporate ESG practices.

Divestment eliminates a shareholder's right to engage with management and promote change through proposed amendments to policies and practices. Divestment may also compromise the plan's investment strategy, increase risks and costs, negatively affect investment returns, and fail to result in absolute emissions reductions.

Separate from an ESG-driven view on divestment, BCI will not invest in companies that produce products prohibited by Canadian legislation or international agreements. An example of this was BCI's continued divestment of Russian investments following international sanctions resulting from its invasion of Ukraine in February 2022.

Managing investment costs

BCI operates on a cost-recovery, not-for-profit basis, meaning the plan pays fees only to cover the cost of managing the investments. Managing investment costs is important to the board, and BCI's fees continue to be competitive with its peers and are much lower than those charged by investment managers in the private sector.

Investment management fees are affected by the types of assets, the plan's asset mix (what is in the portfolio) and BCI's investment strategy. Some asset classes, such as private markets that produce higher returns, require complex systems and processes, which are more expensive to manage and, in turn, affect fees. However, since BCI manages a large amount of assets, it has access to significant economies of scale when investing on behalf of the plan. BCI's transition to active, in-house management of funds away from more expensive external managers has helped reduce fees. The goal is to earn enough investment income to fulfil the plan's pension promises at reasonable cost.

Member Larry Dureski, Gordon Terrace Elementary School, SD5 (Southeast Kootenay)

Actuarial valuation: The plan's report card

The actuarial valuation is the most important measurement of the plan's health. Using a series of economic and demographic assumptions, it determines how much money the plan needs to pay current and future pensions. An independent actuary—a professional with specialized training in financial modelling, laws of probability and risk management—performs the valuation at least every three years.

For the valuation, the actuary compares current assets, future contributions and investment returns against the money to be paid out in the future for pension benefits.

VALUATION HISTORY ($ MILLIONS)
as at December 31

	Basic pension benefit surplus		
	2020	**2017**	**2014**
For funding purposes (entry-age basis)	$1,584	$644	$449
Funding ratio	105.3%	102.5%	102.0%

Retired members Norman and Berna Ruffell

Tables, charts and graphs

INVESTMENT ASSET MIX AND PERFORMANCE (%)

as at December 31, 2022

	Approved range	Target asset mix	Actual asset mix	Rate of return	Performance benchmark
Leverage	(15)–0	(10)	(10.1)	2.0	2.0
Short-term	0–10	2	2.3	4.6	5.4
Government bonds	5–35	24	23.3	(12.0)	(12.3)
Credit	0–20	12	11.9	(4.0)	(7.3)
Mortgages	0–10	4	3.4	2.9	0.4
Fixed income	**15–60**	**42**	**40.9**	**(7.9)**	**(9.0)**
Canadian equities	0–10	3	2.8	(5.8)	(5.8)
Global equities	5–30	18	15.9	(13.1)	(12.4)
Emerging markets	0–10	5	4.9	(12.2)	(14.3)
Private equity	5–25	13	15.2	5.3	(10.4)
Equity	**25–55**	**39**	**38.8**	**(6.2)**	**(11.2)**
Real estate	**10–25**	**17**	**18.0**	**7.2**	**6.8**
Infrastructure and renewable resources	**5–20**	**12**	**11.8**	**9.4**	**6.3**
Other	**0–5**	**0**	**0.6**	**—**	**—**
Total asset mix		**100**	**100.0**	**(3.4)**	**(5.9)**

INVESTMENT PERFORMANCE (%)

year ended December 31, 2022

	Rate of return	Performance benchmark
Annual rates		
2022	**(3.4)**	**(5.9)**
2021	11.6	8.4
2020	10.7	11.2
2019	13.1	13.1
2018	2.3	0.8
Five-year annualized rates		
2022	**6.7**	**5.2**
2021	9.9	8.7
Ten-year annualized rated		
2022	**8.6**	**7.3**
2021	10.1	8.8

FIVE-YEAR FINANCIAL SUMMARY ($ MILLIONS)

year ended December 31

	2022	2021[1]	2020	2019	2018
Increase in assets					
Investment income	**$ (1,205)**	$ 4,049	$ 3,392	$ 3,712	$ 720
Contributions					
Members	**414**	401	384	365	404
Employers	**417**	404	387	368	413
Transfers from other plans	**12**	10	11	6	6
Total increase in assets	**(362)**	4,864	4,174	4,451	1,543
Decrease in assets					
Pension benefits	**1,396**	1,318	1,293	1,248	1,203
Transfers to other plans	**9**	11	6	3	9
Investment and administration costs[2]	**87**	50	95	64	81
Total decrease in assets	**1,492**	1,379	1,394	1,315	1,293
Increase in net assets	**(1,854)**	3,485	2,780	3,136	250
Net assets available for benefits at beginning of year	**37,767**	34,282	31,502	28,366	28,116
Net assets available for benefits at end of year	**$ 35,913**	$37,767	$34,282	$31,502	$28,366
Investment and administration costs as a percentage of net assets (%)[2, 3]					
Investment management[2, 3]	**0.41**	0.24	0.38	0.35	0.35
Benefits administration	**0.04**	0.05	0.05	0.05	0.06

1 2021 has been restated due to changes in accounting methods. Some BC Investment Management Corporation expenses are netted against investment income.

2 Investment costs as a percentage of net assets include certain external investment management costs totalling $75.8 million (2021—$52.2 million; 2020—$36.9 million; 2019—$55.7 million; 2018—$32.0 million) that are netted against investment income; they are not included in investment and administration costs in the financial statements.

3 Investment costs as a percentage of net assets exclude external indirect investment management costs netted against investment income on the statement of changes in net assets available for benefits. This is consistent with current industry practice; including these costs using the budgeted amount would have increased investment management costs as a percentage of net assets by an estimated 39 basis points in 2022. External indirect investment management costs include limited partnership management fees and other fees principally incurred within investments held in the private equity, infrastructure and global real estate asset classes.

INVESTMENTS HELD

as at December 31, 2022

	Market value ($ millions)	Asset mix market value (%)
Short-term	$ 831	2.3
Leverage	(3,622)	(10.1)
Bonds	8,366	23.3
Credit	4,281	11.9
Mortgages	1,225	3.4
Canadian equities	1,007	2.8
Global equities	5,689	15.9
Emerging markets equities	1,751	4.9
Real estate[1]	6,463	18.0
Private equity[1]	5,460	15.2
Infrastructure and renewable resources	4,231	11.8
Centralized currency management	214	0.6
Cash and unsettled trades	1	0.0
Total investments	**35,897**	**100.0**
2021 comparison	$37,718	

1 Asset classifications vary from the financial statements for the purpose of performance reporting.

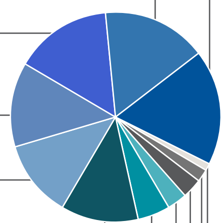
TOP 25 SECURITY HOLDINGS
TOTAL PUBLIC EQUITY EXPOSURE—WORLDWIDE

Security	% of portfolio	Total exposure ($ millions)
Microsoft Corp	0.6	$ 230
Apple Inc	0.5	172
Taiwan Semiconductor Manufacturing Co Ltd	0.3	108
UnitedHealth Group Inc	0.3	95
Alphabet Inc	0.3	95
Mastercard Inc	0.2	74
Samsung Electronics Co Ltd	0.2	72
Tencent Holdings Ltd	0.2	66
Amazon.com Inc	0.2	66
Royal Bank of Canada	0.2	57
Toronto-Dominion Bank	0.1	51
CVS Health Corp	0.1	51
Hitachi Ltd	0.1	47
SAP SE	0.1	46
Booking Holdings Inc	0.1	46
LVMH Moet Hennessy Louis Vuitton SE	0.1	45
NVIDIA Corp	0.1	43
NIKE Inc	0.1	42
Alibaba Group Holding Ltd	0.1	42
Iberdrola SA	0.1	42
WSP Global Inc	0.1	41
Siemens AG	0.1	41
Fidelity National Information Services Inc	0.1	39
Wal-Mart de Mexico SAB de CV	0.1	38
Thermo Fisher Scientific Inc	0.1	37

INVESTMENT HOLDINGS (MARKET VALUE) ($ BILLIONS)

as at December 31, 2022

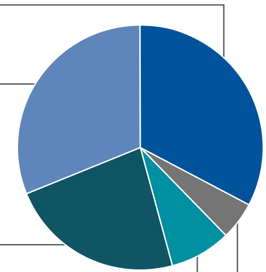
Real estate	$6.5	18%
Global equities	$5.7	16%
Private equities	$5.5	15%
Bonds net of leverage	$4.7	13%
Credit	$4.3	12%
Infrastructure and renewable resources	$4.2	12%
Emerging markets	$1.8	5%
Mortgages	$1.2	3%
Canadian equities	$1.0	3%
Short-term	$0.8	2%
Other	$0.2	1%



DOMESTIC REAL ESTATE, BY TYPE (%)

as at December 31, 2022

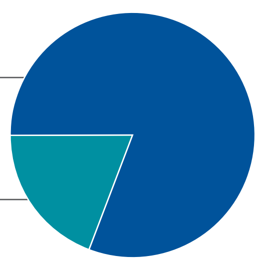
Residential	33
Industrial	31
Office	23
Alternatives	8
Retail	5



CANADIAN EQUITIES (MARKET VALUE) (%)

as at December 31, 2022

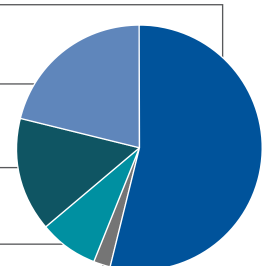
Actively managed	81
Index	19



REAL ESTATE, BY LOCATION (%)

as at December 31, 2022

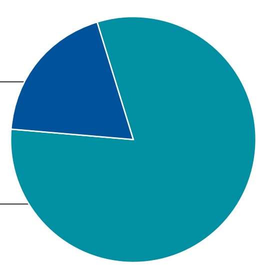
International	54
Ontario	21
British Columbia	15
Alberta	8
Rest of Canada	2



GLOBAL EQUITIES (MARKET VALUE) (%)

as at December 31, 2022

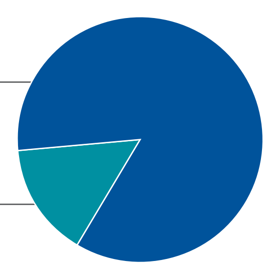
Actively managed	19
Index	81



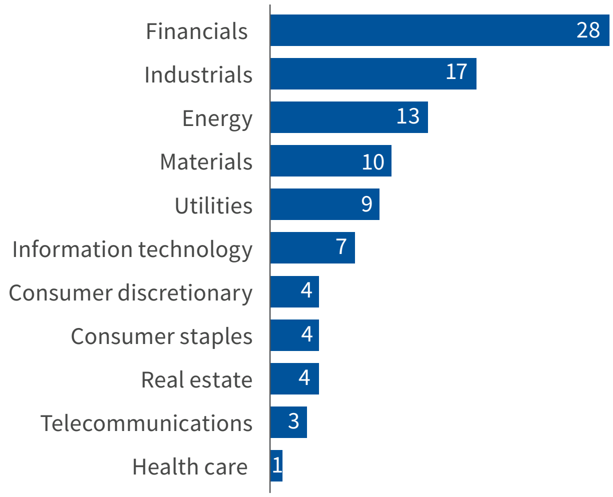
BONDS (MARKET VALUE) (%)

as at December 31, 2022

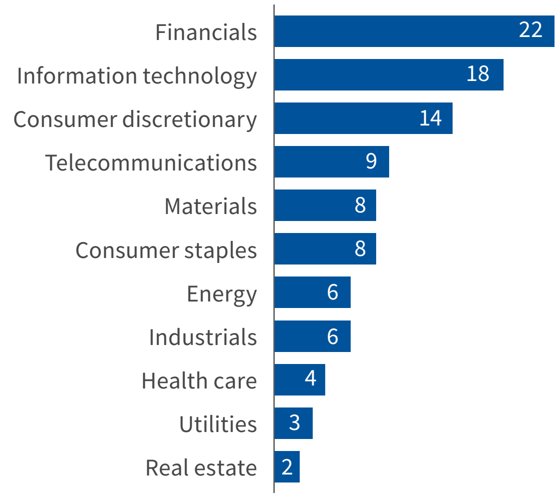
Government	85
Corporate	15



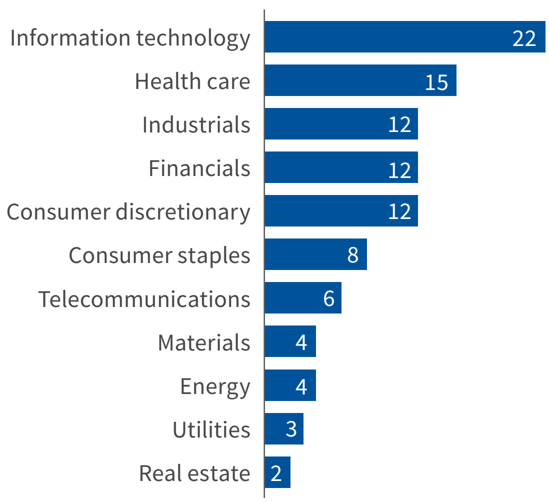
CANADIAN EQUITIES, BY SECTOR (%)
as at December 31, 2022



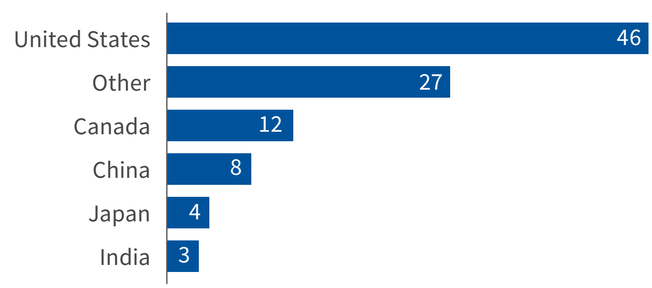
EMERGING MARKETS EQUITIES, BY SECTOR (%)
as at December 31, 2022

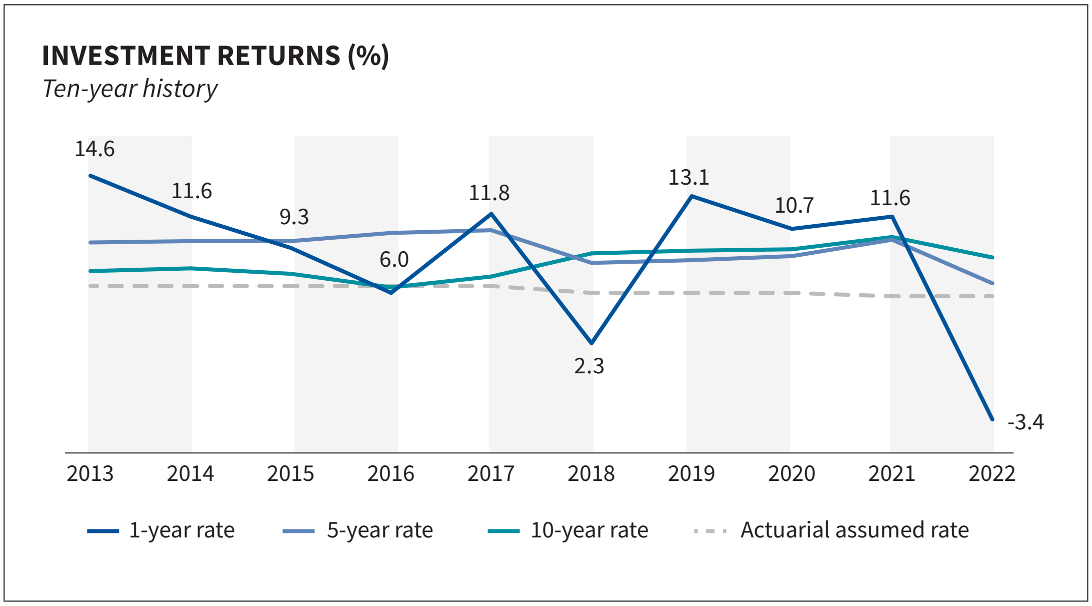


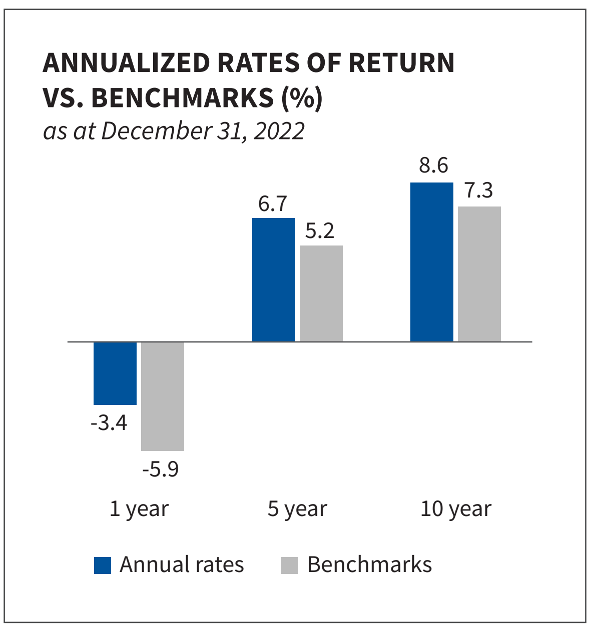
GLOBAL EQUITIES, BY SECTOR (%)
as at December 31, 2022



EQUITY EXPOSURE, BY REGION (%)
as at December 31, 2022




INVESTMENT RETURNS (%)
Ten-year history
14.6
11.6
9.3
6.0
11.8
2.3
13.1
10.7
11.6
-3.4
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
1-year rate
5-year rate
10-year rate
Actuarial assumed rate


ANNUALIZED RATES OF RETURN VS. BENCHMARKS (%)
as at December 31, 2022
-3.4
-5.9
6.7
5.2
8.6
7.3
1 year
5 year
10 year
Annual rates
Benchmarks

Who we are

The 2022 Teachers' Pension Board of Trustees

The board is made up of trustees appointed by the employer partner (Province of British Columbia) and the member partner (BC Teachers' Federation). The board appoints a chair and vice-chair.

The board's mission is "To provide retirement income to plan members by effectively and efficiently meeting the pension promise and fulfilling the joint trust placed on us by the Plan Partners."

As part of its responsibilities, the board appoints directors to the boards of British Columbia Investment Management Corporation (BCI), which provides investment management services, and British Columbia Pension Corporation, which provides pension administration services.

Meet the trustees

as of December 31, 2022

Reg Bawa, chair
Appointed by: Province of British Columbia
Committees: Executive forum, governance, interplan coordination (chair)
Trustee since 2010

Rob Taylor, vice-chair
Appointed by: British Columbia Teachers' Federation
Other boards: BCI Board of Directors
Committees: Benefits and communications, executive forum, interplan coordination, interplan investment, interplan trustee education
Trustee since 2015

Elizabeth Baverstock
Appointed by: British Columbia Teachers' Federation
Other boards: BC Pension Corporation Board of Directors (chair)
Committees: Benefits and communications
Trustee since 2018

Al Cornes
Appointed by: British Columbia Teachers' Federation
Committees: Benefits and communications
Trustee since 2022

Cheryl Eason
Appointed by: Province of British Columbia
Other boards: BC Pension Corporation Board of Directors
Committees: Governance (chair), interplan investment
Trustee since 2018

Jonathan Foweraker
Appointed by: Province of British Columbia
Committees: Governance
Trustee since 2022

Chung Yan Ip
Appointed by: British Columbia Teachers' Federation
Committees: Benefits and communications (chair), governance, interplan audit
Trustee since 2011

Lynda Reeve
Appointed by: Province of British Columbia
Committees: Governance
Trustee since 2020

Leslie Roosa
Appointed by: British Columbia Teachers' Federation
Committees: Benefits and communications, governance, interplan trustee education
Trustee since 2019

Chris Skillings
Appointed by: Province of British Columbia
Committees: Benefits and communications, interplan audit, interplan investment
Trustee since 2021

Trustee remuneration

The plan compensates trustees or their employers for time spent on board business. Guidelines and rates are set out in the board's remuneration policy. Under the policy, remuneration may be adjusted annually by an amount equal to the cost-of-living adjustment made to pension payments.

TRUSTEE REMUNERATION

year ended December 31, 2022

Board member	Meeting days	Per diem	Annual stipend	Chair and vice-chair remuneration	Total payments	Paid to
Reg Bawa (chair)	22	$ 9,834.00	$ 4,468.00	$4,468.00	$ 18,770.00	Minister of Finance
Rob Taylor (vice-chair)	26	11,622.00	4,468.00	2,234.00	18,324.00	Board member
Elizabeth Baverstock	15.5	6,929.00	—	—	6,929.00	Richmond Teachers' Association
	—	—	4,468.00	—	4,468.00	Board member
Al Cornes	31	9,387.00	4,468.00	—	13,855.00	Board member
Cheryl Eason	8	3,576.00	2,234.00	—	5,810.00	Royal Roads University
	10	4,470.00	2,234.00	—	6,704.00	Board member
Jonathan Foweraker[1]	4.5	2,011.00	2,234.00	—	4,245.00	Minister of Finance
Chung Yan Ip	22	9,834.00	—	—	9,834.00	BC Teachers' Federation
	—	—	4,468.00	—	4,468.00	Board member
Lynda Reeve	2.5	4,917.00	1,117.00	—	6,034.00	Surrey School District
	11	1,117.00	3,351.00	—	4,468.00	Board member
Leslie Roosa	18	8,046.00	—	—	8,046.00	BC Teachers' Federation
	—	—	4,468.00	—	4,468.00	Board member
Chris Skillings	22.5	10,058.00	4,468.00	—	14,526.00	Minister of Finance
Hilary Woodward[2]	8	3,576.00	2,234.00	—	5,810.00	Legislative Assembly of British Columbia
Total		**$85,377.00**	**$44,680.00**	**$6,702.00**	**$136,759.00**	

1 Term started July 2022
2 Term ended June 2022

Trustee activities

In 2022, the board held five meetings over nine days. Trustees also participated in standing and ad hoc committees.

Teachers' Pension Board of Trustees committees

Benefits and communications committee
This committee provides advice and recommendations to the board on benefits and communications issues, and makes decisions under authority delegated by the board. It meets to address the following:

- Post-retirement group benefits
- Plan rule amendments
- Reciprocal transfer agreements
- Communications products, including *Report to Members* for active members, *Pension Life* for retired members and the *Annual Report.*

This committee met four times in 2022.

Governance committee
This committee assists the board in fulfilling its governance responsibilities by considering:

- Board policy development and review
- Risk management review
- Board strategic planning mechanisms
- Development of the board's assessment tools
- Succession planning
- Any other item referred by the board

This committee met three times in 2022.

Retired members John and Joan Young

Interplan committees and forums

Interplan committees and forums address issues common to the four BC public sector pension plans: Teachers' Pension Plan, College Pension Plan, Municipal Pension Plan and Public Service Pension Plan. Members are trustees from three or four of these pension plans (some committees do not include the Municipal Pension Plan.

Executive forum

This forum is designed to share areas of common interest among the Teachers', College, Municipal and Public Service pension plans, and provide an opportunity for plan board chairs, vice-chairs and senior administrators to keep up with the activities of the boards.

The forum met twice in 2022.

Interplan audit committee

This committee meets on behalf of the Teachers', College, Municipal and Public Service pension boards of trustees to help provide:

- A timely and cost-effective system of accounting and reporting
- Financial statements consistent with Canadian accounting standards for pension plans
- An independent audit of the financial statements
- An annual report with audited financial statements

This committee met three times in 2022.

Interplan coordination committee

This committee facilitates communication to ensure that the College, Public Service and Teachers' pension boards of trustees meet their common governance and operational requirements. Additionally, it oversees the operation of the Pension Board Secretariat.

This committee met four times in 2022.

Interplan investment committee
This committee examines investment issues common to the Teachers', College and Public Service pension boards of trustees. It makes recommendations to each board on generic investment policy and procedure statements, and on investment issues identified by a board, BCI or the committee itself. It considers:

- Investment industry trends
- Regulatory and legal developments
- Responsible investing issues
- Asset class reviews
- Updates on capital markets
- New investment products

This committee met four times in 2022.

Interplan trustee education committee
This committee allows the Teachers', College, Municipal and Public Service pension boards of trustees to develop trustee knowledge and skills, work together on common educational issues and provide information on trends in a variety of jurisdictions (e.g., benefits, pensions, investments). This group organizes the annual BC Public Sector Pension Conference.

This committee met three times in 2022.

Member Janice Marschner, teacher teaching on call, SD5 (Southeast Kootenay)

Agents and service providers

British Columbia Investment Management Corporation (BCI)
BCI provides investment management services on behalf of the board. BCI is one of Canada's largest institutional investors, with a portfolio of more than $200 billion as at March 31, 2023. It offers investment options across a range of asset classes, including public and private equity, real estate, and infrastructure and renewable resources.

British Columbia Pension Corporation
The corporation provides professional pension services for the plan on behalf of the board. One of Canada's largest pension service providers, the corporation serves the largest public sector pension plans in British Columbia, representing more than 650,000 members and their employers. Services include providing plan information to members and employers, managing contributions and member records, paying pensions, and providing policy, financial and communication services to the board.

Eckler Ltd.
Eckler serves as the plan's independent actuary. It conducts an actuarial valuation on the plan's funding every three years and supports the board in its decision making as appropriate. The results of the next valuation, as at December 31, 2023, will be published in late 2024 or early 2025.

Green Shield Canada
Green Shield Canada provides retired plan members' access to voluntary group extended health care and dental coverage.

KPMG LLP
KPMG provides external audit services to the plan.

Lawson Lundell LLP
Lawson Lundell is the plan's legal counsel.

Pension Board Secretariat
Pension Board Secretariat, a branch within BC Pension Corporation, provides day-to-day professional and operational support to help the board meet its governance and fiduciary obligations.

WTW (formerly Willis Towers Watson)
WTW is the board's benefits advisor.

Plan details

How a pension is built

Member and employer contributions

Members and employers both make contributions to the Teachers' Pension Plan.

Contributions are automatically deducted from a member's pay and sent directly to the plan along with employer contributions.

Contributions are based on a percentage of salary (shown below, effective since January 1, 2019):

- Members contribute 11.17 per cent of salary.
- Employers contribute 11.30 per cent of salary.

An independent actuary regularly monitors the plan's financial health. If the actuary finds that contributions are insufficient to pay current and future benefits, they will recommend increased contributions.

When the member and employer contributions are received by the plan, they are pooled and invested.

Investing contributions

British Columbia Investment Management Corporation (BCI), the plan's investment management agent, determines how best to invest the plan's assets within guidelines determined by the plan's board of trustees. These guidelines include environmental, social and governance factors.

BCI's relatively low fees (about 0.41 per cent of net assets) help maximize the amount of money going toward pensions.

Over time, long-term investments form the basis of the plan's financial health, making up the largest portion of the money needed to pay pensions.

About 75 per cent of a member's pension is generated from investments.

Ready to retire: Calculating the pension

The plan provides members a lifetime defined benefit pension calculated based on:

- Years of pensionable service
- The average of the member's five highest years of salary (not necessarily the last five years)

The monthly pension payment the member receives also depends on factors that include:

- The member's age at retirement and, if applicable, their spouse's age
- The pension option they choose on retirement

After the member dies, depending on the pension option they chose at retirement, the plan may continue to pay:

› A pension to the member's spouse (if the member has one)
› Pension benefits to other beneficiaries
› A lump-sum payment to the member's estate or an organization the member has named as their beneficiary

Learn more about benefits for active and retired members starting on page 33.

Why the plan is valuable

Beyond providing more than 100,000 education professionals a secure, predictable lifetime retirement income now and in the future, the plan is valuable to members and employers for many other reasons.

Ability to increase the pension
When a member goes on an approved leave of absence, they can buy the service for the leave, meaning they can increase their pension, which may allow them to retire earlier.

An impressive return on contributions
The average retired member receives far more in pension payments than they contribute (interest included) during their teaching career.

Protection for loved ones
Depending on the pension option chosen, a pension may continue to the member's spouse or beneficiaries after the member dies.

Portability
Members can move seamlessly between any of the employers in the plan with no effect on their pension. They may also be able to transfer service into and out of pension plans throughout Canada.

A strong recruitment and retention tool
By offering a defined benefit pension, plan employers have a powerful tool to recruit new teachers; the employer becomes an employer of choice.

Intergenerational fairness
Member lifetime pensions are pre-funded; the plan is designed fairly to ensure each generation pays in advance for its own benefits.

Tables, charts and graphs

AVERAGE AND MEDIAN VALUE OF PENSIONS IN PAY[1]

as at December 31, 2022

Average value[2]	$33,126
Median value[3]	$33,228

1 Includes bridge benefit for those receiving the pension before age 65.
2 The average value reflects the total value of all pensions paid by the plan divided by the total number of recipients in the plan.
3 The median value denotes the halfway point: half of the pensions paid by the plan are more than this amount and half are less.

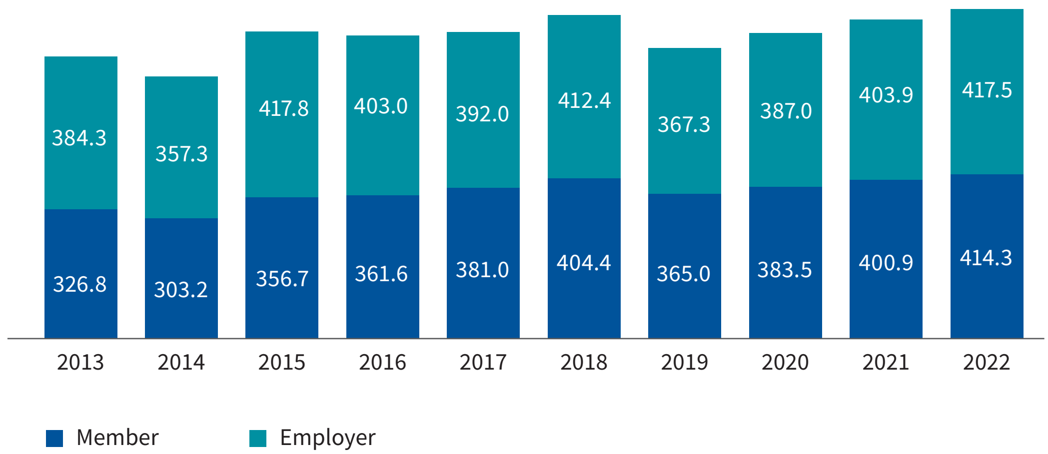
CONTRIBUTION RATES AS A PERCENTAGE OF SALARY

Flat rate on all salary (%)

	Effective January 1, 2018	Effective January 1, 2019
Member	12.92	11.17
Employer	13.23	11.30
Total	**26.15**	**22.47**

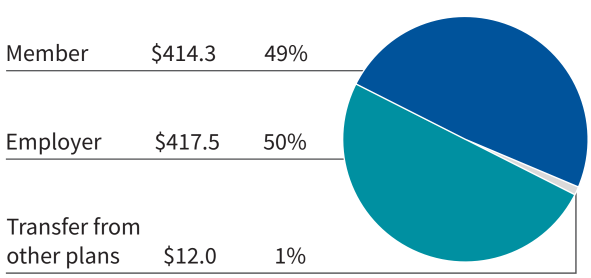
CONTRIBUTIONS ($ MILLIONS)

year ended December 31



CONTRIBUTIONS REVENUE ($ MILLIONS)

year ended December 31



PENSIONS 2013–2022

year ended December 31

	New pensions during year	Pension terminations	In force at end of year	Basic pensions paid ($ millions)	Inflation supplements paid ($ millions)	Total pensions paid ($ millions)
2022	**1,497**	**728**	**41,242**	**$ 1,068.5**	**$ 283.5**	**$ 1,352.0**
2021	1,335	665	40,473	1,038.6	237.5	1,276.1
2020	1,258	601	39,803	1,014.3	239.8	1,254.1
2019	1,290	609	39,146	991.9	224.6	1,216.5
2018	1,333	438	38,465	969.9	206.0	1,175.9
2017	1,586	526	37,570	938.9	194.9	1,133.8
2016	1,518	607	36,510	906.2	187.8	1,094.0
2015	1,432	488	35,599	877.4	184.2	1,061.6
2014	1,687	482	34,655	846.7	171.4	1,018.1
2013	1,651	363	33,450	810.9	167.4	978.3

AVERAGE VALUE OF NEW PENSIONS[1]

year ended December 31, 2022

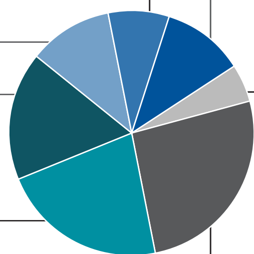
Service (years)	Total new pensions	Average annual salary base	Average annual pension	Median annual pension	Average lifetime annual pension	Median lifetime annual pension
< 10	165	$74,000	$ 7,000	$ 5,900	$ 5,000	$ 4,200
10 < 15	116	87,000	19,900	19,300	15,300	15,700
15 < 20	170	88,000	28,300	28,300	22,400	22,500
20 < 25	247	91,000	37,600	37,200	28,900	28,900
25 < 30	333	93,000	47,600	47,900	36,600	35,900
30 < 35	392	99,000	59,700	57,300	46,700	43,400
≥ 35	74	102,000	62,700	57,800	55,800	50,800
Total	**1,497**					
Average		**$91,000**	**$41,100**	**$41,800**	**$32,200**	**$32,100**

1 Average value reflects the total value of new pensions granted during the year divided by the total number of recipients—in the case of median pensions, half of retirees receive more than this amount and half receive less; pensions started before age 65 typically include a bridge benefit, which ends at age 65.

NEW PENSION RECIPIENTS, BY YEARS OF SERVICE (%)

as at December 31, 2022

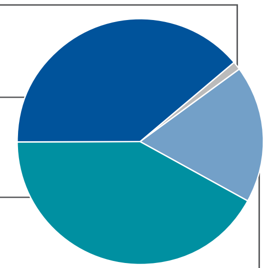
< 10 years	11
10 < 15 years	8
15 < 20 years	11
20 < 25 years	17
25 < 30 years	22
30 < 35 years	26
≥ 35 years	5



NEW PENSION RECIPIENTS, BY AGE AT RETIREMENT (%)

as at December 31, 2022

< 55	1
55 < 60	39
60 < 65	42
≥ 65	18



NEW PENSIONS, BY AGE AT RETIREMENT

year ended December 31, 2022

Years of service	< 55	55 < 60	60 < 65	≥ 65	Total
< 10	7	52	51	55	**165**
10 < 15	5	36	49	26	**116**
15 < 20	1	55	71	43	**170**
20 < 25	1	104	103	39	**247**
25 < 30	–	145	148	40	**333**
30 < 35	–	189	170	33	**392**
≥ 35	–	6	31	37	**74**
Total	**14**	**587**	**623**	**273**	**1,497**
Average years of service					
Male	15	26	27	22	**26**
Female	9	24	23	22	**23**
Average	**10**	**25**	**25**	**22**	**24**
Average age at retirement					**61**

NEW PENSIONS, BY TYPE 2013–2022

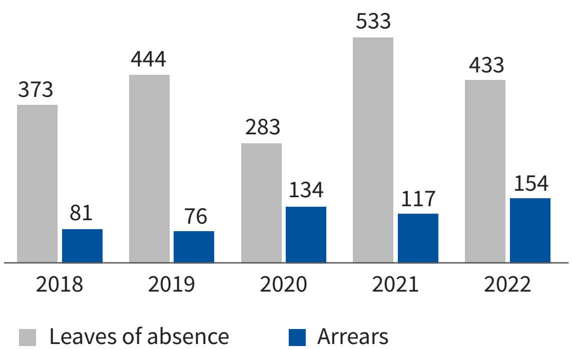
year ended December 31

	Regular	Limited members	Survivor	Disability	LTD[1] to pension	Deferred	Total
2022	**1,214**	**31**	**12**	**–**	**96**	**144**	**1,497**
2021	1,055	40	13	–	88	139	1,335
2020	989	28	15	–	83	143	1,258
2019	1,033	34	15	–	82	128	1,290
2018	1,080	38	17	–	82	116	1,333
2017	1,317	49	16	–	98	106	1,586
2016	1,256	36	12	–	92	122	1,518
2015	1,148	50	13	1	114	106	1,432
2014	1,421	54	13	–	108	91	1,687
2013	1,334	70	13	–	113	121	1,651

1 Long-term disability

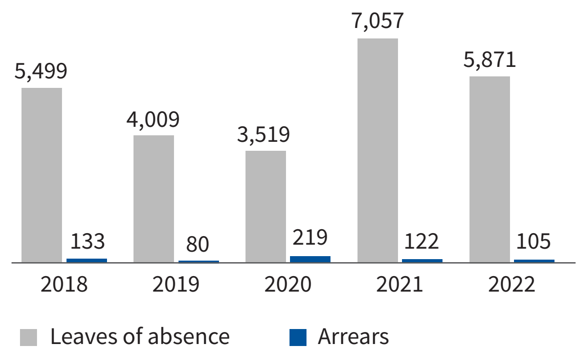
NUMBER OF PURCHASES

year ended December 31

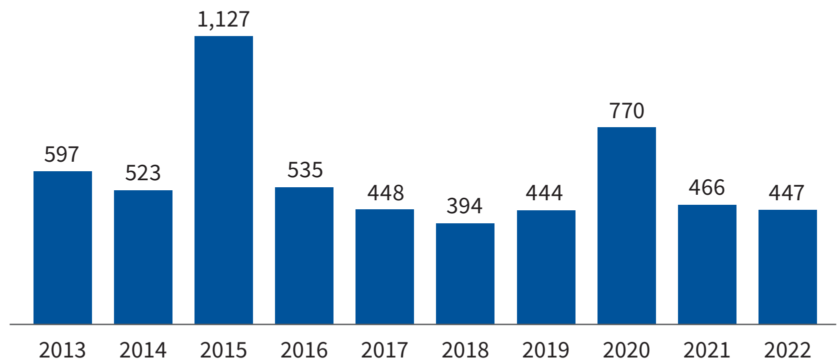


VALUE OF PURCHASES ($ THOUSANDS)

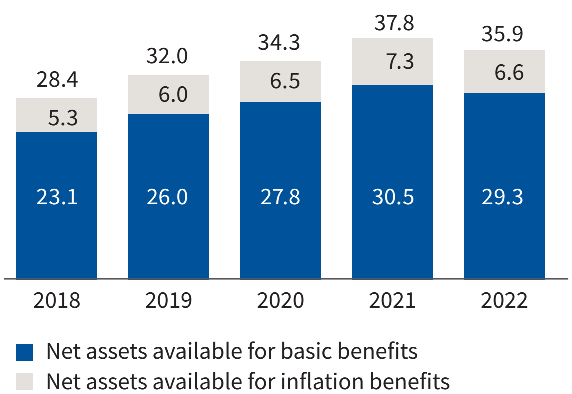
year ended December 31



NUMBER OF TERMINATION AND REFUND BENEFITS PAID
year ended December 31



NET ASSETS AVAILABLE FOR BENEFITS ($ BILLIONS)
as at December 31



Plan membership and services

Eligibility for membership

Plan membership is open to the following:

- Members of:
  - BC Principals' and Vice-Principals' Association
  - BC School Superintendents Association
  - BC Teachers' Federation
- Associated professionals appointed by a board of education in BC's public school system
- Eligible employees of employers approved by the board

New employees are immediately enrolled in the plan and cannot opt out.

Member types

Active members
Active members are those currently contributing to the plan, on an approved leave of absence, or receiving benefits from an approved long-term group disability plan. There are 50,553 active members in the plan—a one per cent increase from 2021.

Inactive members
Members in this group have ended their employment with a plan employer but have chosen to leave their contributions in the plan and therefore are entitled to receive a benefit from the plan in the future. They may return to work for a plan employer, make contributions and accrue additional service. There are 13,131 inactive members in the plan—a 3.3 per cent increase from 2021.

Retired members
Retired members are those receiving a pension, including a survivor pension. For the purposes of this report, members receiving disability benefits from the plan are also counted in this group. There are 41,242 retired plan members—a 1.9 per cent increase from 2021.

Limited members
Former spouses of plan members fall into this category. Limited members are entitled to a portion of the plan member's pension. A person must apply to become a limited member, unlike other membership types, which have automatic enrolment. Limited members are included in the retired members total if they are receiving a pension.

Benefits for members

Basic lifetime pension benefit

The Teachers' Pension Plan is a defined benefit pension plan. Each time a member is paid their salary, both the member and employer contribute to the plan. These contributions are pooled and invested so that members receive a lifetime monthly pension when they retire.

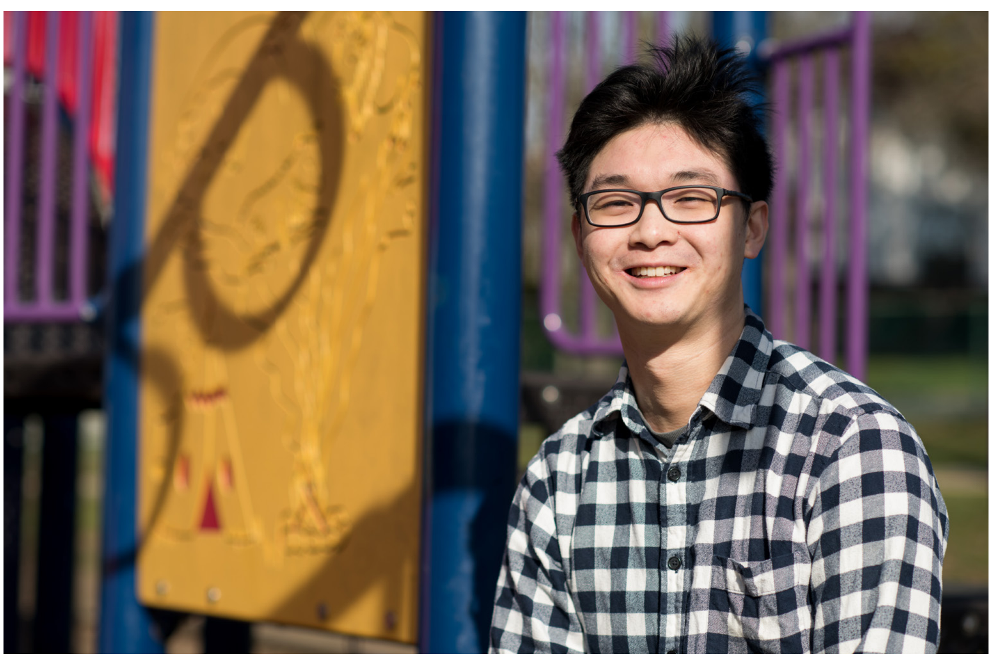
Once a member has made their first contribution to the plan, they can receive a pension at their earliest retirement age.

Bridge benefit

Members who retire before age 65 may receive a temporary monthly payment called a bridge benefit. The bridge benefit is earned on pensionable service accumulated in the plan up to and including December 31, 2017.

This benefit is designed to bridge the gap between early retirement income and income after the member turns 65, which may also include Canada Pension Plan and old age security (OAS). The bridge benefit ends when the member turns 65 or dies, whichever happens first.

Pensionable service earned on or after January 1, 2018, does not add to a member's bridge benefit. Changes to the formula used to calculate pensions converted the bridge benefit to a lifetime pension benefit. This means members will receive a higher lifetime pension, since there is no bridge benefit that will stop at age 65.



Member Shuk Yan, Waverley Elementary School, SD39 (Vancouver)

Cost-of-living adjustments

Cost-of-living adjustments (COLAs) help retired members' pensions keep pace with increases in the cost of living.

COLAs are granted if there are available funds in the inflation adjustment account (IAA); they are not guaranteed.

Both member and employer contributions, and the investment income on those contributions, fund the IAA.

Once a COLA is granted to retired members, it becomes part of their lifetime pension.

The board is dedicated to ensuring COLAs are sustainable over the long term to equitably support all members—past, present and future.

Traditionally, COLAs have been granted for the full consumer price index (CPI) increase each year. However, the board may grant a COLA that is lower than the CPI increase.

COLAs add up over time. For example, if a member started receiving an annual pension of $25,000 in 2002, their annual pension in 2022 would be more than $36,000 because of COLAs approved by the board.

Access to post-retirement group benefits

The plan provides access to group coverage, including extended health and dental care. Coverage is not guaranteed. This means the board may change coverage at any time.

The board is currently reviewing the plan's post-retirement group benefits program to ensure it remains affordable and effective for retired members. Members can visit the website through the summer and fall of 2023 for updates and to participate in a survey.

Temporary annuities

If a member retires before age 65, they may choose a temporary annuity to top up their pension. A temporary annuity increases a member's monthly payment until they reach age 65 or their death, whichever comes first. A temporary annuity reduces a member's lifetime pension after age 65.

There are a few reasons a member may choose a temporary annuity:

- Buying a temporary annuity may help members meet the initial expenses of retirement, such as paying off a mortgage.
- For those with significant taxable assets such as RRSPs, a temporary annuity can help lower income after age 65 and therefore reduce tax on income.

Members must remember:

- A temporary annuity reduces lifetime pensions. The younger the member is when they retire, the bigger the impact on their pension after age 65.
- A reduced lifetime pension might have a significant impact on a member's spouse or dependants.
- The temporary annuity amount is based on the maximum OAS benefit. Amounts may change from year to year to reflect fluctuations in the OAS, but payments will remain stable from the member's retirement date onwards.

Termination and refund benefits

A member who leaves the plan but has not yet reached the earliest retirement age may choose to do one of the following:

- Defer their pension. A member can keep their pension contributions with the plan until their earliest retirement age up to December of the year they turn 71 (at which time they have to start receiving their pension). When the member decides to start their monthly pension, they may receive non-guaranteed inflation adjustments and access to group extended health care and dental coverage.
- Transfer the commuted value of their pension to a locked-in retirement vehicle, such as a registered pension plan or a life income fund. The commuted value is the amount of money that would need to be set aside to pay for the member's future pension when they retire.

A member who leaves the plan and has reached the earliest retirement age may choose to take an immediate pension (which may be reduced) at any time. A member who leaves the plan with enough service to receive an unreduced pension will see no financial benefit to delaying the start of their pension.

Service purchases

Members may be able to increase their future pension by buying service—which means paying for periods of employment not already counted as service with the plan.

Examples include:

- Leaves of absence (such as maternity, parental, COVID-19-related and general leaves)
- Arrears contributions (occurring if a member was not enrolled properly or if their contributions were not deducted and remitted)
- Non-contributory service (employment service with a plan employer from before an employee became a member)

Depending on the type of service they choose to buy, members may be responsible for paying both the employee and employer portions, or just the employee portion. For more information on buying service, visit the plan website.

Services and communications

Plan website and My Account
The plan website provides the resources and tools that members need to better understand their plan and make informed decisions about their pension.

The most important part of a member's online experience is My Account, a secure online portal where members can review and update their personal pension information. My Account offers members personalized pension and purchase cost estimators to help with their planning, service and salary summaries, the ability to update their beneficiary information and the ability to apply for their pension online once they are ready to retire.

Members can update their personal information including address, telephone number and spousal information. Members also have access to Message Centre, allowing them to send secure messages to the pension plan.

Pension communications
In addition to communications through the website and My Account, active and retired members can choose to receive their newsletters, reports and statements digitally or in print. Special ad hoc bulletins are distributed to active members through their employer.

Member services
When members need more personalized support, the plan has staff available by phone and through Message Centre to assist with issues like marital breakdowns, the death of a spouse, retirement planning questions, employment transfers and more.

Members within one year of retirement can book personalized pension planning appointments to speak with a plan representative to discuss pension questions.

Online courses and webinars
Online educational resources for plan members include the introductory courses *Getting to Know Your Pension*, *Making the Most of Your Pension* and *Approaching Retirement*. *Making the Most of Your Pension* and *Approaching Retirement* are also offered as instructor-led webinars. Designed to help educate members at all career stages, these online courses and webinars make important information available to members at their convenience.

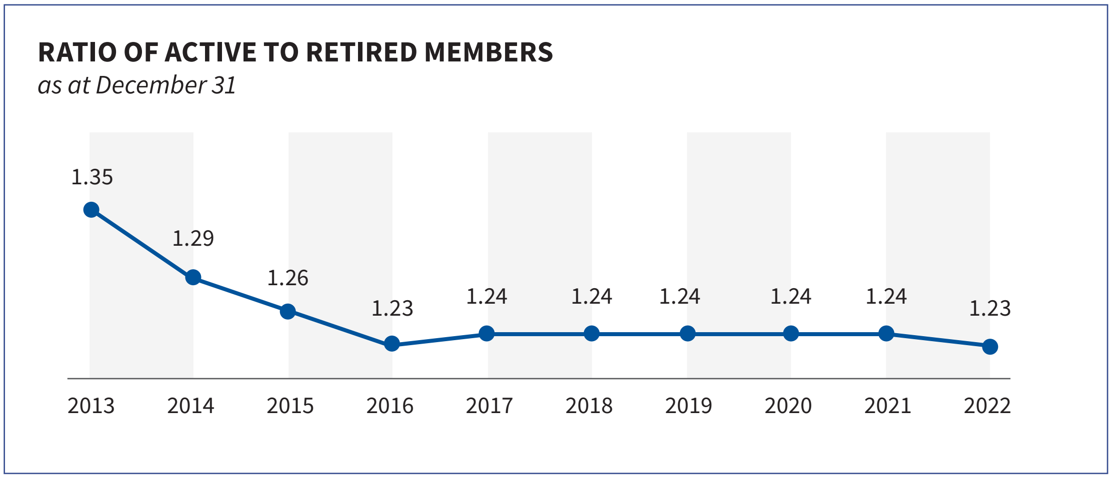
Employers

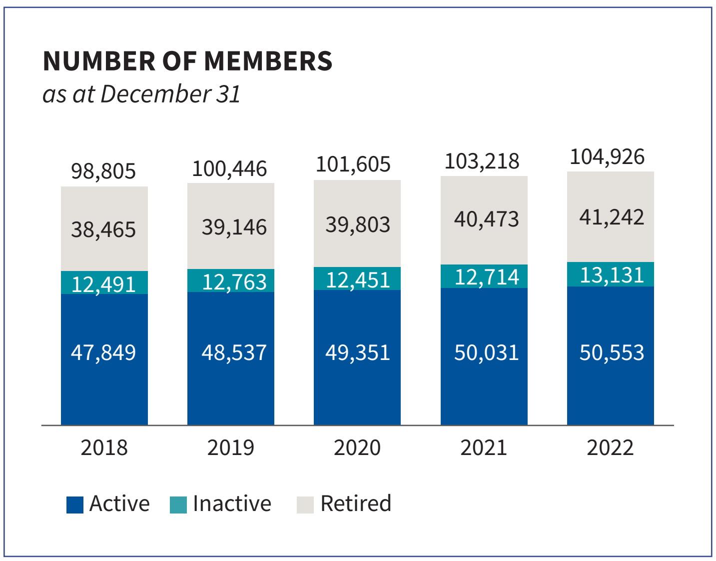
The following are the plan employers:

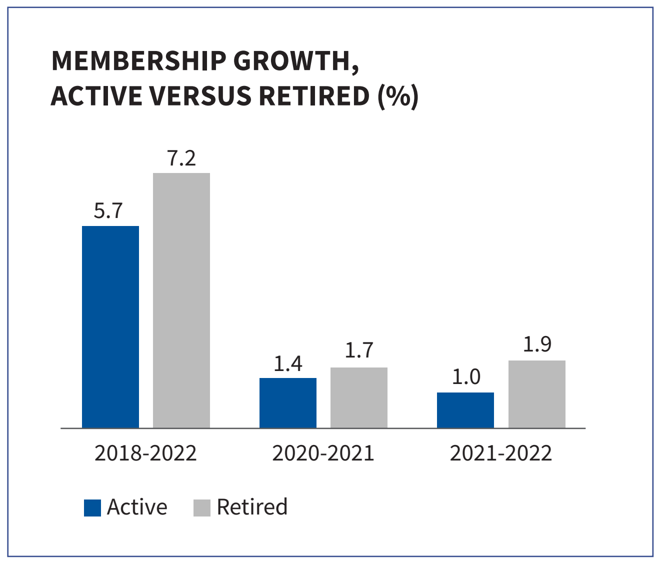
- School districts, including the Conseil scolaire francophone de la Colombie-Britannique
- BC Principals' and Vice-Principals' Association
- BC Public School Employers' Association
- BC School Superintendents Association
- BC Teachers' Federation
- Teacher Qualification Service (BC)

Member Danita Stewart, Dunsmuir Middle School, SD62 (Sooke)

Tables, charts and graphs

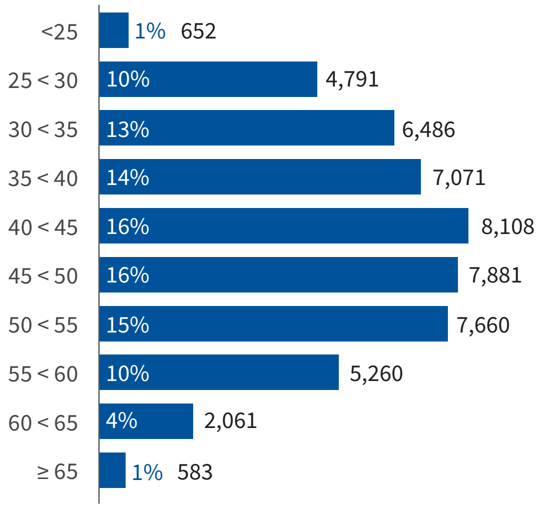






ACTIVE MEMBERS, BY AGE

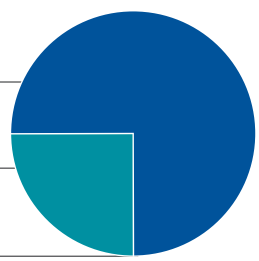
as at December 31, 2022



ACTIVE MEMBERS, BY GENDER

as at December 31, 2022

Female	37,697	75%
Male	12,840	25%
Gender X[1]	16	0.03%
Total	**50,553**	

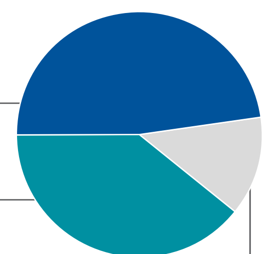


1 People who do not identify as female or male. Members who would like to identify as gender X should tell their employer who will pass this information on to the plan.

MEMBERSHIP PROFILE

as at December 31, 2022

Active	50,553	48%
Retired	41,242	39%
Inactive[1]	13,131	13%
Total	**104,926**	



1 Members no longer employed with a plan employer but with money in the plan.

Plan rule changes

Administrative changes and policy updates in 2021 and 2022

This section describes plan rule updates and amendments from 2021 and 2022.

New leave types for COVID-19 and personal illness or injury reasons

Various effective dates

Effective January 1, 2022, and amended March 31, 2022, illness or injury leave under BC's *Employment Standards Act* (ESA) was expanded to provide employees covered by the ESA with up to five days of paid leave per year for reasons of personal injury or illness. This comes in addition to the current three days of unpaid leave allowed per year.

In 2021, the ESA was amended to allow paid leave for COVID-19 vaccinations.

The plan rules did not require updating due to these ESA changes.

Removal of limited member application fee

Effective April 1, 2021

The fee to apply to be a limited member was removed. Limited members are the former spouses of plan members who are entitled to a portion of the plan member's pension.

Financial statements

June 5, 2023

Re: Teachers' Pension Plan

Administrative agent's responsibility for financial reporting

The financial statements of the Teachers' Pension Plan were prepared by British Columbia Pension Corporation, the administrative agent for the Teachers' Pension Board of Trustees in accordance with Canadian accounting standards for pension plans. The Board is responsible for approving the Plan's financial statements. The Board is assisted by the Interplan Audit Committee, which is made up of representatives from the Public Service, Municipal, Teachers' and College pension boards of trustees. As part of its responsibility, the Committee reviews the financial statements, and performs steps and procedures, as necessary, prior to recommending them to the Board for approval.

Pension Corporation prepares the financial statements and is responsible for the integrity and fairness of the data presented, including significant accounting judgments and estimates. This responsibility includes selecting appropriate accounting policies consistent with Canadian accounting standards for pension plans. In discharging its responsibility, Pension Corporation maintains a system of internal controls designed to provide reasonable assurance that transactions are properly authorized, reliable financial records are maintained, and assets are adequately safeguarded, ensuring the fair presentation of the financial statements. Pension Corporation has assessed that the Plan will continue as a going concern, and ensured that other financial information contained in the Teachers' Pension Plan *Annual Report* is consistent with these financial statements.

The Board appointed KPMG LLP as the independent auditor to the Plan. The role of the auditor is to perform an independent audit of the financial statements of the Plan in accordance with Canadian generally accepted auditing standards. The resulting audit opinion is set out in the independent auditors' report attached to these financial statements.

Trevor Fedyna, CPA, CGA, C. Dir.	**Allan Chen, CPA, CA**
Vice-president, Strategy, Insights and Chief Financial Officer British Columbia Pension Corporation	Controller, Financial Services British Columbia Pension Corporation

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INDEPENDENT AUDITOR'S REPORT

To the Members of the Teachers' Pension Plan

Opinion

We have audited the financial statements of the Teachers' Pension Plan (the "Plan"), which comprise:

- the statement of financial position as at December 31, 2022
- the statement of changes in net assets available for benefits for the year then ended
- the statement of changes in accrued pension obligations for the year then ended
- and notes to the financial statements, including a summary of significant accounting policies and other explanatory information.

(hereinafter referred to as the "financial statements").

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Plan as at December 31, 2022, and its changes in net assets available for benefits and its changes in accrued pension obligations for the year then ended in accordance with Canadian accounting standards for pension plans.

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the "***Auditor's Responsibilities for the Audit of the Financial Statements***" section of our auditor's report.

We are independent of the Plan in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

KPMG

British Columbia Teacher's Pension Plan
Page 2

Other Information

Management is responsible for the other information. Other information comprises the information, other than the financial statements and the auditor's report thereon, included in the annual report.

Our opinion on the financial statements does not cover the other information and we do not and will not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit and remain alert for indications that the other information appears to be materially misstated.

We obtained the information, other than the financial statements and the auditor's report thereon, included in the annual report as at the date of this auditor's report. If, based on the work we have performed on this other information, we conclude that there is a material misstatement of this other information, we are required to report that fact in the auditor's report.

We have nothing to report in this regard.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Canadian accounting standards for pension plans, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Plan's ability to continue as a going concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Plan or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Plan's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit.

We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion.

  The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Plan's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Plan to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

- Communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

KPMG LLP

Chartered Professional Accountants

Vancouver, Canada,
June 5, 2023

TEACHERS' PENSION PLAN

Statement of financial position

($ millions)

As at December 31	Note	2022	2021
Assets			
Investments	3a	$ **35,934**	$ 37,609
Directly held derivatives	3b	**298**	89
Contributions receivable		**38**	37
Interest and dividends receivable		**4**	2
Cash		**-**	163
Total assets		**36,274**	37,900
Liabilities			
Directly held derivatives	3b	**338**	110
Taxes payable		**15**	14
Accounts payable and accrued expenses		**8**	9
Total liabilities		**361**	133
Net assets available for benefits		**$ 35,913**	**$ 37,767**
Accrued pension obligations			
Accrued basic pension obligations	4a	$ **24,213**	$ 23,058
Non-guaranteed pension obligations	4b	**6,596**	7,246
Accrued pension obligations		**30,809**	30,304
Surplus			
Accessible actuarial excess	5a	**3,012**	1,613
Measurement differences between funding and accounting positions	5a	**2,092**	5,850
Surplus		**5,104**	7,463
Accrued pension obligations and surplus		**$ 35,913**	**$ 37,767**

All accompanying notes are an integral part of the financial statements including:
Commitments (note 14)

Approved by the Teachers' Pension Board of Trustees:

Reg Bawa, Chair
Teachers' Pension Board of Trustees

Chung Yan Ip, Trustee
Teachers' Pension Board of Trustees

Cheryl Eason, Trustee
Teachers' Pension Board of Trustees

TEACHERS' PENSION PLAN

Statement of changes in net assets available for benefits

($ millions)

For the year ended December 31	Note	Basic account	Inflation adjustment account	Supplemental benefits account	Totals 2022	2021
Increase in assets						
Investment income (loss)	8	$ (985)	$ (220)	$ -	**$ (1,205)**	$ 4,049
Contributions						
Member	9	341	73	-	**414**	401
Employer	9	340	76	1	**417**	404
		681	149	1	**831**	805
Transfers from other plans		10	2	-	**12**	10
Total increase (decrease) in assets		(294)	(69)	1	**(362)**	**4,864**
Decrease in assets						
Benefits	10	1,385	10	1	**1,396**	1,318
Transfers to other plans		7	2	-	**9**	11
Investment and administration costs	11	74	13	-	**87**	50
Total decrease in assets		1,466	25	1	**1,492**	**1,379**
Increase (decrease) in net assets before transfers		**(1,760)**	**(94)**	**-**	**(1,854)**	3,485
Account transfers	12	556	(556)	-	-	-
Increase (decrease) in net assets		**(1,204)**	**(650)**	**-**	**(1,854)**	3,485
Net assets available for benefits at beginning of year		30,521	7,246	-	**37,767**	**34,282**
Net assets available for benefits at end of year		**$ 29,317**	**$ 6,596**	**$ -**	**$ 35,913**	**$ 37,767**

The accompanying notes are an integral part of the financial statements.

TEACHERS' PENSION PLAN

Statement of changes in accrued pension obligations

($ millions)

For the year ended December 31	Note	2022	2021
Increase in accrued pension obligations			
Interest on accrued pension obligations		$ **1,336**	$ 1,273
Benefits accrued		**670**	625
Change in actuarial assumptions		-	118
Account transfers		**556**	66
Total increase in accrued pension obligations		**2,562**	2,082
Decrease in accrued pension obligations			
Experience gains		-	7
Benefits paid		**1,407**	1,334
Total decrease in accrued pension obligations		**1,407**	1,341
Net increase in accrued pension obligations		**1,155**	741
Accrued basic pension obligations at beginning of year		**23,058**	22,317
Accrued basic pension obligations at end of year	4a	**24,213**	23,058
Non-guaranteed pension obligations			
Increase (decrease) in non-guaranteed pension obligations	4b	**(650)**	760
Non-guaranteed pension obligations at beginning of year		**7,246**	6,486
Non-guaranteed pension obligations at end of year	4b	**6,596**	7,246
Total accrued pension obligations		$ **30,809**	$ **30,304**

The accompanying notes are an integral part of the financial statements.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

1. DESCRIPTION OF THE TEACHERS' PENSION PLAN

The following description of the Teachers' Pension Plan (Plan) is a summary provided for general information only. For more information, please refer to the Joint Trust Agreement (Agreement) and the Teachers' Pension Plan Rules (pension plan rules).

a) General

The Plan is a jointly trusteed pension plan continued under a joint trust agreement authorized by the *Public Sector Pension Plans Act*, SBC 1999, c. 44 (Act). The Act enabled the establishment of the Agreement. Joint trusteeship was established effective April 5, 2001. The partners to the Agreement are the Province of British Columbia and the B.C. Teachers' Federation (Partners). The Agreement describes the composition, appointment, powers, functions and duties of the Teachers' Pension Board of Trustees (Board) and provides the authority for the Board to make the pension plan rules.

The Plan is registered with the Superintendent of Pensions, who administers and enforces the *Pension Benefits Standards Act* (PBSA). The PBSA governs employment pension plans registered in British Columbia that have active, inactive and retired members.

Membership in the Plan is mandatory for all certified teachers (including teachers teaching on call), principals, vice-principals, superintendents, assistant superintendents, directors of instruction, associated professionals and certified professionals who are appointed by a board of education in the British Columbia public school system.

b) Roles and responsibilities

Partners

The Partners representing the plan members and employers are responsible for appointing 10 trustees to the Board. The Partners have responsibility for resolving trustee disputes and, if certain conditions are met, may direct amendments to the pension plan rules.

Board

The Board is responsible for the management of the Plan, including the investment of assets and administration of the Plan. The Board may amend the pension plan rules as long as changes can be funded by the Plan's surpluses (subject to provisions on the use of surplus in the Agreement) or are cost-neutral to the Plan. Unless required to ensure compliance with regulatory enactments applicable to the Plan, only the Partners can initiate pension plan rule changes that result in contribution rate increases. The Chair and Vice-Chair are appointed by the trustees.

British Columbia Pension Corporation (Pension Corporation)

Pension Corporation provides benefit administration services as an agent of the Board. The Board appoints two members to the eight-member board of directors of Pension Corporation.

British Columbia Investment Management Corporation (BCI)

BCI provides investment management services, including the valuation of investments, as an agent of the Board. The Board appoints one member to the seven-member board of directors of BCI.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

1. DESCRIPTION OF THE TEACHERS' PENSION PLAN (CONTINUED)

c) Funding

Contributions and investment earnings fund plan benefits. Contributions are made by active members and employers of the Plan. The determination of the value of the benefits and required contributions is based on triennial actuarial valuations for funding purposes.

The Board's funding policy is intended to secure the pension benefit obligation and achieve long-term stability in contribution rates for both employers and members.

d) Contributions

Basic Account

Members contributed 8.17% of salaries and employers contributed 8.17% of salaries, less amounts allocated to the Supplemental Benefits Account (SBA).

Inflation Adjustment Account

Members contributed 2.00% of salaries to the Inflation Adjustment Account (IAA). Employers contributed 2.13% of salaries to the IAA, less amounts allocated to the SBA.

Rate Stabilization Account

Members and employers each contributed 1.00% of salaries to the Rate Stabilization Account (RSA). The RSA is held notionally within the Basic Account.

e) Pension benefits

All members are eligible for a pension benefit.

For service on or after January 1, 2018, the Plan provides a defined basic plan benefit of 1.85% of pensionable earnings for each year of pensionable service with no maximum. The defined basic plan benefit increased to 1.90% effective January 1, 2019. From January 1, 2018, onward, the increased rate applies to all service, but only for members who remain active on or after January 1, 2019.

Members are eligible for unreduced pension benefits

- at age 65;
- at age 61, with at least two years contributory service; or
- at age 55 or older, with at least 35 years of contributory service.

The early retirement reduction applicable for service accrued after 2017 is 4.5% for each year where members do not meet the unreduced pension benefit criteria above.

Future cost-of-living adjustments are not guaranteed. These adjustments are granted at the discretion of the Board and may not exceed the annual increase in the Canada consumer price index as at the previous September 30, subject to the availability of funds in the IAA. Any cost-of-living adjustment the Board grants is applied in January. The Board annually considers relevant factors to determine if an adjustment will be granted.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

1. DESCRIPTION OF THE TEACHERS' PENSION PLAN (CONTINUED)

f) Termination and portability benefits

Terminating members who have not yet reached the earliest retirement age may choose

- a deferred pension, or
- a transfer of the commuted value of the pension benefit (the minimum value is the member's contributions with interest) to a locked-in retirement vehicle or similar tax-sheltered plan.

Terminating members may also choose to leave their benefit on deposit in anticipation of future re-employment with a plan employer.

Where there are portability arrangements between the Plan and other pension plans, members may be able to transfer service to another pension plan.

g) Other benefits

Disability and survivor benefits are also available under the Plan. A disability benefit is available to a member under age 61 who has terminated employment, becomes totally and permanently disabled as defined by the Plan, has at least two years of contributory service, is not eligible to receive benefits from an approved long-term group disability plan and meets other eligibility requirements.

The disability benefit is calculated using a member's years of pensionable service to the date of termination of employment and highest average salary. Disability benefits continue for the member's lifetime unless the member is no longer totally and permanently disabled before age 61 (since January 1, 2018) or returns to work.

A death benefit may be available to a surviving spouse or designated beneficiary upon the death of an active member. Depending on eligibility requirements, the benefit may be paid in the form of a survivor pension or lump-sum payment.

Supplemental benefits are funded from the SBA.

h) Tax registration

The Plan is a Registered Pension Plan (RPP) as defined in the *Income Tax Act* (Canada) (registration number 0227462), except for any supplemental benefits, which are funded in addition to the RPP. The Plan is not subject to income tax but is subject to indirect taxes, including British Columbia provincial sales tax (PST) and Canadian federal goods and services tax (GST). The Plan receives a 33% rebate of GST paid.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

2. SIGNIFICANT ACCOUNTING POLICIES

a) Basis of presentation

These financial statements are prepared on the going-concern basis in accordance with Canadian accounting standards for pension plans, Part IV of the *Chartered Professional Accountants of Canada Handbook* (CPA Canada Handbook), and present the Plan as a separate financial reporting entity, independent of the Plan's contributing employers and members, and independent of any associated retired member group benefit plans.

Accounting standards for private enterprises in Part II of the CPA Canada Handbook have been chosen for accounting policies that do not relate to the Plan's investment portfolio or accrued pension obligations.

b) Investments

Investments are stated at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

Investment purchases and sales are recorded on the trade date (the date on which the substantial risks and rewards of ownership have been transferred).

c) Accrued pension obligations

Accrued pension obligations are determined based on an actuarial valuation prepared by an independent actuarial consulting firm. The Plan actuary is Eckler Ltd. The valuation of accrued pension obligations is based on data extrapolated to the financial statement date. The valuation uses the projected benefit method pro-rated on service that incorporates the independent actuary's estimate of various economic and demographic assumptions. These assumptions are the same as those used in the determination of the actuarial position of the Plan for funding purposes.

d) Investment income

Income from investments is recorded on the accrual basis and represents pooled investment portfolio income attributable to the Plan as a unit holder and income from directly held investments. The current period change in fair value includes realized and unrealized gains and losses that are included in investment income.

Within the pools, dividends are accrued on the ex-dividend date, and interest is recognized on an accrual basis. Gains and losses on derivative contracts are recognized concurrently with changes in their fair values.

e) Foreign currency translation

Assets and liabilities denominated in foreign currencies are translated into Canadian dollars at the prevailing exchange rates on the year-end date. Income and expenses are translated into Canadian dollars at the prevailing exchange rates on the dates of the transactions. The realized and unrealized gains and losses arising from these translations are included within the current period change in fair value in investment income.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

f) Use of estimates

The preparation of financial statements, in conformity with Canadian accounting standards for pension plans, requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of increases and decreases in assets and liabilities during the period. Significant areas requiring the use of management estimates relate to the valuation of investments based on unobservable inputs, as further described in note 7, and the calculation of the accrued pension obligations of the Basic Account for accounting and funding purposes as further described in notes 4 and 5. Actual results could differ materially from these estimates.

3. INVESTMENTS

a) Investments

Fair value of investment holdings			2022			2021
	Basic account	Inflation adjustment account	Total	Basic account	Inflation adjustment account	Total
Short-term	$ 678	$ 153	$ 831	$ 900	$ 203	$ 1,103
Bonds	10,320	2,322	12,642	11,177	2,514	13,691
Repurchase agreements	(2,957)	(665)	(3,622)	(2,986)	(672)	(3,658)
	7,363	1,657	9,020	8,191	1,842	10,033
Canadian equities	822	185	1,007	982	221	1,203
Global equities	4,645	1,044	5,689	5,745	1,293	7,038
Emerging markets equities	1,430	322	1,752	1,672	376	2,048
Mortgages	1,027	231	1,258	874	197	1,071
Real estate	5,361	1,206	6,567	4,897	1,102	5,999
Private equity	4,457	1,003	5,460	4,234	953	5,187
IRR*	3,551	799	4,350	3,206	721	3,927
	$ 29,334	$ 6,600	$ 35,934	$ 30,701	$ 6,908	$ 37,609

* Infrastructure and renewable resources

Plan investments consist primarily of direct ownership in units of pooled investment portfolios. Each unit gives its holder a proportionate share in the value of the net assets of the pooled investment fund. The Basic Account and IAA are combined for investment management purposes.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

3. INVESTMENTS (CONTINUED)

a) Investments (continued)

One or more pooled investment portfolios exist for different types of investments, such as short-term investments; bonds; Canadian, global and emerging markets equities; mortgages; real estate; private equity; and infrastructure and renewable resources. While the purpose of each fund is to invest in a particular type of investment, at any time, given the timing of trading activities, the fund may hold a certain amount of cash, short-term investments, accrued interest income and net accounts receivable or payable from outstanding sales and purchases of investments.

Short-term investments consist of Canadian and U.S. money market securities such as treasury bills with maturities of 15 months or less, and short-term bonds with one- to five-year terms. Short-term investments are valued using current market yields.

Bonds consist of government bonds, investment grade and non-investment grade corporate bonds, repurchase agreements, and debentures. Bonds are valued based on current market yields and, in some cases, quoted market prices. Bonds include the use of repurchase agreements to borrow money to create leverage to purchase other bonds and enhance yields through a leverage bond fund strategy.

Equities consist primarily of publicly traded shares and are valued based on quoted market prices on the primary exchanges on which they are traded.

Mortgages consist mainly of Canadian construction, commercial and multi-family residential mortgages. The mortgages are secured by real estate and valued using current market yields.

Real estate investments consist mainly of diversified Canadian and U.S. income-producing properties. Real estate investments are valued quarterly by external investment managers and, at least once every 10 to 18 months, by accredited independent appraisers to establish current market values.

Private equity consists mainly of equity investments made outside the structure of public markets. Private equity investments are valued either quarterly or annually based on audited financial statements from external investment managers using a market-based approach.

Infrastructure and renewable resources consist of privately owned and managed infrastructure assets, as well as timber, agriculture and other renewable assets. Infrastructure and renewable resources investments are valued annually using a market-based approach or net asset value method.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

3. INVESTMENTS (CONTINUED)

b) Derivatives

Derivatives contracts are directly and indirectly held by the Plan. The details of these contracts are as follows:

Fair value of derivative contracts	2022		2021	
	Positive fair value	Negative fair value	Positive fair value	Negative fair value
Directly held				
Foreign currency forwards	$ 298	$ (338)	$ 89	$ (110)
Indirectly held in pooled investment portfolios				
Foreign currency forwards	$ 15	$ (206)	$ 19	$ (37)
Options	-	-	1	(1)
Interest rate swaps	30	(6)	9	(4)
Total return swaps	83	(69)	80	(41)
	$ 426	$ (619)	$ 198	$ (193)
Derivatives by investment asset classification				
Bonds	$ 43	$ (194)	$ 22	$ (47)
Canadian equities	3	(3)	7	(6)
Global equities	75	(100)	81	(33)
Emerging markets equities	34	(6)	5	(10)
Mortgages	1	(34)	1	(9)
Real estate	25	(129)	21	(28)
IRR*	245	(153)	61	(60)
	$ 426	$ (619)	$ 198	$ (193)

*Infrastructure and renewable resources

Derivative contracts consist of foreign currency forward contracts, options, futures, interest rate swaps and total return swaps held directly by the Plan or indirectly through various pooled investment portfolios. Directly held and indirectly held derivative contracts are reflected at fair value based on expected settlement amounts at the date of the Statement of Financial Position. Directly held derivatives are disclosed on the face of the Statement of Financial Position while indirectly held derivatives are included in investments.

A foreign currency forward contract is a privately negotiated contractual obligation to exchange one currency for another at a specified price for settlement on a predetermined date in the future. Foreign currency forward contracts are held by the Plan to manage exposure to foreign currency risk.

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TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

3. INVESTMENTS (CONTINUED)

b) Derivatives (continued)

Options are contracts that give the buyer the right, but not the obligation, to buy or sell a certain security or index at an agreed-upon price on or before a specified date. Futures contracts are exchange-traded contractual obligations to take or make delivery of an asset at a predefined price and date in the future. Gains and losses on futures contracts are settled daily. Options and futures are held for synthetic indexing, a modern technique used to replicate the performance of a security or index without directly purchasing or selling the underlying assets and for risk control.

An interest rate swap is an agreement between two counterparties in which one stream of future interest payments is exchanged for another based on a specified principal amount. Interest rate swaps usually involve the exchange of a fixed interest rate for a floating interest rate, or vice versa, to reduce or increase exposure to fluctuations in interest rates or to obtain a marginally better interest rate than would have been possible without the swap.

A total return swap is a swap agreement in which one party makes payments based on a set rate, either fixed or variable, while the other party makes payments based on the return of an underlying asset, including both the income it generates and any capital gains. In total return swaps, the underlying asset (referred to as the reference asset) is usually an equity index or basket of equity securities. Interest rate swaps and total return swaps are held indirectly through various pooled investment portfolios for synthetic indexing purposes.

Derivative transactions are supported with collateral to mitigate counterparty credit risk. A single net fair value amount is used to determine the value of collateral with each counterparty. Collateral approximately equal to the positive fair value of each derivative contract is provided by counterparties, and collateral approximately equal to the negative fair value of each derivative contract is delivered to counterparties. Acceptable forms of collateral are Canadian federal or provincial bonds, and U.S. federal government treasury bills and bonds.

The notional value of derivatives is the total value of a position, how much value a position controls, or an agreed-upon amount in a contract.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

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3. INVESTMENTS (CONTINUED)

b) Derivatives (continued)

Notional value of derivatives			2022	2021
Terms to maturity	**Within 1 year**	**1 to 5 years**	**Total**	**Total**
Derivatives by type of contract				
Directly held				
Foreign currency forwards	$ 14,431	$ -	$ 14,431	$ 12,691
Indirectly held in pooled investment portfolios				
Foreign currency forwards	$ 4,799	$ -	$ 4,799	$ 2,932
Futures	-	-	-	-
Options	-	-	-	68
Interest rate swaps	1,646	1,081	2,727	2,832
Total return swaps	5,911	11	5,922	6,997
	$ 26,787	$ 1,092	$ 27,879	$ 25,520
Derivatives by investment asset classification				
Short-term	$ 28	$ -	$ 28	$ -
Bonds	5,004	-	5,004	5,007
Canadian equities	197	49	246	1,158
Global equities	6,872	817	7,689	6,793
Emerging markets equities	913	226	1,139	1,430
Mortgages	779	-	779	578
Real estate	3,878	-	3,878	2,996
Private equity	-	-	-	-
IRR*	9,116	-	9,116	7,558
	$ 26,787	$ 1,092	$ 27,879	$ 25,520

* Infrastructure and renewable resources

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

3. INVESTMENTS (CONTINUED)

c) Repurchase agreements

The Plan has indirect exposure to repurchase agreements through its investment in the pooled investment portfolio underwritten on bond securities. Repurchase agreements are short-term agreements to sell securities in order to buy them back at a slightly higher price. The party selling the repurchase agreement is effectively borrowing, and the other party is lending, since the lender is credited the implicit interest in the difference in prices. Securities sold under repurchase agreements are accounted for as collateralized borrowing because they represent the sale of securities with a simultaneous agreement to buy them back at a specified future date. The securities sold under these agreements continue to be recognized on the Statement of Financial Position with any changes in fair value recorded as net gain (loss) on investments and included in investment income. Interest incurred on repurchase agreements is included in borrowing costs within investment-related expenses.

Repurchase agreements are carried at the amount at which the securities were initially acquired or sold, which, together with accrued interest income or expense, approximates fair value due to the short-term nature of these agreements.

4. ACTUARIAL VALUATION OF THE BASIC ACCOUNT FOR ACCOUNTING PURPOSES

a) Basic Account

In accordance with the Agreement and PBSA, an actuarial valuation is performed at least every three years. Its primary objective is to assess the financial position and adequacy of funding for the Basic Account of the Plan as described in note 5a. As part of the actuarial valuation, the Plan actuary also calculates values, for accounting purposes, of the Basic Account assets as at, and pension liabilities accrued to, the financial statement date. For this purpose, contributions and benefits for future service are not included, in contrast to their inclusion in the valuation for funding purposes as described in note 5a. Also, for accounting purposes, the full impact of investment fair value changes is reflected in the financial statements as at the financial statement date compared with the deferral and amortization of fair value gains or losses in the valuation for funding purposes. The liability for accrued basic pension obligations at the valuation date is determined using the projected benefit method pro-rated on service.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

4. ACTUARIAL VALUATION OF THE BASIC ACCOUNT FOR ACCOUNTING PURPOSES (CONTINUED)

a) Basic Account (continued)

The latest full actuarial valuation for accounting purposes was prepared as at December 31, 2020, by Eckler Ltd. This valuation calculated the liability for accrued basic pension obligations for financial statement purposes to be $22,547 million (2017: $20,031 million).

Between valuations, an estimate of the actuarial position is required. This estimate, an extrapolation, has been made to December 31, 2022, using the following long-term actuarial assumptions:

- Annual investment return 5.75%
- Annual salary escalation rate 3.25%

The extrapolation calculated the liability for accrued basic pension obligations to be $24,213 million (2021: $23,058 million).

In 2021, the extrapolation reflected assumption changes made during the 2020 valuation that resulted in an increase in the 2020 accrued basic pension obligations of $118 million. The most significant change in the assumptions was a decrease in the discount rate, which increased the accrued basic pension obligations, although this was largely offset by a reduction in assumed life expectancies. Further, the 2020 valuation accrued basic pension obligations reflected in the 2021 extrapolation were $7 million lower than anticipated by the 2020 extrapolation, representing the net result of experience gains and losses (e.g., lower than expected salary increase, fewer terminations than assumed, net of rehires).

Extrapolations may not be reliable indicators of the next valuation results, nor do they necessarily reflect the overall trend of results. Between valuations, actual wage increases, investment earnings, and the incidence of retirements, withdrawals and changes in other factors may vary significantly from the long-term assumptions used in the extrapolation. In the event of a major change to the Plan, a new valuation or review of assumptions may be required.

The next full actuarial valuation will be carried out as at December 31, 2023, with the results included in the December 31, 2024, financial statements.

Actuarial liabilities are also affected by changes in the assumed investment return. Based on the actuarial valuation completed as at December 31, 2020, a reduction in the investment return assumption from 5.75% to 5.50% would have increased the December 31, 2022, liability for accrued basic pension obligations of $24,213 million by $740 million or 3.06%, and the impact of a 1% change would be approximately four times the amount. Changes to assumptions included in the actuarial valuation are interrelated, and the cumulative impact of changed assumptions may be offsetting.

b) Inflation Adjustment Account (IAA), non-guaranteed pension obligations

No unfunded liability exists for the IAA, since the obligation for future cost-of-living adjustments is limited to the amount of the available assets in the account. There is no minimum level of inflation adjustment required to be paid under the pension plan rules, nor is there any Plan provision to fund the IAA to any minimum level of future potential inflation adjustments (note 5b). The non-guaranteed pension obligations is therefore equal to the net assets available for benefits in the IAA, 2022: $6,596 million (2021: $7,246 million). The net decrease of $650 million (2021: $760 million increase) in the IAA balance consists of employee and employer contributions, investment income, and net transfers reduced by payments out of the account. (See note 12 for details on amounts transferred.)

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

5. ACTUARIAL VALUATION OF THE BASIC ACCOUNT FOR FUNDING PURPOSES

a) Basic Account

The Basic Account is the account from which the defined basic benefits of the Plan are paid. In accordance with the Agreement and PBSA, an actuarial valuation of the Plan's assets and pension obligations is performed at least every three years by an independent actuary to determine an appropriate combined employer and member contribution rate to fund the Basic Account. For this purpose, the Plan's actuary values both accrued assets and accrued pension obligations to the financial statement date, and contributions and benefits for future service. The contribution requirements are calculated by the actuary using the entry-age normal cost method (entry-age method).

This method produces the long-term rate of member and employer contributions sufficient to provide benefits for the average future new entrants to the Plan. This rate may be adjusted for the amortization of any actuarial funding surplus, and it will be adjusted for the amortization of any unfunded actuarial liability. Future contribution rate determinations will exclude consideration of the assets in the Rate Stabilization Account (RSA), which is held notionally within the Basic Account; if contribution rate increases are considered, funds will be transferred from the RSA to keep the rate at its current level or to minimize the increase.

The Basic Account is also the account from which any cost-of-living adjustments granted to retired members are paid. Future cost-of-living adjustments are not guaranteed within the Plan provisions and are granted to retired members only to the extent that sufficient assets are available from the IAA to fund those benefits (note 5b). As cost-of-living adjustments are granted, the Basic Account receives from the IAA the present value funding necessary for the cost-of-living adjustments granted. Therefore, accrued basic pension obligations for valuation purposes include the liability for all cost-of-living adjustments granted to the date of the valuation, but not for as-yet-unknown future cost-of-living adjustments.

Actuarial valuation

An estimate of the actuarial position of the Plan for funding purposes has been made to December 31, 2022, using the following long-term actuarial assumptions:

- Annual investment return 5.75%
- Annual salary escalation rate 3.25%

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

5. ACTUARIAL VALUATION OF THE BASIC ACCOUNT FOR FUNDING PURPOSES (CONTINUED)

a) Basic Account (continued)

This estimate, an extrapolation, produced an estimated accessible actuarial excess of $3,012 million as at December 31, 2022 (2021: $1,613 million), as follows:

Funding extrapolation	2022	2021
Net assets available for basic pension benefits	$ **29,317**	$ 30,521
Actuarial asset value adjustment	**1,660**	(2,264)
Smoothed assets for basic pension benefits	**30,977**	28,257
Rate stabilization account	**(1,269)**	(1,081)
Smoothed assets excluding rate stabilization account	**29,708**	27,176
Present value of future contributions (entry-age method)	**7,424**	7,170
Present value of temporary rate reduction below entry-age rate	**(457)**	(455)
Net actuarial assets for basic pension benefits	**36,675**	33,891
Actuarial liability for accrued and future basic pension benefits	**(32,414)**	(31,082)
Entry-age method actuarial surplus	**4,261**	**2,809**
PBSA 5% of net liabilities	**(1,249)**	(1,196)
Accessible actuarial excess	$ **3,012**	$ **1,613**

Changes in the extrapolated entry-age method funded status	2022	2021
Extrapolated entry-age method actuarial surplus, beginning of year	$ **2,809**	$ 1,863
Adjustment to reflect the 2020 valuation	-	(279)
Present value of temporary rate reduction below entry-age rate	**(2)**	(455)
Extrapolated change in actuarial liability for accrued and future basic pension benefits	**(1,332)**	(1,126)
Extrapolated change in actuarial assets for basic pension benefits	**2,786**	2,806
Entry-age method actuarial surplus, end of year	**4,261**	**2,809**
PBSA 5% of net liabilities	**(1,249)**	(1,196)
Accessible actuarial excess	$ **3,012**	$ **1,613**

Based on the funded position at the last actuarial valuation, as the plan had Accessible Going Concern Excess (AGCE) and the entry age normal cost exceeded the current contribution, the Joint Trust Agreement required that the AGCE be used to fund a contribution rate reduction below the entry age normal cost. The extrapolation reflects the amount of surplus required for the contribution reduction as well as the 5% of net liabilities (total liabilities less the present value of future contributions at entry-age rate) that needs to be held in the Basic Account when the current contribution rate is below the entry age normal cost.

Extrapolations may not be reliable indicators of the next valuation results, nor do they necessarily reflect the overall trend of results. Between valuations, various factors, including actual wage increases, investment earnings, and the incidence of retirements and withdrawals, may vary significantly from the long-term assumptions used in the extrapolation.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

5. ACTUARIAL VALUATION OF THE BASIC ACCOUNT FOR FUNDING PURPOSES (CONTINUED)

a) Basic Account (continued)

Measurement differences between funding and accounting positions

The primary components of the measurement differences between the extrapolated entry-age method funding surplus and the financial statement accounting surplus are as follows:

Measurement difference between funding and accounting positions		**2022**		**2021**
Accessible actuarial excess	$	**3,012**	$	1,613
PBSA 5% of net liabilities		**1,249**		1,196
Actuarial asset value adjustment		**(1,660)**		2,264
Rate stabilization account		**1,269**		1,081
Difference in actuarial methods – present value of rate reduction		**457**		455
Difference in actuarial methods – present value of future contributions		**(7,424)**		(7,170)
Difference in actuarial methods – present value of future liabilities		**8,201**		8,024
Measurement differences between funding and accounting positions		**2,092**		5,850
Surplus for financial statement purposes	$	**5,104**	$	**7,463**

Actuarial asset value adjustment

To determine the entry-age method surplus for funding purposes, the actuarial value of net assets available for benefits is determined on an adjusted value basis that smooths the difference between the actual investment return and the expected return based on a long-term real return rate over a five-year period.

The funding policy requires that the value of the assets be smoothed within a certain corridor. In the 2020 valuation, the corridor required that the smoothed value be no more than 108% and no less than 92% of the market value of the assets. The smoothed value of the assets at December 31, 2022, was 105.7% (2021: 92.6%).

The following schedule indicates the year the components of the actuarial asset value adjustment will be recognized in the entry-age method actuarial surplus. The amounts are based on that proportion of the total fund related to the Basic Account assets.

Actuarial asset value adjustment		**2022**		**2021**
2022	$	**-**	$	706
2023		**49**		849
2024		**(287)**		516
2025		**(614)**		193
2026		**(808)**		-
Total adjustment	$	**(1,660)**	$	**2,264**

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TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

5. ACTUARIAL VALUATION OF THE BASIC ACCOUNT FOR FUNDING PURPOSES (CONTINUED)

a) Basic Account (continued)

Rate Stabilization Account

In 2021, the Agreement was amended to shift 1% of member and 1% of employer IAA contributions to the RSA, effective January 1, 2020. In fiscal 2021, the amount related to 2020 and 2021 contributions plus interest, totaling $156 million, was transferred to the RSA, which is held notionally within the Basic Account.

Interest of $111 million (2021: $104 million) was transferred from the Basic Account to the RSA based on the 2022 opening balance and a smoothed rate of return of 10.26% (2021: 12.65%).

Rate stabilization account		2022		2021
Opening balance	$	1,081	$	821
Interest applied to balance		111		104
IAA contributions and interest		77		156
Ending balance	$	1,269	$	1,081

Difference in actuarial methods

While the accrued pension benefit liability for financial statement purposes uses the projected benefit method pro-rated on service, the pension liability for funding purposes uses an entry-age funding method, where the present value of future normal cost contributions, basic pension benefits for future service and future amortization amounts are included in the determination of the funded status of the Plan.

If an actuarial valuation indicates that increased basic contribution rates are required, the increase must be shared equally by members and employers. The Agreement also describes the manner in which the Board can elect to apply surplus assets.

b) Inflation Adjustment Account (IAA)

No unfunded liability exists for the IAA, since the obligation for future cost-of-living adjustments is limited to the amount of the available assets in the account. As cost-of-living adjustments are granted to retired members, full funding for the granted cost-of-living adjustments, on a net present value basis, is transferred from the IAA to the Basic Account, from which the pensions are paid. There is no minimum level of cost-of-living adjustment required to be paid under the pension plan rules, nor is there any Plan provision to fund the IAA to any minimum level for future potential cost-of-living adjustments.

The Board annually considers all relevant factors and its IAA funding policy to determine if a cost-of-living adjustment will be granted on pensions in pay and the amount of the cost-of-living adjustment, if any.

6. FINANCIAL RISK MANAGEMENT

The Board approves the long-term asset mix policy for investment assets through its Statement of Investment Policies and Procedures (SIPP) and oversees the management of these assets through the Board's investment management agent, BCI. The SIPP requires diversification of investments among asset classes, sets guidelines on investment categories, and limits the exposure to individual investments and counterparties.

Significant risks are regularly monitored and managed by BCI, and actions are taken when appropriate, according to the Plan's SIPP. In addition, these risks are reviewed periodically with the Board. Such risks include liquidity risk, as well as other financial risks, which comprise currency risk, interest rate risk, other price risk and credit risk.

Financial risks are disclosed on a unit-of-account basis (note 6b), which represents the legal ownership of securities held, and at the underlying securities level (note 6c), which provides additional insight to other risks that may impact the financial instruments of the Plan. Both forms of disclosure provide valuable perspectives into the financial risks that may directly or indirectly impact the financial statements and the funded status of the Plan. These two forms of risk disclosure are not additive to each other.

a) Liquidity risk

Liquidity risk is the risk of not being able to meet the Plan's cash requirements in a timely and cost-effective manner. Expenditures relate primarily to pensions, termination and refund benefits, and investment and administration costs. The Plan's approach to mitigating liquidity risk is to forecast its cash requirements over the near and long term to determine whether sufficient funds are available.

The Plan's primary source of liquidity is income generated from the Plan's investments, and employer and employee contributions. Investments are primarily held in pooled funds, and the securities held are traded in active markets and can be readily sold, and where the pooled fund units can thereby be redeemed to fund cash requirements. Accounts payable of $8 million (2021: $9 million) are generally due within one month. Derivatives payable of $338 million (2021: $110 million) are due within the next fiscal year.

b) Financial risks on a unit-of-account basis

Plan investments consist primarily of direct ownership in units of pooled investment portfolios. Each unit gives its holder a proportionate interest in the value of the net assets of the respective pooled investment fund. The unit-of-account for the majority of the Plan's investments is the units of the pooled investment funds.

Market risk is the risk that the fair values of an investment will fluctuate as a result of changes in market conditions, whether those changes are caused by factors specific to the individual investment or factors affecting all securities traded in the market. Market risk consists of currency, interest rate and other price risks.

Currency risk

Currency risk is the risk that the value of financial instruments denominated in currencies other than the functional currency of the fund will fluctuate due to changes in foreign exchange rates. The Plan holds primarily Canadian dollar–denominated investment pooled fund units and is exposed to currency risk through holdings of small amounts of foreign currency–denominated debt investments (2021: debt investments). See note 6c for currency exposure related to underlying securities.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

6. FINANCIAL RISK MANAGEMENT (CONTINUED)

b) Financial risks on a unit-of-account basis (continued)

Foreign denominated investments held as a percentage of investments

		2022	%		2021	%
United States	$	**447**	**1.2**	$	422	1.1
Australia		-	**0.0**		2	0.0
	$	**447**	**1.2**	$	**424**	**1.1**

As at December 31, 2022, if the Canadian dollar strengthened or weakened by 10% in relation to all foreign currencies, with all other factors remaining constant, net assets available for benefits would have decreased or increased by approximately $45 million (2021: $42 million).

Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of plan investments will change as a result of future fluctuations in market interest rates. The majority of the Plan's investment assets are non–interest bearing and not subject to interest rate risk. See note 6c for interest rate risk related to underlying securities.

Other price risk

Other price risk is the risk that the fair value of a financial instrument will fluctuate because of changes in market prices (other than those arising from currency risk or interest rate risk), whether those changes are caused by factors specific to the individual financial instrument its issuer, or factors affecting all similar financial instruments traded in the market. The Plan's investments are subject to other price risk through its public equity investments and private market investments, including equity in real estate companies, held directly and through pooled investment portfolios. This risk is managed by diversifying investments across asset classes based on criteria established in the SIPP.

As at December 31, 2022, if the pooled investment fund unit and directly held equity prices increased or decreased by 10%, with all other factors remaining constant, net assets available for benefits would have increased or decreased by approximately $3,593 million (2021: $3,761 million).

In February 2022, events concerning Russia and Ukraine have resulted in sanctions being levied against Russian interests by numerous countries. As a result of this ongoing situation, the price and liquidity of securities connected to Russia have declined significantly and were written down to zero. The duration and extent of the impact of this situation on the Plan's other investments remain unclear.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

6. FINANCIAL RISK MANAGEMENT (CONTINUED)

b) Financial risks on a unit-of-account basis (continued)

Credit risk

Credit risk is the risk that the counterparty to a financial instrument will fail to discharge an obligation or commitment it has entered into, resulting in a financial loss to the Plan. The majority of the Plan's investments are held in securities that are not subject to credit risk. See note 6c for credit risk related to underlying securities.

Credit exposure exists for members' and employers' contributions receivable directly held by the Plan totaling $38 million (2021: $37 million), for the derivatives $298 million (2021: $89 million) and interest and dividends receivable $4 million (2021: $2 million).

c) Financial risks of underlying securities held through pooled investment funds

Pooled investment funds exist for different types of investments, such as short-term investments; bonds; Canadian, global and emerging markets equities; mortgages; real estate; private equity; and infrastructure and renewable resources. Examining the risks of the underlying securities contained in pooled investment funds provides additional disclosure to assess the overall financial risks of the Plan's investments. Viewing the financial risks of underlying securities is an alternative way of disclosing financial risks from the unit-of-account basis in note 6b. These risks are not considered additive to the financial risks already disclosed in note 6b.

Market risks are reduced through asset class diversification, diversification within each asset class and credit quality requirements on investments.

Currency risk

Currency exposure also arises from foreign currency denominated investments held directly and from underlying investments held indirectly in pooled investment funds. BCI has currency exposure management programs under which it enters into economic hedges of foreign currency exposure through the use of forward foreign currency contracts.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

6. FINANCIAL RISK MANAGEMENT (CONTINUED)

c) Financial risks of underlying securities held through pooled investment funds (continued)

Currency risk (continued)

The Plan's total currency exposure, the impact of economic hedging activities, and the Plan's net notional exposure as at December 31 are as follows:

Foreign denominated investment holdings (Cdn dollar equivalent)	**Total exposure**	**Economic hedging**	**Net exposure**	**% of total**
		2022		
United States	$ **15,917**	$ **4,713**	$ **11,204**	**68%**
Euro countries	**3,127**	**496**	**2,631**	**16%**
Asia-Pacific, excluding Japan	**1,321**	**98**	**1,223**	**8%**
United Kingdom	**928**	**107**	**821**	**5%**
Other	**386**	**-**	**386**	**2%**
Other Europe	**191**	**102**	**89**	**1%**
Japan	**72**	**-**	**72**	**0%**
	$ **21,942**	$ **5,516**	$ **16,426**	**100%**
		2021		
United States	$ 15,972	$ 4,349	$ 11,623	65%
Asia-Pacific, excluding Japan	2,965	90	2,875	16%
Euro countries	1,840	205	1,635	10%
Japan	983	-	983	5%
Other	522	-	522	3%
Other Europe	318	92	226	1%
Unitied Kingdom	77	64	13	0%
	$ **22,677**	$ **4,800**	$ **17,877**	**100%**

The net foreign currency exposure of its underlying investments represents 46% (2021: 47%) of the Plan's total investments.

Interest rate risk

The Plan's pooled investment funds hold interest-bearing financial instruments in short-term investments, bonds and mortgages. The risk of adverse changes in interest rates is reduced within the underlying investment pools through management of duration in exposure to fixed income securities, the use of floating rate notes and interest rate swaps, and general diversification by security type and geographic region. The Plan participates in a leveraged bond strategy using repurchase agreements that is included in the terms to maturity table below.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

6. FINANCIAL RISK MANAGEMENT (CONTINUED)

c) Financial risks of underlying securities held through pooled investment funds (continued)

Interest rate risk (continued)

The terms to contractual maturity of interest-bearing financial instruments held directly and through pooled investment, portfolios, as at December 31, are as follows:

Terms to maturity of interest-bearing financial instruments

	Within 1 year	1 to 5 years	6 to 10 years	Over 10 years	Total	Effective yield to maturity
2022						
Short-term	$ 831	$ -	$ -	$ -	$ 831	4.40%
Bonds	1,654	3,794	3,936	3,258	12,642	5.63%
Repurchase agreements	(3,622)	-	-	-	(3,622)	-4.27%
Mortgages*	344	892	22	-	1,258	6.99%
Debt**	-	1	2	-	3	4.80%
	$ (793)	$ 4,687	$ 3,960	$ 3,258	$ 11,112	
2021						
Short-term	$ 1,103	$ -	$ -	$ -	$ 1,103	0.19%
Bonds	1,335	3,767	4,311	4,278	13,691	2.58%
Repurchase agreements	(3,658)	-	-	-	(3,658)	-0.21%
Mortgages*	214	687	170	-	1,071	4.56%
Debt**	-	-	3	-	3	4.80%
	$ (1,006)	$ 4,454	$ 4,484	$ 4,278	$ 12,210	

* Yield based on mortgages in the fixed term mortgage fund. Other mortgage funds contain variable rate mortgages.

** Grouped with real estate investment category.

As at December 31, 2022, if the prevailing interest rates increased or decreased by 1%, assuming a parallel shift in the yield curve, with all other variables remaining constant, the fair value of interest-bearing financial instruments and net assets available for benefits would have decreased or increased by approximately $743 million (2021: $1,024 million).

Other price risk

Other price risk associated with the underlying investments held in pooled investment funds is consistent with that described earlier in note 6b, which describes financial risks on a unit-of-account basis.

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($ millions except as otherwise noted)

6. FINANCIAL RISK MANAGEMENT (CONTINUED)

c) Financial risks of underlying securities held through pooled investment funds (continued)

Credit risk

The Plan's underlying investment assets held in pooled investment funds attract credit risk. This is the risk that a loss may occur from the failure of another party to perform according to the terms of a contract. It's also the risk of losses when issuers and debtors are downgraded by credit rating agencies, usually leading to a fall in the market value of the debtors' obligations. Credit risk is managed by establishing specific investment criteria, such as minimum credit ratings for investees and counterparties, and maximum concentration limits with given counterparties.

Credit risk ratings on financial instruments (short-term investments, bonds, mortgages and debt) held directly and through pooled investment portfolios are as follows:

Credit rating of financial instruments	2022		2021	
AAA/AA	$ **4,700**	**43%**	$ 5,297	44%
A	**1,464**	**13%**	2,335	19%
BBB	**362**	**3%**	513	4%
Non-investment grade	**689**	**6%**	1,368	11%
	7,215	**65%**	9,513	78%
Unrated	**3,897**	**35%**	2,697	22%
	$ **11,112**	**100%**	$ **12,210**	**100%**

The ratings used are defined by Standard & Poor's rating agency. Obligations rated AAA/AA have the highest rating assigned. The lender's capacity to meet its financial commitment on the obligation is very strong. Bonds rated A, BBB or non-investment grade are weaker, with the BBB rating denoting an obligation with adequate protection parameters and a non-investment grade rating denoting major ongoing uncertainties or exposure to adverse business, financial or economic conditions that could lead to the debtor's inadequate capacity to meet its financial commitment on the obligation. Unrated financial instruments consist mainly of mortgages secured by real estate, debt and corporate bonds.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

7. FAIR VALUE OF FINANCIAL INSTRUMENTS

a) Fair value hierarchy

Fair value measurements of the investment assets and liabilities are based on inputs from one or more levels of a fair value hierarchy. Each level is based on the transparency of the inputs used to measure the fair values of assets and liabilities. The three levels of the fair value hierarchy are as follows:

Level 1

Inputs that are unadjusted quoted prices in active markets for identical assets or liabilities

Level 2

Inputs other than quoted prices that are observable for the asset or liability either directly or indirectly

Level 3

Inputs that are not based on observable market data

Plan investments are carried at fair value in the financial statements. The following table details the classification of the Plan's investments based on the fair value hierarchy as at December 31:

Fair value hierarchy	Level 1	Level 2	Level 3	Total
		2022		
Pooled fund units	$ 825	$ 17,870	$ 17,236	$ 35,931
Direct debt*	-	-	3	3
Investments	**$ 825**	**$ 17,870**	**$ 17,239**	**$ 35,934**
Derivatives	**$ -**	**$ (40)**	**$ -**	**$ (40)**
		2021		
Pooled fund units	$ 1,104	$ 22,106	$ 14,396	$ 37,606
Direct debt*	-	-	3	3
Investments	**$ 1,104**	**$ 22,106**	**$ 14,399**	**$ 37,609**
Derivatives	**$ -**	**$ (21)**	**$ -**	**$ (21)**

*Grouped with real estate investment category.

During 2022 and 2021, there were no significant transfers of investments between levels.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

7. FAIR VALUE OF FINANCIAL INSTRUMENTS (CONTINUED)

a) Fair value hierarchy (continued)

The following table reconciles the Plan's level 3 fair value measurements:

Level 3 fair value hierarchy	Pooled fund units	Direct equity	Direct debt	Total
		2022		
Balance, beginning of year	$ 14,396	$ -	$ 3	$ 14,399
Gains (loss) included in investment income	(290)	-	-	(290)
Purchases	6,851	-	-	6,851
Sales	(3,721)	-	-	(3,721)
Balance, end of year	$ 17,236	$ -	$ 3	$ 17,239
Unrealized gain (loss) included in investment income	$ (971)	$ -	$ -	$ (971)
		2021		
Balance, beginning of year	$ 11,465	$ 411	$ 193	$ 12,069
Gains (loss) included in investment income	1,690	7	-	1,697
Purchases	6,997	237	-	7,234
Sales	(5,756)	(655)	(190)	(6,601)
Balance, end of year	$ 14,396	$ -	$ 3	$ 14,399
Unrealized gain (loss) included in investment income	$ 471	$ (162)	$ (2)	$ 307

b) Valuation models

The objective of valuation techniques is to arrive at a fair value measurement that reflects the price that would be received to sell the asset or paid to transfer the liability in an orderly transaction between market participants at the measurement date.

BCI uses widely recognized valuation methods for determining the fair value of common and less complex financial instruments such as investments in pooled funds, where fair value is based on the underlying net asset value of the respective pooled fund as determined by the underlying fund manager. Observable prices and model inputs are usually available in the market for listed equity and debt securities, simple derivatives such as forward or future currency contracts, and pooled funds.

The availability of observable market prices and model inputs reduces the need for management judgment and estimation, and reduces the uncertainty associated with the determination of fair values. The availability of observable market prices and inputs varies depending on the financial instrument and is subject to change based on specific events and general conditions in the financial markets.

7. FAIR VALUE OF FINANCIAL INSTRUMENTS (CONTINUED)

b) Valuation models (continued)

For more complex financial instruments, such as direct private debt investments held by the Plan, BCI uses proprietary valuation models, which are usually developed from recognized valuation models. Some or all of the significant inputs into these models may not be observable in the market and are derived from market prices or rates, or estimated based on assumptions. Valuation models that employ significant unobservable inputs require a higher degree of judgment and estimation in the determination of fair value. BCI's judgment and estimation are usually required for the selection of the appropriate valuation model to be used, determination of expected future cash flows of the financial instrument being valued, determination of the probability of counterparty default and prepayments, and selection of appropriate discount rates.

Fair value estimates obtained from models are adjusted for any other factors, such as liquidity risk or model uncertainties, to the extent that BCI believes that a third-party market participant would take them into account in pricing a transaction. Fair values reflect the credit risk of the instrument and include adjustments to take account of the credit risk of the Plan and the counterparties where appropriate.

c) Valuation framework

BCI has an established framework for the measurement of fair values of financial instruments. Where possible, for direct private equity investments held by the Plan, external independent valuation specialists are engaged annually to assist in the determination of fair value. In those circumstances where BCI relies on the third-party manager for the determination of fair value, BCI reviews the appropriateness of such valuations using audited financial statements of the underlying investments, where available, and other information from the underlying third-party manager or other sources.

In addition, BCI applies the following specific controls in relation to the determination of fair values:

- Verification of observable pricing inputs
- Appraisal of domestic real estate properties once every 10 to 18 months by accredited independent appraisers
- Analysis and investigation of significant valuation movements
- Review of unobservable inputs and valuation adjustments

When third-party information such as broker quotes or pricing services is used to measure fair value, BCI assesses and documents the evidence obtained from the third parties to support the conclusion that such valuations are appropriate. This includes:

- Verifying that the broker or pricing service is approved by BCI for use in pricing the relevant type of financial instrument
- Understanding how the fair value has been arrived at and the extent to which it represents actual market transactions
- Understanding how the fair value has been determined when a number of quotes for similar financial instruments have been obtained
- Understanding how prices for similar financial instruments used to measure fair value have been adjusted to reflect the characteristics of the financial instrument subject to measurement

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

7. FAIR VALUE OF FINANCIAL INSTRUMENTS (CONTINUED)

d) Significant unobservable inputs used in measuring fair value

The following table sets out information about significant unobservable inputs used at year-end in measuring financial instruments categorized as level 3 in the fair value hierarchy.

Significant unobservable inputs used in measuring fair value

Description	Fair value	Valuation technique	Unobservable input	Amount/ range	Sensitivity to change in significant unobservable input
			2022		
					The estimated fair value would increase if:
Pooled fund units	**$ 17,236**	**Net asset value**	**Net asset value**	**$ 17,236**	**The net asset value increased**
Direct debt	**$ 3**	**Discounted cash flow**	**Discount rate**	**4.8%**	**The discount rate decreased**
			2021		
					The estimated fair value would increase if:
Pooled fund units	$ 14,396	Net asset value	Net asset value	$ 14,396	The net asset value increased
Direct debt	$ 3	Discounted cash flow	Discount rate	4.8%	The discount rate decreased

Net asset value

Net asset value is determined by BCI based on the fair value of assets less liabilities. Such investments are closed funds with significant restrictions on redemptions and, accordingly, BCI is unable to dispose of the pooled fund investment until the maturity or wind-up and liquidation of the respective pooled fund. In such cases, it is the Plan's policy to categorize the pooled fund investment as level 3 within the fair value hierarchy.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

7. FAIR VALUE OF FINANCIAL INSTRUMENTS (CONTINUED)

d) Significant unobservable inputs used in measuring fair value (continued)

Discount rate

This represents the discount rate applied to the expected future cash flows of the direct debt investments. For the discount rates used, the underlying investment manager assesses both the risk premium and the appropriate risk-free rate based on the economic environment in which the investee entity operates. The discount rate is adjusted for such matters as liquidity differences, credit and market factors. The estimated future cash flows are then discounted using the discount rate determined. Cash flows used in the discounted cash flow model are based on projected cash flows or earnings of the respective investee entity.

e) Effects of unobservable input on fair value measurement

The use of different methodologies or assumptions could lead to different measurements of fair value. For fair value measurements in level 3, changing one or more of the assumptions used for a reasonable alternative assumption could have the following effects on net assets attributable to holders of redeemable units.

The pooled fund units and direct debt investments were valued based on information received from BCI, the manager of the respective investments. The fair value of these investments fluctuates in response to changes to specific assumptions for these particular investments, as determined by BCI. The favourable and unfavourable effects of reasonable alternative assumptions for the valuation of pooled fund units and direct debt investments have been calculated by adjusting the respective underlying net asset value by 10%.

Effects of unobservable input on level 3 fair value measurement

	2022		2021	
	Favourable	Unfavourable	Favourable	Unfavourable
Pooled fund units	$ 1,724	$ (1,724)	$ 1,440	$ (1,440)
Direct debt	-	-	-	-
	$ 1,724	$ (1,724)	$ 1,440	$ (1,440)

f) Financial instruments not measured at fair value

The carrying value of contributions receivable, receivable from sale of investments, interest and dividends receivable, accounts payable and accrued expenses and payable for purchase of investments approximate their fair value given their short-term nature. These financial instruments are classified as level 2 in the fair value hierarchy because, while prices are available, there is no active market for these instruments.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

8. INVESTMENT INCOME

	2022			2021		
	Income allocation	Change in fair value	Total	Income allocation	Change in fair value	Total
Short-term	$ 14	$ 17	$ 31	$ 1	$ (3)	$ (2)
Bonds	331	(1,742)	(1,411)	239	(335)	(96)
Canadian equities	28	(89)	(61)	35	278	313
Global equities	113	(1,020)	(907)	113	1,145	1,258
Emerging markets equities	54	(306)	(252)	53	(37)	16
Mortgages	107	(12)	95	30	20	50
Real estate	711	(160)	551	116	626	742
Private equity	667	(411)	256	774	551	1,325
IRR*	381	144	525	481	(72)	409
	2,406	(3,579)	(1,173)	1,842	2,173	4,015
Directly held derivatives	-	(32)	(32)	-	34	34
	$ 2,406	$ (3,611)	$ (1,205)	$ 1,842	$ 2,207	$ 4,049

* Infrastructure and renewable resources

Investment income represents realized and unrealized pooled investment portfolio income attributable to the Plan, as a unit holder, and income from directly held investments. Income allocation is composed of interest, dividends and other investment payments. Change in fair value is composed of realized gains and losses on the disposal of investments and derivatives, and unrealized gains and losses on investments and derivatives held at year-end. All income earned within a pooled investment portfolio is reinvested within the portfolio.

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TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

9. CONTRIBUTIONS

	Basic account	Inflation adjustment account	Supplemental benefits account	Total
		2022		
Members' contributions				
Regular	$ 338	$ 72	$ -	$ 410
Past service purchases	3	1	-	4
	341	73	-	414
Employers' contributions				
Regular	338	75	1	414
Past service purchases	2	1	-	3
	340	76	1	417
	$ 681	$ 149	$ 1	$ 831
		2021		
Members' contributions				
Regular	$ 328	$ 69	$ -	$ 397
Past service purchases	3	1	-	4
	331	70	-	401
Employers' contributions				
Regular	328	72	1	401
Past service purchases	2	1	-	3
	330	73	1	404
	$ 661	$ 143	$ 1	$ 805

Member and employer contributions are as defined under the pension plan rules. Members' past service purchases are voluntary contributions.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

10. BENEFITS

		Basic account		Inflation adjustment account		Supplemental benefits account		Total
				2022				
Regular pension benefits	$	1,068	$	-	$	1	$	1,069
Indexing – regular pension benefits		283		-		-		283
Termination and refund benefits		24		8		-		32
Death benefit payments		10		2		-		12
	$	1,385	$	10	$	1	$	1,396
				2021				
Regular pension benefits	$	1,038	$	-	$	1	$	1,039
Indexing – regular pension benefits		237		-		-		237
Termination and refund benefits		24		7		-		31
Death benefit payments		10		1		-		11
	$	1,309	$	8	$	1	$	1,318

11. INVESTMENT AND ADMINISTRATION COSTS

		2022		2021
Investment management	$	71.5	$	34.1
Benefit administration		14.3		14.7
Board secretariat costs		0.4		0.3
Other professional services		0.4		0.5
Board remuneration and expenses		0.2		0.2
Audit and actuary expenses		0.1		0.3
	$	86.9	$	50.1

BCI and Pension Corporation are related parties to the Plan. The Board appoints members to each of the respective corporate boards. Investment management and benefit administration costs are approved by the Board.

Investment management costs represent amounts charged to recover internal and external management costs incurred by BCI, except those external management fees related to investments managed by an underlying external manager, where management fees are embedded in the net assets of the respective investment. Underlying external investment management fees of $75.8 million (2021: $52.2 million) were netted against investment income.

($ millions except as otherwise noted)

11. INVESTMENT AND ADMINISTRATION COSTS (CONTINUED)

Benefit administration costs represent amounts charged to recover benefit administration costs incurred by Pension Corporation. These transactions are in the normal course of operations and are measured at the exchange amount of consideration established and agreed to by the related parties.

Board secretariat costs represent amounts directly incurred by the Board for costs associated with supporting the Board.

Other professional services costs include insurance and legal fees incurred directly by the Plan.

Board remuneration and expenses represent amounts for trustee compensation and direct expenses.

12. ACCOUNT TRANSFERS

	2022		2021	
	Basic account	Inflation adjustment account	Basic account	Inflation adjustment account
Indexing supplements	$ 553	$ (553)	$ 64	$ (64)
Indexing of deferred pensions	3	(3)	2	(2)
Fiscal 2020 IAA transfer to RSA	-	-	80	(80)
	$ 556	$ (556)	$ 146	$ (146)

The IAA is a separate account maintained for funding current and future cost-of-living adjustments. The IAA is funded through a portion of ongoing contributions from employers and members, investment income earned and excess investment return earned in the Basic Account.

Cost-of-living adjusted pension payments are made from the Basic Account. Each year, if members' pension payments are adjusted for the current cost-of-living adjustment, monies are transferred from the IAA to the Basic Account to cover the present value of all future payments arising from the current cost-of-living adjustment. The Board considers all relevant factors and its IAA funding policy to determine if a cost-of-living adjustment will be granted on pensions in pay and the amount of the cost-of-living adjustment, if any. As at January 1, 2022, retired members received a cost-of-living adjustment of 4.4% (2021: 0.5%), and indexing supplements were transferred.

When a deferred pension commences, the present value of the cost-of-living adjustments during the deferral period is transferred from the IAA to the Basic Account. Approximately $36 million (2021: $29 million) of the current IAA balance is for cost-of-living adjustments already granted for deferred pensions but not yet transferred to the Basic Account.

As the IAA to RSA contribution transfer was effective retroactively to January 1, 2020, the fiscal 2020 IAA contributions plus interest of $80 was moved in 2021 to the RSA, which is held notionally within the Basic Account.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

12. ACCOUNT TRANSFERS (CONTINUED)

Excess investment return is based on investment income earned on those assets in the Basic Account required for pensions currently being paid, approximately $13.6 billion of assets for 2022 (2021: $13.5 billion). The excess investment return rate is determined by taking the difference between the actual five-year annualized market rate of return (6.70%) and the rate of return used by the Plan actuary (5.75%) in valuing the Plan's liabilities. The calculated excess investment return rate for 2022 was 0.95% (2021: 4.15%), resulting in a positive excess investment return amount of $129 million (2021: $560 million).

Plan rules allow the positive excess investment return transfer to occur at the discretion of the Board. Should the excess investment return in any year not be transferred to the IAA, it will be carried forward cumulatively with interest and if available, may be transferred to the IAA at the discretion of the Board in the future. If the balance is ever negative, it will be offset against future positive excess investment returns before transfers to the IAA will recommence. The excess investment interest is an amount determined by applying the five-year annualized market rate of return to the fiscal year opening balance.

Excess investment return	**2022**	**2021**
Cumulative excess investment return, beginning of year	$ 2,336	$ 1,616
Interest applied to beginning of year amount	157	160
Excess investment return	129	560
Cumulative excess investment return, end of year	**$ 2,622**	**$ 2,336**

13. SUPPLEMENTAL BENEFITS ACCOUNT

The SBA funds certain supplemental benefits. For example, pension benefits that exceed *Income Tax Act* limits for registered pension plans are paid through this account.

14. COMMITMENTS

The Plan participates in private equity, international real estate, mortgages, and infrastructure and renewable resource pools. As at December 31, 2022, the Plan's share of commitments for future investment contracts in these pools over the next several years is approximately $7,002 million.

TEACHERS' PENSION PLAN

Notes to the financial statements for the year ended December 31, 2022

($ millions except as otherwise noted)

15. CAPITAL DISCLOSURES

Capital is defined as the funded status (surplus or deficit) of the Plan as determined by the actuary. The Plan's objective for managing capital is to ensure that the assets of the Plan are invested prudently and effectively, and with contributions adequate to meet the obligations of the Plan. Management of the Plan's funded status is achieved by adjusting member and employer contribution rates, through implementation of the SIPP, which affects the earnings of the Plan, and, in the case of the IAA, by changing the benefits paid. The Board has a funding policy that outlines the principles that provide guidance in managing this process. The investment performance of the Plan's assets is reviewed by the Board on a regular basis and compared to relevant industry benchmarks. Benefit entitlement is based on the provisions of the Agreement and the pension plan rules. Funding deficits must be funded over a period not to exceed 15 years.

An actuarial valuation must be prepared at least once every three years. The latest actuarial valuation for funding purposes was prepared as at December 31, 2020, and has two components: the Basic Account non-indexed benefits and, by considering the valuation of the entire Plan, the non-guaranteed IAA benefits. The next full actuarial valuation will be carried out as at December 31, 2023, with the results included in the December 31, 2024, financial statements.

The Act and the Board's funding policy require that contribution rates comply with the going-concern requirements of PBSA.

16. PRIOR YEAR COMPARATIVES

The prior year comparatives have been reclassified to conform to the current year presentation.

Teachers' Pension Plan

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MISSION STATEMENT
To provide retirement income to plan members by effectively and efficiently meeting the pension promise and fulfilling the joint trust placed on us by the Plan Partners.

1998-067 TPP AR 2023.07.13