
BRITISH COLUMBIA | Financial Institutions Commission

# REPORT ON PENSION PLANS

## Registered in British Columbia | SEPTEMBER 2019

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# 1. About This Report

This year's report on pension plans prepared by British Columbia's Office of the Superintendent of Pensions provides a profile of all pension plans registered in British Columbia: defined benefit (DB), defined contribution (DC) and target benefit (TB).

The report presents a snapshot of the current state of pensions in BC. We focus on the current financial market and how it impacts the funded position and requirements facing plan sponsors. The report also provides an opportunity for the Superintendent to engage with stakeholders and provide an update on topics of interest to his office.

# 2. Capital and Equity Markets Performance

Equity markets were volatile in 2018. The Canadian S&P/TSX hit an all-time high in July but declined sharply in the fourth quarter. Investors were uncertain how to weigh rising U.S. central bank interest rates, a slowdown in eurozone business confidence, weaker growth in China, and the U.S. – China trade dispute. Fixed income returns, while low, outperformed returns of Canadian and international equities.

**TABLE 2.1:** SELECTED ASSET CLASS RETURNS

| | Returns in 2018 | Returns in 2017 | Returns in 2016 |
|---|---|---|---|
| Stock returns[1] | | | |
| ▪ Canadian equities: S&P TSX Composite | -9.6% | 9.1% | 21.1% |
| ▪ U.S. equities: S&P 500 (Canadian dollars) | 4.0% | 13.8% | 8.6% |
| ▪ MSCI EAFE (Canadian dollar) | -6.0% | 16.8% | -2.5% |
| Fixed-income returns[2] | | | |
| ▪ FTSE Canada 91-day T-bills | 1.4% | 0.5% | 0.5% |
| ▪ Annuity purchase | 1.4% | 2.5% | 1.7% |
| ▪ FTSE Canada Long Bonds | 0.3% | 7.0% | 2.5% |

2018 ended with Government of Canada long-term yields slightly lower than a year earlier, largely because of a significant decline during the last two months of the year.

1 Aubin Consulting Actuary Inc., http://www.aubinactuaireconseil.ca

2 Bank of Canada, https://www.bankofcanada.ca/rates/interest-rates

**TABLE 2.2:** GOVERNMENT OF CANADA BOND YIELDS AND SOLVENCY INTEREST RATES

| | December 2018 | December 2017 | December 2016 |
|---|---|---|---|
| Government of Canada Bond Yields[3] | | | |
| ▪ Long-term (V122544) | 2.15% | 2.20% | 2.34% |
| ▪ 10-year (V122543) | 1.98% | 1.98% | 1.73% |
| ▪ 91-day T-bill (V122541) | 1.67% | 1.05% | 0.47% |
| Solvency Interest Rates (non-indexed)[4] | | | |
| ▪ Commuted value | 3.20%/ 3.40% | 2.60%/ 3.40% | 2.21%/ 3.50% |
| ▪ Annuity purchase | 3.23% | 3.02% | 3.11% |

Favourable economic conditions in mid-2018 led to a fully-funded status for many British Columbian benefit formula plans. As a result, several plan administrators purchased annuities (as discussed in an article below). The funded position of plans dropped in the fourth quarter of 2018 because of weakness in equity markets combined with lower long-term yields[5]. While this had an impact on the solvency funded position of many plans, it is expected that the solvency funding relief provided by the Government in 2018[6] will lead to smaller increases in solvency special payments compared to the funding that would have been required under the existing solvency funding rules.

3 Bank of Canada, http://www.bankofcanada.ca/rates/interest-rates/

4 Based on guidance from the Canadian Institute of Actuaries. For calculation of a commuted value, the first interest rate applies to the first 10 years after the calculation date and the second interest rate applies to subsequent years. The annuity purchase rate shown is that for an illustrative block with medium duration.

5 Mercer, *Defined benefit plans end 2018 on a sour note,* January 3, 2019, https://www.mercer.ca/en/newsroom/defined-benefit-plans-end-2018-on-sour-note.html

6 Revised Order of Lieutenant Governor in Council (PBSR Schedule 8): January 24, 2019

# 3. Plan Membership

The total number of members covered by plans registered in BC continues to increase even as the total number of plans has declined. The total number of members increased from 1,079,000[7] in 2017 to 1,118,000 in 2018, while the number of plans decreased from 677 to 663.

The total number of plans with a benefit formula component declined from 190 at December 31, 2017 to 183 at December 31, 2018. This includes 10 plans that were either terminated, merged with another plan or transferred to another jurisdiction. There were 3 new benefit formula plans registered in 2018. The number of members in benefit formula plans increased from 1,002,000 at December 31, 2017 to 1,035,000 at December 31, 2018.

The following two tables show the number of members in defined benefit plans and the membership in target benefit plans:

**TABLE 3.1:** NUMBER OF MEMBERS IN DEFINED BENEFIT PLANS ON DECEMBER 31, 2018

| Size of plan | Plans | Members |
|---|---|---|
| Fewer than 1,000 | 108 | 19,000 |
| 1,000-5,000 | 26 | 51,000 |
| 5,000-10,000 | 5 | 34,000 |
| 10,000 or more | 7 | 675,000 |
| **Total** | **146** | **779,000** |

Almost 75 per cent of the defined benefit plans have less than 1,000 members but make up less than 3 per cent of the total membership. For these plans, the average number of members is approximately 175. Of the 779,000 members participating in a defined benefit plan, 603,000 are members of one of the four public-sector plans.

7 Previous membership counts were overstated by approximately 66,000 members.

**TABLE 3.2:** NUMBER OF MEMBERS IN TARGET BENEFIT PLANS ON DECEMBER 31, 2018

| Size of plan | Plans | Members |
|---|---|---|
| Fewer than 1,000 | 9 | 5,000 |
| 1,000-5,000 | 16 | 35,000 |
| 5,000-10,000 | 7 | 49,000 |
| 10,000 or more | 5 | 167,000 |
| **Total** | **37** | **256,000** |

Over 65 per cent of members in target benefit plans are enrolled in the five largest target benefit plans registered in BC. These five plans have an average membership of approximately 33,000.

**TABLE 3.3:** DEFINED CONTRIBUTION PLAN MEMBERSHIP ON DECEMBER 31, 2018

| Size of plan | Plans | Members |
|---|---|---|
| Fewer than 100 | 357 | 11,000 |
| 100-500 | 95 | 19,000 |
| 500-1,000 | 13 | 9,000 |
| 1,000 or more | 15 | 44,000 |
| **Total** | **480** | **83,000** |

The above table refers to membership in plans specifically set up as defined contribution plans and **does not** include the nearly 27,000 members in benefit formula plans currently contributing to a defined contribution component. They are included in benefit formula membership totals.

The total number of defined contribution plans decreased from 487 at December 31, 2017 to 480 at December 31, 2018. This includes 21 plans terminating or merging and 12 new plans being registered during the year. However, there was an increase in membership from 77,000 to 83,000.

# 4. Pension Funds and Asset Mix

The total assets for all plans registered in B.C. increased from $157.6 billion to $161.4 billion, an increase of $3.8 billion or 2.4 per cent over the previous year. The poor performance of the markets in 2018 as illustrated in Table 2.1 above had a direct impact on the total assets at the end of the year. The four public sector plans represent 83 per cent of the defined benefit assets.

**TABLE 4.1:** TOTAL ASSETS OF REGISTERED PENSION PLANS AS AT DECEMBER 31, 2018

| Asset type | Market value ($ millions) |
|---|---|
| Defined benefit component | 141,806 |
| Target benefit component | 11,753 |
| Defined contribution component | 7,830 |
| **Total assets** | **161,389** |

## Distribution of Assets for Benefit Formula Plans

Plans reported a decline in the proportion of assets held in traditional equity assets with a trend towards higher allocations to infrastructure and real estate investment categories. The increase in the allocation to debt for plans registered in BC, shown below, was caused by increases within the portfolio of the public sector plans. Allocations to real estate investments continue to increase from year to year, with assets reported in 2018 of $22.2 billion compared to $19.2 billion in 2017, an increase year-over-year of 16 per cent. Similarly, assets allocated to infrastructure increased by 11 per cent in 2018 compared to the previous year.

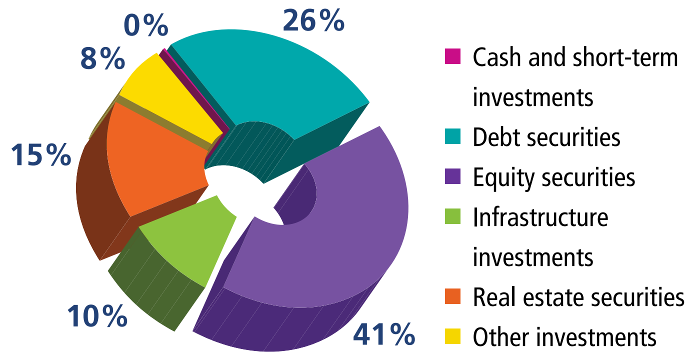
The allocation to the asset category reported as "Other investments" continues to grow. In 2017, plans reported $9.5 billion of assets allocated to this category compared to $13.0 billion in 2018. It is required for plans to disclose the types of assets within this category. The Superintendent is currently reviewing the processes used in the collection of asset data. As indicated in the previous report, this category is made up mainly of private equity placements and continues to be utilised by the largest plans. It also includes the value of annuity buy-in contracts.

**TABLE 4.2:** MARKET VALUE OF ASSETS AS AT DECEMBER 31, 2018

| Asset Category | 2018 Market Value ($ Million) | 2017 Market Value ($ Million) |
|---|---|---|
| Cash & short-term investments | 533 | 523 |
| Debt securities | 39,013 | 37,061 |
| Equity securities | 62,584 | 68,619 |
| Infrastructure | 15,283 | 13,756 |
| Real estate | 22,221 | 19,218 |
| Other investments | 12,974 | 9,508 |
| **Total[8]** | **152,610** | **148,685** |

Plans that are required to file a distribution of their asset mix information added $5.8 billion in investment income (an estimated rate of return of 3.6 per cent), compared to $15.3 billion in 2017. However, in 2018, 54 per cent of these plans reported investment losses. That is, while in total these plans achieved positive investment returns in 2018, over half of these plans had negative returns. These plans also made total contributions of $4.8 billion to their plans compared to $6.6 billion in benefits paid.

**FIGURE 4.1:** PERCENTAGE DISTRIBUTION OF ASSET ALLOCATIONS AS AT DECEMBER 31, 2018




# 5. Required Contributions to Plans

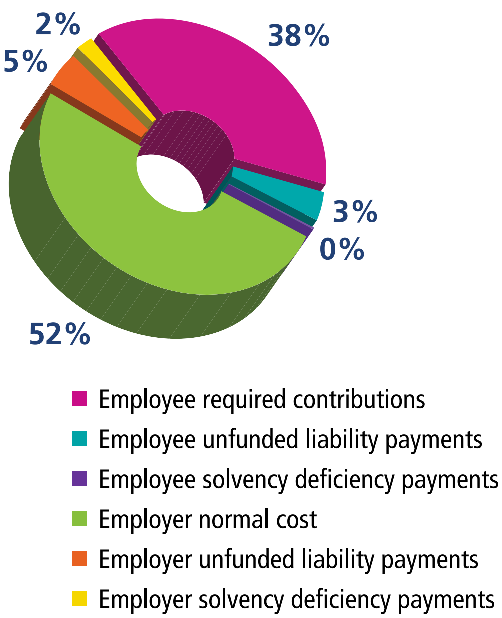
The total contributions to benefit formula plans did not increase significantly during the year, growing from $4.6 billion in 2017 to $4.8 billion in 2018. There was a significant reduction in contributions made to amortize unfunded liabilities, declining from $531 million in 2017 to $388 million in 2018. This is primarily due to more plans becoming fully funded on a going-concern basis. The cost of future accruals increased from $3.9 billion in 2017 to $4.3 billion in 2018. The proportion of contributions made to fund future service increased from 86 per cent to 90 per cent of total contributions. Pension plans registered in BC are consistently spending a smaller amount of their contributions to fund legacy benefits because of the improvement in their funding position.

8 This excludes smaller plans that are not required to file a breakdown of asset mix information, i.e. assets of less than $2.5 million or less than 50 members (both active and former members).

**TABLE 5.1:** CONTRIBUTIONS TO FUND BENEFIT FORMULA PLANS AS AT DECEMBER 31, 2018

| Type of Contributions Made ($ thousands) | Amount contributed in 2018 | Amount contributed in 2017 |
|---|---|---|
| Employee required contributions | 1,837,509 | 1,662,276 |
| Employee unfunded liability payments | 162,992 | 234,835 |
| Employee solvency deficiency payments | 3,315 | 3,242 |
| Employer normal cost | 2,473,417 | 2,280,207 |
| Employer unfunded liability payments | 224,813 | 296,521 |
| Employer solvency deficiency payments | 94,324 | 103,756 |
| **Total employer and employee contributions** | **4,796,370** | **4,580,837** |

**FIGURE 5.1:** CONTRIBUTIONS TO BENEFIT FORMULA PLANS, 2018

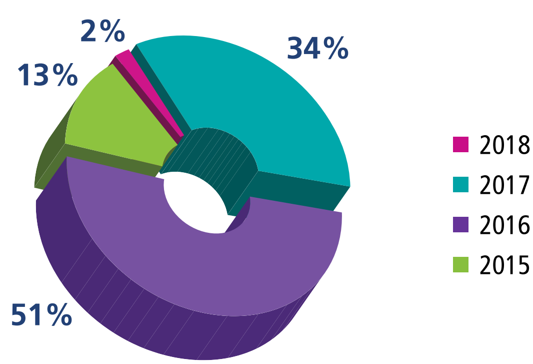



Plan sponsors and members contributed $493 million towards their defined contribution plans during 2018, an increase from $454 million contributed in 2017. This includes $34 million contributed in 2018 by members to their voluntary contribution accounts in addition to their required contributions. In 2017, members contributed $29 million to their voluntary contribution accounts.

# 6. Valuation Assumptions Summary

There are currently 183 benefit formula plans registered in BC; 146 defined benefit plans and 37 target benefit plans. Each plan is required to file a funding valuation report at least every three years. Figure 6.1 shows the review year of the most recent valuation report on file for each plan. The 13 per cent of the plans with a most recent valuation date in 2015 are required to file a valuation in 2018 but had not filed a valuation report when the data for this report was compiled. One newly registered benefit formula plan was not included in the following analysis as it had not filed an initial valuation report as at the date of this report.

**FIGURE 6.1:** MOST RECENTLY FILED VALUATION REVIEW DATE




We have summarized the significant assumptions that are most variable among plans. Note that the summary statistics below do not have one common review date but instead reflect the most recent valuation report on file for each plan.

## Discount Rate Assumptions:

The assumed discount rate is often developed using the building block approach. Table 6.1 outlines the average rates that were used to develop the valuation interest rates as reported to the Superintendent.

Of the 145 defined benefit plans, 134 plans included a margin for adverse deviation, and 9 of the 37 target benefit plans included an additional margin for adverse deviation outside of the legislative provision for adverse deviation (PfAD) requirement.

## Asset Mix Strategies and Demographics:

Table 6.2 looks at how the age distribution of plans may influence investment decisions. It examines the average age of members in each plan and the corresponding asset mix of the plan.

**TABLE 6.1:** DEVELOPMENT OF THE AVERAGE DISCOUNT RATE

| | Defined Benefit Plans | Target Benefit Plans |
|---|---|---|
| Best estimate assumed rate of inflation | 1.89% | 1.93% |
| Expected long-term real return on invested assets | 3.46% | 3.75% |
| Non-investment expenses | -0.13% | -0.18% |
| Total investment expense (passive + active) | -0.29% | -0.36% |
| Returns for active management | 0.15% | 0.23% |
| Returns for rebalancing & diversification | 0.18% | 0.29% |
| Margin for adverse deviation | -0.36% | -0.06% |
| Valuation interest rate (net of all expenses) | 4.90% | 5.60% |
| Valuation interest rate (net of investment expenses) | 5.03% | 5.78% |
| **Gross valuation interest rate** | **5.32%** | **6.14%** |

**TABLE 6.2:** ASSET DISTRIBUTION BY AGE GROUPS FOR VALUATION REPORTS ON FILE

| Asset Distribution/Average Age | <50 | 50 to 55 | 55 to 65 | 65 to 75 | >75 |
|---|---|---|---|---|---|
| Average Canadian Equity | 16.0% | 21.7% | 23.2% | 20.1% | 14.0% |
| Average Foreign Equity | 23.0% | 29.2% | 25.1% | 22.6% | 23.4% |
| Average Fixed Income | 44.4% | 36.8% | 41.0% | 44.7% | 55.9% |
| Average Real Estate | 7.6% | 6.5% | 3.9% | 2.1% | 4.9% |
| Average Other | 7.0% | 3.8% | 3.9% | 7.5% | 0.6% |
| Average Cash | 2.0% | 2.0% | 2.9% | 3.0% | 1.2% |
| **Total** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** |
| | | | | | |
| Fixed Income | 44.4% | 36.8% | 41.0% | 44.7% | 55.9% |
| Non-Fixed Income | 55.6% | 63.2% | 59.0% | 55.3% | 44.1% |
| **Total** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** |
| Number of Plans | 27 | 40 | 74 | 32 | 9 |
| **Average Discount Rate** | **5.2%** | **5.3%** | **5.1%** | **4.5%** | **4.7%** |

We expect that plan administrators would take the plan's maturity into account when determining the investment strategy. We note in general that older plans tend to have a more conservative asset mix. Other considerations such as plan design, the funding and benefit policies, or the tolerance for risk and acceptance of contribution variability would also impact the investment strategy.

## Non-Investment Expenses

Non-investment expenses are assumed as either an explicit dollar amount or implicitly in the discount rate. For plans that assumed an implicit assumption, we have converted the implicit assumption to an explicit assumption for the purposes of Table 6.3. We have excluded the 30 plans where non-investment fees are paid outside of the pension fund. Table 6.3 shows the average non-investment expenses assumption based on the number of members in each plan.

**TABLE 6.3:** AVERAGE NON-INVESTMENT EXPENSE ASSUMPTION BY PLAN SIZE

| Size of Plan (Members) | Number of Plans | Average Non-Investment Expense Assumption Per Plan ($) | Average Non-Investment Expense Assumption Per Member ($) |
|---|---|---|---|
| Fewer than 100 | 41 | 49,400 | 1,001 |
| 100-500 | 37 | 107,900 | 430 |
| 500-1,000 | 19 | 217,300 | 285 |
| 1,000-5,000 | 32 | 381,900 | 184 |
| 5,000-10,000 | 11 | 796,400 | 122 |
| 10,000 or more | 12 | 6,914,800 | 106 |

The non-investment expenses per member decreases as plans become larger because those larger plans can invest in more automated and more efficient processes. We recognize that non-investment expenses may vary based on the services contracted with service providers and the ratio of active to inactive membership.

The above information provides an opportunity for administrators to compare their expenses with plans of similar size to determine whether efficiencies can be achieved in terms of their level of administration costs.

## Wind-up Expenses

While most assumptions in a solvency valuation are prescribed, the estimated wind-up expenses are not, and we have seen significant variations between plans in the estimated wind-up expense. Table 6.4 outlines the average wind-up expense assumption for plans which have assumed the expenses would be covered by the plan, based on the membership counts.

**TABLE 6.4:** AVERAGE WIND-UP EXPENSE ASSUMPTION BY PLAN SIZE

| Size of Plan (Members) | Number of Plans | Average Wind up Expense ($) | Average Wind-up Expense per Member ($) |
|---|---|---|---|
| Fewer than 100 | 60 | 75,800 | 1,775 |
| 100-500 | 44 | 192,800 | 772 |
| 500-1,000 | 19 | 328,200 | 430 |
| 1,000-5,000 | 32 | 647,700 | 315 |
| 5,000-10,000 | 10 | 1,198,000 | 185 |
| 10,000 or more | 6 | 4,082,700 | 121 |

As expected, larger plans assume a lower cost per member because many expenses that are included in a wind-up do not greatly increase as membership increases. In 2018, the Superintendent published revised expectations in terms of the assumptions used for wind-up expenses. As plans file valuations which follow the guidance provided by the Superintendent, we expect that the average assumption for wind-up expenses presented above will more truly reflect the Superintendent's expectation that the termination date, the settlement date and wind-up dates are not to be the same.

## Target Benefit Specific Assumptions

Effective September 30, 2015, the *Pension Benefits Standards Act* (*PBSA*) introduced a new type of benefit formula provision: target benefit. The funding rules for a target benefit provision are generally referred to as "Going Concern Plus". The going concern funding requirements have been enhanced by the addition of a PfAD that is required to be funded on the current service cost. As a further measure to protect accrued pensions, benefit improvements are not permitted until a pension fund's assets are large enough to cover the target benefit plan's liabilities as well as the PfAD.

Alberta (AB) and BC legislation have the same requirements for a PfAD. Ontario (ON), Quebec (QC), and Saskatchewan (SK) are other Canadian jurisdictions which have incorporated PfAD-type funding instruments within their respective pension legislation. New Brunswick requires that Shared Risk Pension Plans (which have many similarities to BC's Target Benefit Plans) use stochastic modelling within their funding arrangements to assess funding risk. As this is a different approach, we have not included it in our analysis below.

Table 6.5 outlines the differences between jurisdictions that have implemented funding requirements that are similar to the requirements for target benefit plans registered in BC.

**TABLE 6.5:** REVISED FUNDING REQUIREMENTS BY LEGISLATION

| | BC/AB | ON | QC | SK |
|---|---|---|---|---|
| Covered Plans | Multi-employer target benefit plans | Excludes plans which have been exempted from solvency funding | All | Limited liability plans |
| Required to fund PfAD for Accrued Liability | No | Yes | Yes (reduced by 5%) | No |
| Required to fund PfAD for Current Service | Yes | Yes | Yes | Yes |
| PfAD Structure | The sum of two factors: percentage based on asset allocation and percentage based on the assumed discount rate. | The sum of three factors: fixed percentage, percentage based on asset allocation, and percentage based on the assumed discount rate. | A percentage based on both asset allocation and on liability/asset duration mismatch. | Percentage based on the asset allocation. |
| Solvency Funding Requirement | None | 85% | None | None |

We note that while Ontario's PfAD has a similar structure to BC's PfAD, there are differences in the size of the factors within the PfAD. Ontario also requires funding on a solvency basis up to 85%. Quebec's stabilization provision focuses primarily on the asset allocation and how it matches liabilities. A key difference from BC is that plans registered in Quebec are required to fund a reduced stabilization provision on the past liabilities as well. Finally, Saskatchewan has taken a different approach to setting the PfAD. The legislation sets the minimum PfAD and expects the administrator to set an appropriate PfAD that aligns with the plan's funding policy.

The following is a summary of assumptions used in valuations by target benefit plans registered in BC from 2015 to 2018.

**TABLE 6.6:** AVERAGE TARGET BENEFIT ASSUMPTIONS BY YEAR

| | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|
| Number of Valuation Reports Filed | 15 | 19 | 17 | 2 |
| Average PfAD | 17% | 19% | 22% | 23% |
| Average Equity Allocation | 49% | 43% | 40% | 18% |
| Average Going Concern Discount Rate | 5.8% | 5.7% | 5.5% | 5.7% |
| Average Benchmark Discount Rate | 5.6% | 5.4% | 5.0% | 4.7% |

To date, the feedback the Superintendent of Pensions has received with regards to the PfAD model included in the *PBSA* has been around the volatility of the PfAD amount and the determination of the equity component of the calculation. The Superintendents of both BC and Alberta have initiated an analysis of these concerns and will be sharing our conclusions at the appropriate time.

# 7. Funding Position of Benefit Formula Plans

The funding analysis provided in this section is based on the projected funding position[9] of all benefit formula plans at the end of 2017 and 2018. The figures do not include public sector plans.

- A *going concern valuation* of a plan provides an evaluation of the plan's funded status, if the plan continues indefinitely and benefits continue to be paid;
- The *going concern funded ratio* of a plan is the ratio of the plan's going concern assets to the plan's going concern liabilities;
- The *solvency valuation* of a plan estimates the plan's ability to meet its obligations, if the plan is terminated and must pay all its obligations immediately; and
- The *solvency ratio* of a plan is the ratio of the plan's solvency assets to the plan's solvency liabilities.

Table 7.1 shows the projected funding figures for benefit formula plans (defined benefit and target benefit plans combined) at December 31, 2017, and December 31, 2018.

9 Or on actual funding position if a valuation report at the indicated dates was filed.

**TABLE 7.1:** FUNDED RATIO AS AT DECEMBER 31, 2018 AND DECEMBER 31, 2017

| 2018 | Going concern valuation ($ million) | Solvency valuation ($ million) |
|---|---|---|
| Total assets | 34,282 | 35,781 |
| Total liabilities | 29,732 | 38,090 |
| Aggregate funding balance | 4,550 | -2,309 |
| Total funding balance for plans in deficit | -916 | -4,167 |
| Total funding balance for plans in surplus | 5,467 | 1,858 |
| Aggregate funding ratio | 115% | 94% |

| 2017 | Going concern valuation ($ million) | Solvency valuation ($ million) |
|---|---|---|
| Total assets | 34,786 | 36,282 |
| Total liabilities | 30,483 | 39,540 |
| Aggregate funding balance | 4,303 | -3,258 |
| Total funding balance for plans in deficit | -740 | -5,086 |
| Total funding balance for plans in surplus | 5,043 | 1,828 |
| Aggregate funding ratio | 114% | 92% |

The aggregate going concern funding position increased slightly from 114 per cent as at December 31, 2017, to 115 per cent as at December 31, 2018. The going concern surplus – that is, assets less liabilities – increased to $4.55 billion as at December 31, 2018. The benchmark discount rate used by the Superintendent to project going concern liabilities increased by 0.3 per cent. Together with the 2018 poor investment performance, this affected the funded position of plans.

The aggregate solvency position increased slightly from 92 per cent as at December 31, 2017 to 94 per cent as at December 31, 2018. The estimated total deficit decreased from $3.26 billion as at December 31, 2017, to $2.31 billion as at December 31, 2018.

The projected total amount of the solvency deficit for plans in deficit is estimated to be $4.17 billion as at December 31, 2018. This was a decrease of $919 million over the December 31, 2017 results.

Plan administrators continue to take advantage of funding relief available to them, both through letters of credit as well as funding relief provided by the October 2016 Order in Council, which was amended in January 2019, to reduce payments required to amortize solvency deficiencies.

Table 7.2 shows the differences between target benefit plans and defined benefit plans.

**TABLE 7.2:** FUNDING FIGURES AS AT DECEMBER 31, 2018 FOR DEFINED BENEFIT PLANS AND TARGET BENEFIT PLANS

| Defined Benefit Plans (2018) | Going concern valuation ($ million) | Solvency valuation ($ million) |
|---|---|---|
| Total assets | 22,445 | 23,988 |
| Total liabilities | 18,827 | 24,171 |
| Aggregate funding balance | 3,618 | -183 |
| Total funding balance for plans in deficit | -684 | -841 |
| Total funding balance for plans in surplus | 4,302 | 658 |
| Aggregate funding ratio | 119% | 99% |

| Target Benefit Plans (2018) | Going concern valuation ($ million) | Solvency valuation ($ million) |
|---|---|---|
| Total assets | 11,837 | 11,792 |
| Total liabilities | 10,905 | 13,918 |
| Aggregate funding balance | 932 | -2,126 |
| Total funding balance for plans in deficit | -232 | -2,216 |
| Total funding balance for plans in surplus | 1,165 | 91 |
| Aggregate funding ratio | 109% | 85% |

Overall, based on our estimates as at December 31, 2018, defined benefit plans are in a better funded position, on both a going concern and solvency basis, when compared to target benefit plans. This is primarily due to defined benefit plans being required to fund on both a going concern basis and a solvency basis.

Table 7.3 and Figure 7.1 show the range of estimated going concern funding ratios for benefit formula plans and the number of members (active and inactive) impacted at December 31, 2018. The number of plans at December 31, 2017 is included for comparison.

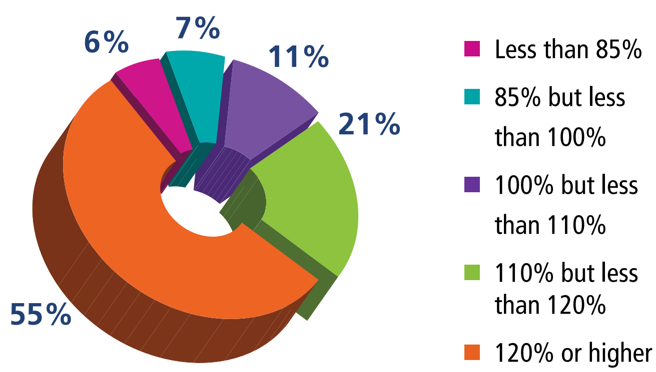
**TABLE 7.3:** BENEFIT FORMULA PENSION PLANS BY ESTIMATED GOING CONCERN FUNDED RATIO, AS AT DECEMBER 31, 2018 AND DECEMBER 31, 2017

| Estimated going concern funded ratio | Defined benefit plans (2018) | | Target benefit plans (2018) | | DB + TB (2017) |
|---|---|---|---|---|---|
| | Plans | Members | Plans | Members | Plans |
| Less than 85% | 8 | 17,000 | 1 | 3,000 | 9 |
| 85% but less than 100% | 10 | 5,000 | 8 | 96,000 | 13 |
| 100% but less than 110% | 15 | 16,000 | 6 | 24,000 | 26 |
| 110% but less than 120% | 29 | 13,000 | 7 | 22,000 | 38 |
| 120% or higher | 75 | 125,000 | 14 | 111,000 | 101 |
| **Total** | **137** | **176,000** | **36** | **256,000** | **187** |

Approximately 13 per cent of defined benefit plans were estimated to have a going concern funded ratio of less than 1 and approximately 25 percent of target benefit plans were estimated to have a going concern funded ratio of less than 1 (using benchmark discount rates set by the Superintendent of Pensions) as at December 31, 2018. This results in approximately 16 per cent of all benefit formula plans have a going concern funded ratio of less than 1 as at December 31, 2018 compared to approximately 12 per cent of plans at December 31, 2017.

**FIGURE 7.1:** DISTRIBUTION OF ESTIMATED GOING CONCERN FUNDED RATIOS FOR BENEFIT FORMULA PLANS AS AT DECEMBER 31, 2018

## Defined Benefit




## Target Benefit

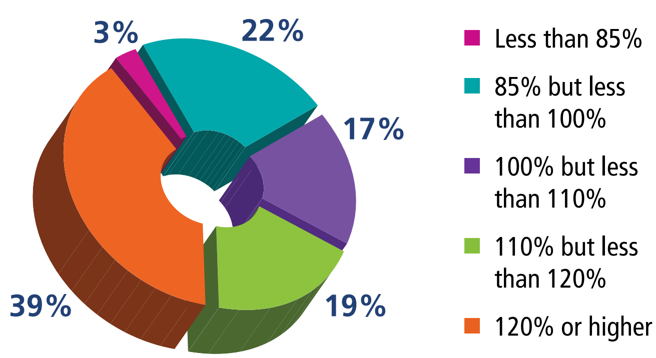


Table 7.4 and Figure 7.2 show the distribution of estimated solvency ratios and the number of members (active and inactive) impacted as at December 31, 2018. The number of plans at December 31, 2017 is included for comparison.

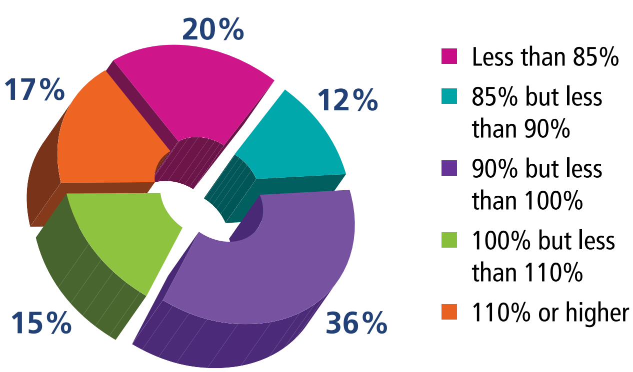
Approximately 68 per cent of benefit formula plans and approximately 78 per cent of target benefit plans registered in BC are projected to have a solvency deficiency as at December 31, 2018. This results in approximately 70 per cent of benefit formula plans as at December 31, 2018 compared to the previous year when approximately 64 per cent of plans had a solvency deficiency. Poor investment returns in 2018 contributed to the increase in solvency deficiencies. While target benefit plans are not required to fund for solvency, the Joint Expert Panel on Pensions (2008) concluded that this is a useful measure to determine the financial health of plans: a proxy for its settlement status. The report states “Even if the benefits are ‘targets’, this provides useful information about the extent to which the plan is capable of achieving those targets”[10]

**TABLE 7.4:** NUMBER OF BENEFIT FORMULA PENSION PLANS BY ESTIMATED SOLVENCY RATIO, AS AT DECEMBER 31, 2018 AND DECEMBER 31, 2017

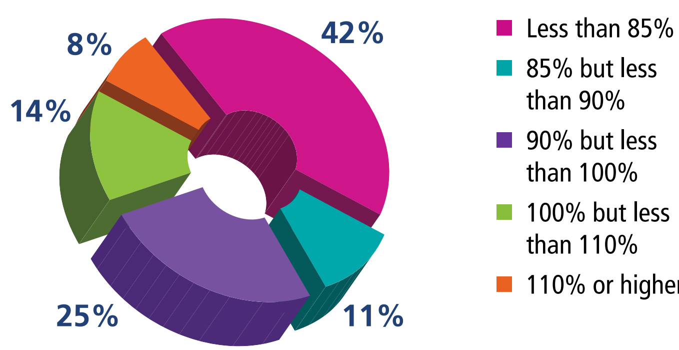
| Estimated solvency ratio | Defined benefit plans (2018) | | Target benefit plans (2018) | | DB + TB (2017) |
|---|---|---|---|---|---|
| | Plans | Members | Plans | Members | Plans |
| Less than 85% | 27 | 25,000 | 15 | 124,000 | 40 |
| 85% but less than 90% | 17 | 11,000 | 4 | 9,000 | 21 |
| 90% but less than 100% | 49 | 29,000 | 9 | 97,000 | 59 |
| 100% but less than 110% | 21 | 16,000 | 5 | 16,000 | 35 |
| 110% or higher | 23 | 95,000 | 3 | 10,000 | 32 |
| **Total** | **137** | **176,000** | **36** | **256,000** | **187** |

**FIGURE 7.2:** PERCENTAGE DISTRIBUTION OF ESTIMATED SOLVENCY RATIOS FOR BENEFIT FORMULA PLANS, AS AT DECEMBER 31, 2018

## Defined Benefit




## Target Benefit




10 Joint Expert Panel on Pension Standards, Getting Our Acts Together: Pension Reform in Alberta and British Columbia, 2008.

# 8. Annuity Purchases in British Columbia

Funded ratios were higher mid-year than at the end of 2018, providing further opportunities to de-risk. With solvency funded ratios at their highest level in a decade, several plan administrators reduced exposure to risk by purchasing annuities. Echoing the trend seen across Canada and in the UK[11], annuity purchase volumes continued to increase in BC. Twelve DB pension plans reported in recent filings to the Superintendent that they had purchased buy-in or buy-out annuities.

By way of background, when a plan administrator purchases a buy-out annuity for a group of members, the insurer begins making the pension payments. This differs from a buy-in annuity, where members remain in the plan. For a buy-in annuity, the insurer agrees to pay a certain amount to the pension fund each month. All benefit payments continue to be made by the plan. The buy-in annuity contract becomes a plan asset, while liabilities also remain in the plan.

BC provides a total discharge of liability upon the purchase of a buy-out annuity, so responsibility for payments to the members included in the annuity contract passes to the insurer. The employer or plan sponsor has no further obligations to the members insured under the contract, provided those members' benefits are governed by the BC *PBSA*.

11 Aon, *2019 Pension Risk Survey Canada Findings*, webinar of July 23, 2019. Eckler, *Pension Risk Transfer Report – March 2019*, https://www.eckler.ca/app/uploads/2019/04/Eckler_2018_Pension_Risk_Transfer_Report-1.pdf and *Benefits Canada*, *Canadian group annuity sales reach $1 billion in first quarter of 2018*, June 6, 2018, https://www.benefitscanada.com/news/canadian-group-annuity-sales-reach-1-billion-in-first-quarter-of-2018-115359. Willis Towers Watson, *2018 set to be record year for pension de-risking*, August 14, 2018, https://www.reinsurancene.ws/2018-set-to-be-record-year-for-pension-de-risking-willis-towers-watson/

# 9. Risk Assessment and Supervision

In the 2018 reporting period, the Office of the Superintendent continued to focus on refining and advancing its Risk-Based Regulatory Framework (the Risk Framework). The objective is to mature the risk assessment and supervision process for pension plans registered in BC. The Superintendent develops Regulatory Action Plans which are shared with the plans involved. In some instances, the Action Plan may involve ongoing monitoring activities to be undertaken by staff of the Superintendent and not the administrator of the plan.

FICOM's Risk Framework uses early warning risk indicators as an initial screening tool to identify potential plan funding risk. Quantitative analysis is used to establish a Composite Risk Rating (CRR) which is a composite measure of the early warning risk indicators for each plan relative to all other plans. For 2018, the Risk Framework established a CRR score of 3.0 as a threshold out of a maximum score of 5.0. This threshold enabled us to focus our attention on plans that required further attention due to their higher relative risk level (Step 1: Risk Prioritization). The threshold may be varied from year to year.

Based on the results of the Step 1, our Risk Framework identified 54 plans with a CRR score of 3.0 or higher, representing 28 per cent of total benefit formula plans. Of these 54 plans, 19 had a CRR score of 4.0 or higher. From these 54 plans, the Supervision team selected 17 plans requiring complete comprehensive reviews.

**TABLE 9.1:** 2019 RISK ASSESSMENT RESULTS (PERIOD ENDING DECEMBER 31, 2017)

| Regulatory Response Quadrant | Reviews Completed | Regulatory Activity |
|---|---|---|
| Education | 2 | Provide guidance notes and share best practices. |
| Monitoring | 10 | Regular and on-going communication with administrator focused on managing risk. |
| Proactive Supervision | 5 | Periodic management reporting. |
| Intervention | 0 | On-site examination. Development/ implementation of a Regulatory Action Plan. |
| **TOTAL** | **17** | |

Of the 17 risk reviews completed in 2018, five plans were identified in the Proactive Supervision quadrant of our regulatory response model. These plans require additional Supervision resources to monitor and manage potential risks. The Supervision staff will continue engaging with the administrators to mitigate the identified risks. An on-site examination may be initiated should it become necessary.

Ten plans were identified in the Monitoring quadrant of our regulatory response model. These plans required more proactive engagement with administrators to resolve and/or manage issues identified.

Two plans were identified in the Education quadrant. Plans in this quadrant require more guidance from the Superintendent which includes assisting them to adopt best practices and develop appropriate procedures to meet compliance requirements.

Some of the issues identified during our 2018 review included late remittances and filings due to new administrators demonstrating a lack of knowledge of the processes for reporting.

It is important that plans have adequate governance policies in place and that these policies are being followed. We also discovered potential funding challenges facing employers in various industries (e.g. the forestry industry). Finally, we noted several plans have increased their appetite for investment risk. The concern of our office was the lack of clarity and documentation to support investment decisions and an inability to demonstrate evidence of monitoring, controls and oversight in terms of decision making. Our office will work with administrators to ensure they have adequate tools to monitor investment mandates and that they receive regular reporting.

In 2019, our Risk Framework identified 34 plans with a CRR score of 3.0 or higher. Of these 34 plans, 8 had a CRR score of 4.0 or higher.

**TABLE 9.2:** COMPOSITE RISK RATING

| Composite Risk Rating | 2019 | | 2018 | |
|---|---|---|---|---|
| | Plans | Per Cent Total | Plans | Per Cent Total |
| 3.0 and less than 4.0 | 26 | 15 | 35 | 18 |
| 4.0 or higher | 8 | 4 | 19 | 10 |
| **Total Number of Plans** | **178** | **19** | **191** | **28** |

The results for 2019 indicate a decrease in the number of plans over our threshold score of 3.0, in particular the plans with a CRR of 4.0 or higher decreased substantially.

Of the 34 plans with a CRR of 3.0 or higher, 11 have already been reviewed in recent years. The remaining plans, while indicating potential risk to their funding, did not appear to pose immediate risk to benefit security of members. Staff will however continue to monitor these plans. For 2019 the Supervision staff selected six target benefit plans for review. The reviews will focus on ensuring the current Risk

Framework is appropriate for both target benefit plans and defined benefit plans. In addition to the risk reviews, the Supervision staff will focus on setting regulatory action plans for key plans that had previously been reviewed.

# 10. Electronic Filing of Annual Pension Report TEN years later

Section 38(1)(a) of the *PBSA* and section 44 of the Pension Benefits Standards Regulation (PBSR) provides that an administrator of a pension plan must file an Annual Pension Report (APR) within 180 days of the end of the plans' fiscal year end in the form and manner required by the Superintendent.

In 2009 the Superintendent implemented an electronic filing system to facilitate the efficient and timely filing of the APR by the administrator. Since the implementation of the electronic filing system, significant improvements have been made for more efficient and secure filing of plan data. The most recent improvements have been with regards to security of access and control of plan data being submitted through this system by the administrator as well as the ability to attach supporting documents with the APRs. The overall objective of this investment in technology is to make it easier for administrators to file their reports on a timely basis.

The goal of the Superintendent is to have at least 95 per cent of annual reports filed by administrators within the prescribed 180 days. In fiscal year ending December 31, 2018, 89 per cent of administrators filed their annual reports within the prescribed period. While this may be an improvement on the 79 per cent achieved in 2008, this is still short of the Superintendent's goal of achieving a 95 per cent success rate in filing within the prescribed period.

## Directions for compliance and Administrative Penalties:

Section 113(1)(c) of the *PBSA* provides that where the administrator does not comply with the requirements of the legislation, the Superintendent may issue a directive requiring the administrator to comply. The Superintendent is issuing between 40 and 60 directions each year to administrators not complying with the filing requirements.

The *PBSA* provides that where the Superintendent is of the opinion that the administrator is not complying with his direction, he may issue administrative penalties for not filing annual reports on time. To date, the Superintendent has issued administrative penalties for non-compliance totaling $17,000 to plan administrators. Administrators are not permitted to make these payments from the pension fund.

In order to continue improving the timeliness of annual filing, the Superintendent may issue penalties where necessary to encourage compliance with the deadlines. Staff are also reviewing the filing process and encourage administrators to provide suggestions to ensure the process is efficient as well as timely.

# 11. Stakeholder Engagement

One of the Strategic Objectives of the Financial Institutions Commission (FICOM) which was included in the published 2017 – 2020 FICOM Strategic Plan document is to Enhance Interaction with the public through;

i. Effective communication with consumers and public
ii. Engage more with public on key regulatory decisions.

These activities achieve the vision of FICOM: **Confidence and trust in the financial services sector for the benefit of British Columbians**.

The Office of the Superintendent of Pensions achieves this objective by seeking opportunities to provide guidance on matters subject to the *PBSA* as well as provide bulletins and updates to stakeholders through industry panel discussions and presentations at industry forums. We also encourage one-on-one meetings with specific industry groups on topics of interest to them.

In 2018 the Office of the Superintendent participated in the following engagements:

- International Pension and Benefits Lawyers Association – plan governance
- Presentation to the International Federation of Employee and Benefit Plans (IFEBP) – plan governance
- Participated in Webinar for IFEBP – target benefit plans
- Meeting with PIAC representatives – discussion of topical issues
- Meeting with ACPM Executive – discussion of topical issues
- Participation in the review by the BC Law Institute of Part 6 of the *Family Law Act* which deals with division of pension on marriage breakdown

## Legislative Update:

The Government of BC by Order in Council (2019 OIC) issued on January 24, 2019 revised Schedule 8 of the PBSR. The 2019 OIC provided that pension plans filing actuarial valuations with review dates between December 31, 2018 and January 1, 2021 may elect to amortize solvency deficiencies established on the review date, over the 10-year period that begins on the specified review date. In the case of a jointly sponsored plan, the amortization period begins on the first anniversary of that review date.

## Superintendent's Guidance:

Solvency funding is not required for target benefit components of plans, but solvency disclosure is still required in their actuarial valuation reports. The Superintendent has provided expectations on the basis for which the solvency liabilities are to be calculated in Bulletin 18-004.

The Superintendent expects the actuarial report to clearly identify how members' benefit entitlements are expected to be settled (e.g. commuted value transfer, purchase of an immediate or deferred annuity) for each category of members. The assumption made by the actuary with respect to the option chosen by the members should be consistent with the options offered based on plan terms and the membership profile of the plan. For greater clarity, the Superintendent expects the report to indicate what proportion of members are assumed to take each form of settlement.

The actuaries must identify the settlement methods based on the plan terms (i.e. commuted value transfer option versus annuity purchase) and should select a set of actuarial assumptions which are appropriate for the purpose of the solvency valuation, based on the settlement methods.


BRITISH COLUMBIA

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