



2023 Report on the Funding of Defined Benefit Pension Plans in Ontario

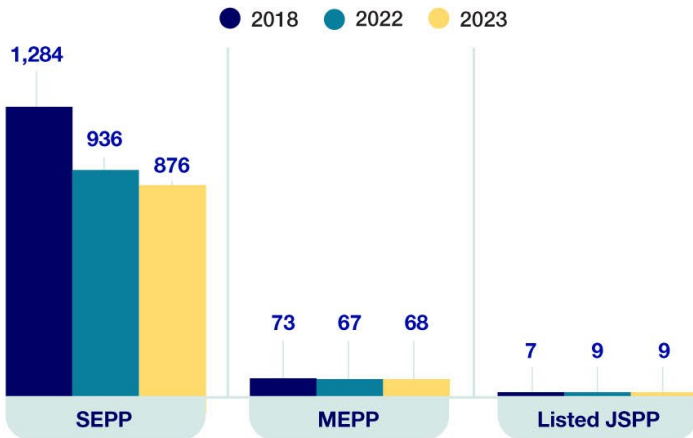
August 2024

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Number of pension plans



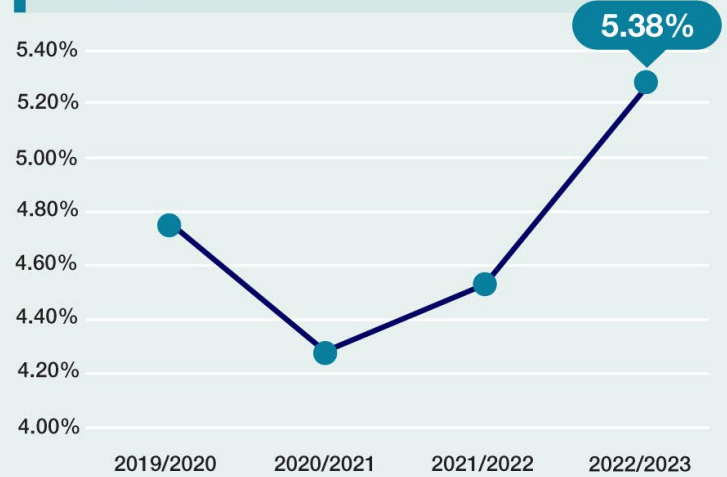
Number of members



Pension plan assets

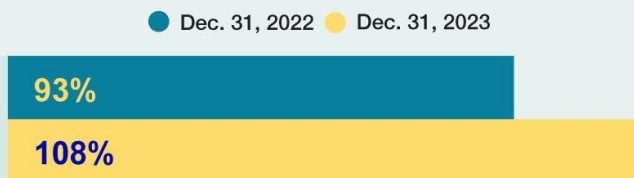


Going-concern interest rate trend

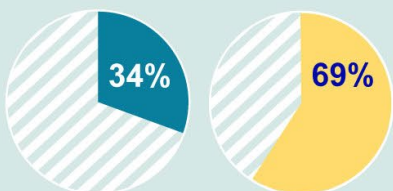


Going-concern funded status

Median going-concern funded ratio



Plans fully funded

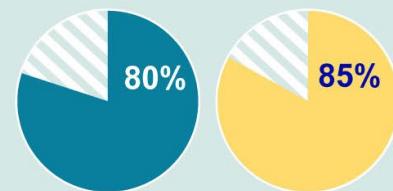


Solvency funded status

Median solvency funded ratio



Plans fully funded



1.0 Executive Summary

The Financial Services Regulatory Authority of Ontario (FSRA) is a self-funded regulatory agency that regulates Ontario registered pension plans in accordance with the Pension Benefits Act (PBA) and Regulation 909 (Regulation) or any other regulations under the PBA, as amended. FSRA's statutory objects as outlined under the Financial Services Regulatory Authority of Ontario Act, 2016 (FSRA Act) include:

- To promote good administration of pension plans.
- To protect and safeguard the pension benefits and rights of pension plan beneficiaries.

FSRA analyzes and prepares an annual report to provide pension stakeholders with up-to-date funding, investment and actuarial information related to defined benefit (DB) pension plans in Ontario. The information in this year's report (2023 Report) is based on the latest filed valuation reports for DB pension plans that have valuation dates between July 1, 2020 and June 30, 2023, and fund financial statements for the fiscal year ending between July 1, 2022 and June 30, 2023. Information is presented on an aggregate basis with no disclosure of plan-specific information.

Note that a primary purpose of these reports is to provide information that is factual and objective. Consequently, the impact of more recent events is generally not reflected in the analysis shown in this report. However, FSRA does monitor the estimated solvency funded position of pension plans on a quarterly basis which reflects plans' up-to-date experience – these can be viewed at [Estimated Quarterly Solvency Funded Status](#).

1.1 Guiding Principles and Prudential Supervision Framework

FSRA is a principles-based regulator, focused on outcomes consistent with its statutory objects. FSRA's guiding principles for the supervision of the pension sector are set out in an Approach guidance, the [Pension Sector Guiding Principles](#).

The information contained in this report is used by FSRA, in conjunction with other available data and analysis, to conduct its supervisory activities in accordance with prudential supervision framework. This same information is being made available to all stakeholders to inform and aid them in establishing and maintaining good governance, administration, investment, funding and risk management practices.

The information and analysis presented herein are derived from key actuarial, financial and investment data collected through the Actuarial Information Summary (AIS) and the Investment Information Summary (IIS) filed with FSRA. They provide a reliable and comprehensive picture of the state of DB pension plans in Ontario and insights into existing practices and emerging trends. It can serve as a key source of information for the purposes of comparing and benchmarking the results of a pension plan against its peers.

Pension plan administrators and their advisors, in particular, may find the information helpful in conducting a regular review of the management of their pension plan.

1.2 Current Funding Regime

This is the third annual report in which all plans will have filed an actuarial valuation report under the current funding regime, which came into effect on May 1, 2018 and ushered in significant changes from the prior regime. Key features of the funding framework include:

- An amortization period of 10 years for funding a going-concern unfunded liability.
- Consolidating going-concern special payments into a single schedule when a new report is filed.
- Requiring the funding of a prescribed Provision for Adverse Deviations (PfAD), within the plan.
- Requiring funding on a solvency basis only if needed to improve the plan's funded status to 85% on a solvency basis.

- Introducing funding rules for benefit improvements and restricting contribution holidays to improve benefit security.

This funding regime applies to valuation reports filed on or after May 1, 2018 with a valuation date on or after December 31, 2017. However, it does not apply to jointly sponsored pension plans that are listed in subsection 1.3.1(3) of the Regulation (Listed JSPPs) – these JSPPs remain exempted from solvency funding. In addition, the regime also does not apply to Specified Ontario Multi-Employer Pension Plans (SOMEPPs), for whom temporary funding relief previously granted was extended until the date on which the first report is filed for a valuation date after January 1, 2025. During this period, SOMEPPs are exempt from the requirement to fund on a solvency basis.

Pension plans are only required to file valuation reports every three years unless their financial position falls below the prescribed threshold that would require an annual filing.

1.3 Key Findings

The 2023 Report's key findings summarized below are based on actual information from actuarial valuation reports filed with FSRA with valuation dates between July 1, 2020 and June 30, 2023. Therefore, except as otherwise noted, the summary statistics drawn from the three-year period do not have a common valuation date. However, FSRA does provide the estimated median going-concern and solvency funded ratios of all plans measured as at December 31, 2023 in the key findings below.

In addition to the plans described above, there are approximately 220 pension plans registered outside of Ontario that have 50,000 Ontario beneficiaries – these plans do not file actuarial valuation reports with FSRA and are not included in the 2023 Report.

General funded status

1. The number of pension plans continues to trend lower, with a reduction of 60 single employer pension plans (SEPPs) compared to the 2022 Report on the Funding of Defined Benefit Pension Plans in Ontario ([2022 Report](#)), primarily as a result of windups and asset

transfer transactions. Meanwhile there was an addition of one multi-employer pension plan (MEPPs) due to a change in jurisdiction. The distribution of the 953 pension plans analyzed based on their most recently filed valuation report are as follows:

	July 1, 2020 - June 30, 2021	July 1, 2021 - June 30, 2022	July 1, 2022 - June 30, 2023	Total
Number of Plans	159	328	466	953
Percentage of Plans	17%	34%	49%	100%

- Overall, compared to the 2022 Report, the funded position of the pension plans (as at their last filed valuation dates) has remained the same on a going-concern basis and improved substantially on a solvency basis:

	2023 Report	2022 Report
Going-concern Basis		
Median funded ratio	111%	111%
Percentage of plans fully funded	83%	83%
Solvency Basis		
Median funded ratio	107%	102%
Percentage of plans fully funded	71%	56%

- In addition to looking at the last filed valuation date (on which funding requirements are based), FSRA also estimates the projected going-concern funded ratio of the plans at a common measurement date of December 31, 2023 (refer to Section 6). The estimated median going-concern funded ratio has improved to 108% at December 31, 2023 from 93% at December 31, 2022.
- In the trend analysis (refer to Section 4), the average interest rate assumption used for going-concern valuations showed significant fluctuations over the four-year period from July 1, 2019 to June 30, 2023. The average rate was 4.79% in Year 1. The downward trend began to rebound slightly in Year 3, followed by a substantial rise of 79 bps to 5.38% in

Year 4. The increase over the last two periods can largely be attributed to a rise in long-term bond yields during this period. For example, the Canada long-term bond yields (as measured by CANSIM Series V39062) increased by 165 bps between December 31, 2021 and December 31, 2022 (the most common valuation dates in the two periods).

Furthermore, there was a notable change in the distribution of rates. Looking only at valuation dates between July 1, 2022 and June 30, 2023, 25% of plans used an interest rate of 6.00% or higher and only 5% used an interest rate below 4.00% (compared to 7% and 27%, respectively for those reports with valuation dates between July 1, 2021 and June 30, 2022).

5. For plans that are required by the regulations to use a PfAD, plan actuaries have largely eliminated the use of an explicit margin in setting the going-concern interest rate assumptions. While there are some commonalities between the inclusion of PfADs and the use of explicit margins, there are differences which result in situations where the use of a margin would be appropriate or desirable depending on the plan's funding and investment policies. For example, the use of an explicit margin allows plans to build a reserve as good experience is realized, while providing flexibility to draw it down when experience is poor, thereby moderating fluctuations in funding levels and contributions.
6. There are 882 plans included in our analysis that are required by the regulations to use a PfAD. For the purposes of determining the PfAD, the number of plans identifying themselves as closed and open are 691 and 191, respectively. The median PfAD for all 882 plans is 9.0% (9.1% in the 2022 Report).
7. Minimum required contributions for 2024 including employer normal cost contributions, member required contributions and special payments, are estimated to increase by about 2% from the 2023 level (\$19.4 billion compared to the estimated \$19.1 billion for 2023). This consists of increases of \$27 million in employer normal costs, \$294 million in member required contributions, and \$50 million in special payments.

Solvency funding

FSRA estimates the projected solvency ratio for all the pension plans from the dates of their latest filed reports to a common measurement date of December 31, 2023. The median projected solvency ratio is 117% as at December 31, 2023, compared to 113% as at December 31, 2022. Specifically,

- 85% of the plans had a projected solvency ratio greater than 100% (80% as at December 31, 2022).
- 13% of the plans had a projected solvency ratio between 85% and 100%.
- 2% of the plans had a projected solvency ratio below 85% (4% as at December 31, 2022).

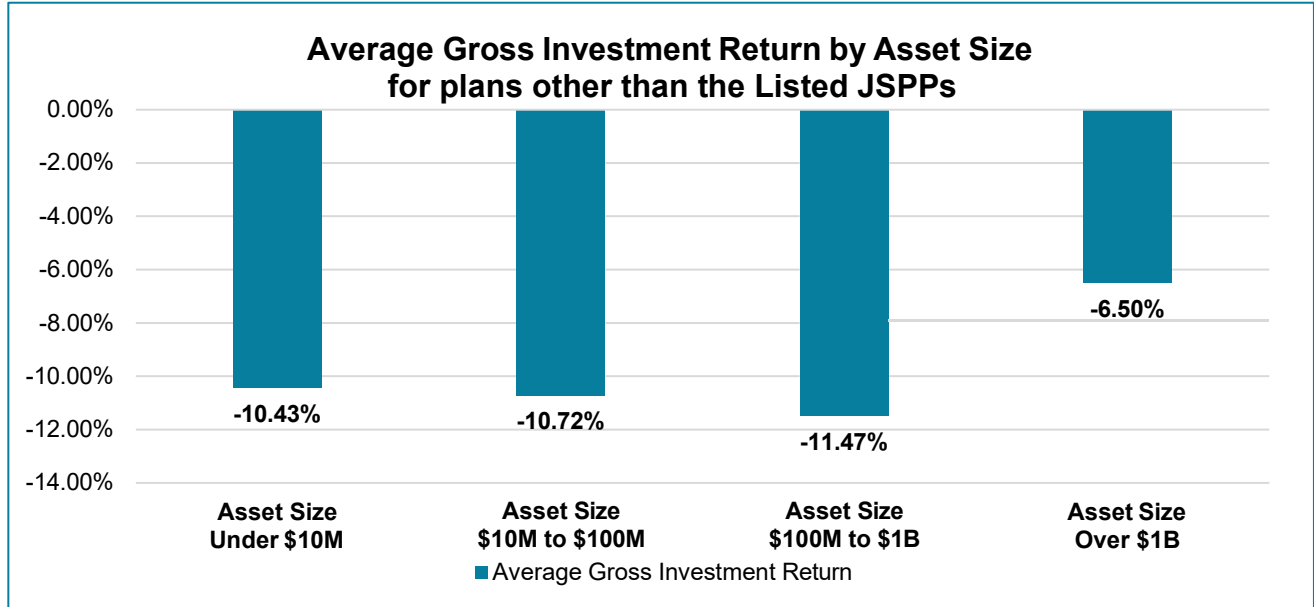
The improvement in the projected solvency ratio is attributed to favourable investment returns on plan assets, partially offset by changes in solvency valuation discount rates.

The key remaining transitional solvency funding relief measure is for SOMEPPs. Of the 68 MEPPs that contain a DB provision, 58 have elected to be treated as a SOMEPP. These SOMEPPs represent 97% of the total plan membership covered by the 68 MEPPs.

Fund investment

1. The asset allocation of SEPPs and MEPPs remained relatively stable, with no major changes observed in the allocation between fixed income and non-fixed income. In contrast, Listed JSPPs experienced more notable changes in their asset allocation, with a significant drop of 7 percentage points in equity holdings, alongside corresponding increases in both fixed income allocation and alternative investments.

- a. SEPPs and Listed JSPPs have more allocation to cash, short-term investments and fixed income assets (average of 45% for SEPPs and 42% for Listed JSPPs vs. 30% for the MEPPs).
 - b. Listed JSPPs have substantially less allocation to public equities (average of 9% vs. 31% for SEPPs and 41% for MEPPs).
 - c. Listed JSPPs have substantially higher allocations to alternative investments (average of 40% vs. 11% for SEPP and 10% for MEPPs).
 - d. Listed JSPPs hold significantly higher levels of cash and short-term investments (average of 12% vs. 3% for SEPPs and MEPPs).
2. There is a common presumption that, in general, larger plans generally have higher investment returns and lower reported investment fees than smaller plans. This is attributed to their sophistication and economies of scale. However, our annual reports have shown that this isn't always the case, especially in the short term. For fiscal years ending between July 1, 2022, and June 30, 2023 (excluding the Listed JSPPs), smaller plans with assets under \$10 million averaged slightly less negative gross investment returns compared to larger plans with assets below \$1 billion. Plans with assets over \$1 billion, while still reporting negative returns, exhibited notably better performance overall. This pattern underscores the complexity and varied outcomes in investment strategies across different scales of pension plans.



3. The average gross returns, average investment and administrative fees for different types of pension plans are summarized as below:

	SEPP	MEPP	Listed JSPP
Average Gross Return	-11.07%	-5.06%	-3.57%
Average Investment Fees	0.36%	0.44%	0.48%
Average Administrative Fees	0.54%	0.41%	0.21%
Average Total Fees	0.90%	0.85%	0.69%

Despite experiencing negative returns, SEPPs had significantly lower average gross returns compared to MEPPs and Listed JSPPs. Table 5.1 in the report provides additional details, highlighting the distinct asset mixes among these plan categories. Throughout the reporting period covered by the IIS (calendar year 2022 for over 90% of the plans), the performance of various asset classes varied widely. Bonds, especially long-term bonds, experienced notably severe negative returns compared to other asset classes. With SEPPs having a substantially higher bond allocation than MEPPs and Listed JSPPs, this led to their relative underperformance.

2.0 Funding Data

This section provides an analysis and summary of the funding data, including actuarial assumptions and methods, for DB pension plans with valuation dates between July 1, 2020 and June 30, 2023. The data was compiled from the AIS and actuarial valuation reports that FSRA received on or before the data cutoff date of December 31, 2023.

Generally, valuation reports must be filed once every three years on both a going-concern and solvency basis. However, solvency concerns revealed in an actuarial valuation report require annual filings until those concerns are eliminated. Early filings may be required when events such as plan mergers or sales of businesses occur and may also be done on a voluntary basis. Unless otherwise noted, the analysis in this 2023 Report is based on data from each plan's most recently filed actuarial valuation report to avoid double counting.¹

For the purposes of this 2023 Report, the following plans are excluded in order to focus on the plans that are of most interest to stakeholders and to ensure that the results of our analysis are not skewed:

- Designated plans.
- Individual pension plans.
- Plans that have been wound up or are in the process of winding up.

¹ The Trends Analysis in Section 4 uses data from reports with valuation dates in the different periods and, therefore, may include more than one valuation report from any given pension plan.

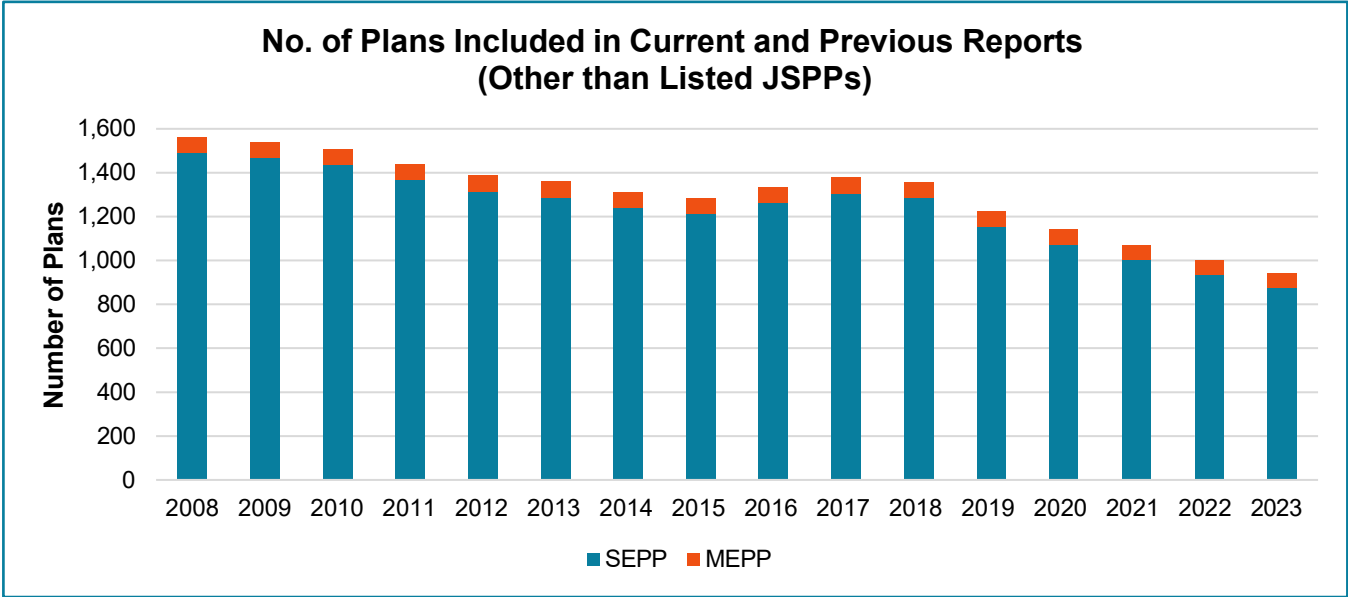


Chart 2.1a, 2.1b and Table 2.1 present the profile of the 953 pension plans that have been included in the funding data analysis in this 2023 Report. Additional details on these plans are included in Appendix A.

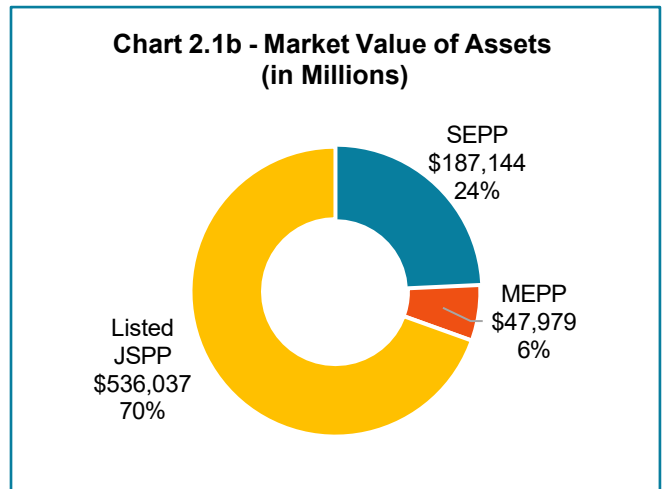
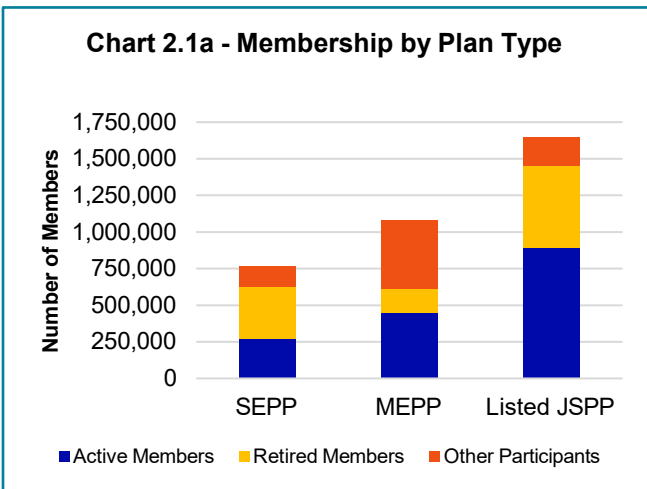


Table 2.1 – Summary of Plans Included

Plan/Benefit Type	# of Plans	Active Members	Retired Members	Other Participants	Total Membership	Market Value of Assets (in Millions)
Final Average	252	129,853	120,261	39,818	289,932	\$92,201
Career Average	59	11,134	12,627	5,127	28,888	\$3,300
Flat Benefit	118	16,516	15,273	8,533	40,322	\$5,606
Hybrid	295	107,888	187,228	67,852	362,968	\$78,185
Frozen DB & Hybrid	152	9,457	20,978	15,913	46,348	\$7,852
MEPP	68	450,742	159,778	465,670	1,076,190	\$47,979
Listed JSP	9	887,260	566,015	197,663	1,650,938	\$536,037
Total	953	1,612,850	1,082,160	800,576	3,495,586	\$771,160
Average Age		49.1	72.6	51.7		

In comparison to the 2022 Report, SEPPs have seen a continuous decline across key metrics, with 6.4% decrease in the number of plans, and reductions of 1.2% in membership and 8.4% in assets. Conversely, MEPPs and Listed JSPs have shown growth in membership by 2.6% and 2.4%, respectively. However, they also experienced slight declines in assets, at 1.2% and 1.5%, likely influenced by challenging market conditions and negative returns in 2022.

2.1 Summary of Funding Data

Of the 953 plans that were analyzed, which together cover 3,495,586 plan members, 165 plans (17%) were less than fully funded on a going-concern basis. These 165 underfunded plans cover 1,194,648 (34%) of the total plan members.

On a solvency basis, 281 plans (29%) of the 953 plans were less than fully funded. These 281 plans cover 1,755,014 plan members (50% of total members).

Tables 2.2 and 2.3 show the distribution of underfunded plans by plan/benefit type and by membership.

Table 2.2 – Distribution of Underfunded Plans on a Going-Concern Basis by Plan Type and Membership

Plan/Benefit Type	By Plan			By Membership		
	Total Number of Plans	Number of Underfunded Plans	% of Total Plans	Total Number of Members	Number of Members in Underfunded Plans	% of Total Membership
Final Average	252	45	18%	289,932	125,455	43%
Career Average	59	11	19%	28,888	1,928	7%
Flat Benefit	118	18	15%	40,322	4,733	12%
Hybrid	295	43	15%	362,968	15,477	4%
Frozen DB & Hybrid	152	39	26%	46,348	11,986	26%
MEPP	68	6	9%	1,076,190	469,256	44%
Listed JSPP	9	3	33%	1,650,938	565,813	34%
Total	953	165	17%	3,495,586	1,194,648	34%

Table 2.3 – Distribution of Underfunded Plans on a Solvency Basis by Plan Type and Membership

Plan/Benefit Type	By Plan			By Membership		
	Total Number of Plans	Number of Underfunded Plans	% of Total Plans	Total Number of Members	Number of Members in Underfunded Plans	% of Total Membership
Final Average	252	64	25%	289,932	136,342	47%
Career Average	59	18	31%	28,888	5,052	17%
Flat Benefit	118	32	27%	40,322	8,235	20%
Hybrid	295	78	26%	362,968	70,680	19%
Frozen DB & Hybrid	152	40	26%	46,348	15,936	34%
MEPP	68	46	68%	1,076,190	952,956	89%
Sub-Total	944	278	29%	1,844,648	1,189,201	64%
Listed JSPP	9	3	33%	1,650,938	565,813	34%
Total	953	281	29%	3,495,586	1,755,014	50%

Table 2.4 provides summary information grouped by plan maturity (as measured by the proportion of solvency liabilities relating to pensioners versus the plan's total solvency liabilities).

Over the past decade, there has been a significant transformation among Ontario pension plans (excluding Listed JSPPs) with less than 25% of liabilities related to pensioners, declining notably from 23% in 2013 to 9% in 2023. Concurrently, there has been a marked increase in plans where over 50% of liabilities are related to pensioners, rising from 32% to 56%. This shift indicates a clear demographic trend, highlighting the increasing maturity of pension plans over time.

Table 2.4 – Funding Information Grouped by Maturity

Proportion of Solvency Liabilities relating to Pensioners	Total Number of Plans	Total Number of Members	Solvency Assets (in Millions)	Solvency Liabilities (in Millions)	Solvency Ratio	Ratio of Active Members to Pensioners
Less than 25%	84	108,227	7,732	7,652	101%	7.6 : 1
25% ≤ ratio < 50%	330	1,126,732	76,143	86,579	88%	2.6 : 1
50% ≤ ratio < 75%	357	482,513	119,256	109,833	109%	0.7 : 1
75% and over	173	127,176	30,536	28,550	107%	0.2 : 1
Sub-Total	944	1,844,648	233,667	232,614	100%	1.4 : 1
Listed JSPP	9	1,650,938	535,156	405,871	132%	1.6 : 1
Total	953	3,495,586	768,823	638,485	120%	1.5 : 1

Tables 2.5 and 2.6 provide a more detailed breakdown of the going-concern and solvency funded ratios with respect to different types of DB pension plans. For all plans, the median funded ratio was 111% on a going-concern basis and 107% on a solvency basis. For the 68 MEPPs, 28 of them (all SOMEPPs) had a solvency ratio of less than 85%.

Table 2.5 – Going-Concern Funded Ratio (GCR)

Ratio (GCR)	Final Average	Career Average	Flat Benefit	Hybrid	Frozen DB & Hybrid	MEPP	Listed JSP	All Plans
GCR < 0.60	0	1	0	0	0	0	0	1
0.60 ≤ GCR < 0.80	2	0	3	4	4	0	0	13
0.80 ≤ GCR < 0.90	7	4	3	11	9	0	0	34
0.90 ≤ GCR < 1.00	36	6	12	28	26	6	3	117
1.00 ≤ GCR < 1.20	141	29	41	156	70	48	5	490
1.20 ≤ GCR	66	19	59	96	43	14	1	298
Total	252	59	118	295	152	68	9	953
Median Ratio	1.09	1.11	1.20	1.11	1.08	1.08	1.03	1.11

Table 2.6 – Solvency Funded Ratio (SR)

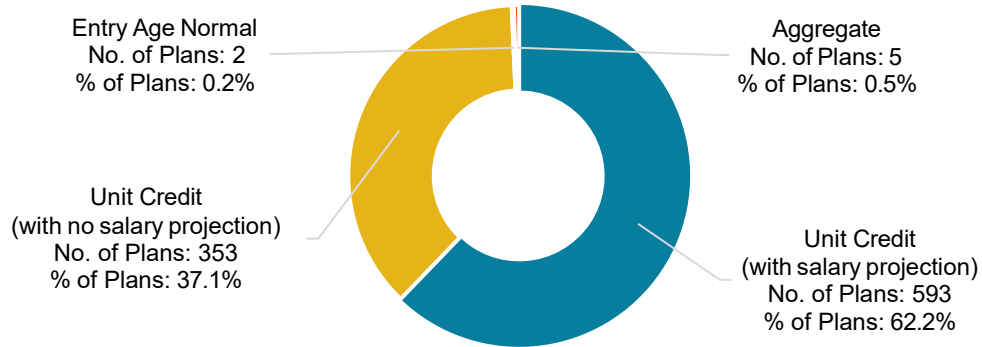
Ratio (SR)	Final Average	Career Average	Flat Benefit	Hybrid	Frozen DB & Hybrid	MEPP	Sub-Total	Listed JSPPs	All Plans
SR < 0.60	0	1	3	1	0	1	6	0	6
0.60 ≤ SR < 0.80	0	0	1	1	2	19	23	0	23
0.80 ≤ SR < 0.85	2	1	0	1	1	8	13	0	13
0.85 ≤ SR < 0.90	11	6	5	14	8	8	52	0	52
0.90 ≤ SR < 1.00	51	10	23	61	29	10	184	3	187
1.00 ≤ SR < 1.20	128	32	53	153	62	16	444	2	446
1.20 ≤ SR	60	9	33	64	50	6	222	4	226
Total	252	59	118	295	152	68	944	9	953
Median Ratio	1.07	1.06	1.10	1.08	1.10	0.88	1.07	1.02	1.07

2.2 Summary of Actuarial Assumptions and Methods

The key actuarial assumptions and methods used in going-concern valuations are outlined below:

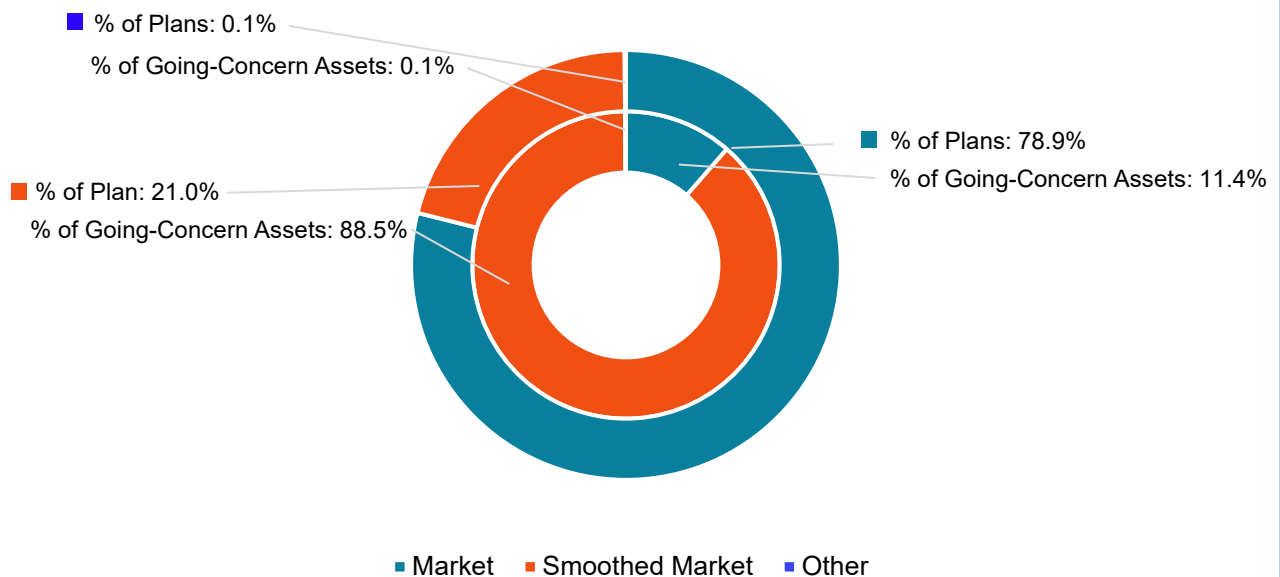
1. Almost all the plans used the unit credit cost method to calculate going-concern liabilities.

Chart 2.7 - Liability Valuation Method



2. The vast majority of plans used a market or market-related value of assets. However, although only 21% of plans use a smoothed market value method, they account for 89% of the total going-concern assets. Notably, all of the Listed JSPPs use smoothed assets, and they account for 71% of the total going-concern assets.

Chart 2.8 - Asset Valuation Method



3. For going-concern valuations, almost all plans used mortality rates based on the Canadian Pensioners' Mortality tables (CPM-RPP2014) and improvement scales published in the Final Report, Canadian Pensioners' Mortality on February 13, 2014 by the Canadian Institute of Actuaries (2014 CIA CPM Study). The 2014 CIA CPM Study includes three new sets of mortality tables as well as two sets of improvement scales. The three mortality tables are:

- 2014 Mortality Table (CPM2014) – developed from the combined experience exhibited under the public and private sector plans.
- 2014 Public Sector Mortality Table (CPM2014Publ) – based on the separate experience exhibited under the public sector plans.
- 2014 Private Sector Mortality Table (CPM2014Priv) – based on the separate experience exhibited under the private sector plans.

Table 2.9 – Mortality Assumption

Mortality Base Table	# of Plans	% of Plans	Adjustment		
			# of Plans		Median Adjustment
			Male Mortality	Female Mortality	
CPM2014 Combined	122	12.8%	33	32	105%
CPM 2014 Public	83	8.7%	50	48	95%
CPM 2014 Private	729	76.5%	280	265	105%
Other (including Plan Specific)	19	2.0%	1	1	n/a
Total	953	100.0%			

60% of the plans which used the 2014 Public Sector Mortality Table made mortality adjustments, compared to 27% for 2014 Mortality Table and 39% for Private Sector Mortality Table.

The 2021 Report revealed that, according to Statistics Canada, life expectancy fell significantly in 2020, coinciding with increased mortality rates for most age groups. The COVID-19 pandemic was clearly the major cause of these observations. With the World Health Organization having downgraded COVID-19 from an emergency situation to one of managing it alongside other infectious diseases, long-term longevity expectations appear to be largely unchanged from pre-pandemic levels. Plan sponsors and their actuaries should be aware of, and regularly assess, the longevity risk and its impact on the pension plans.

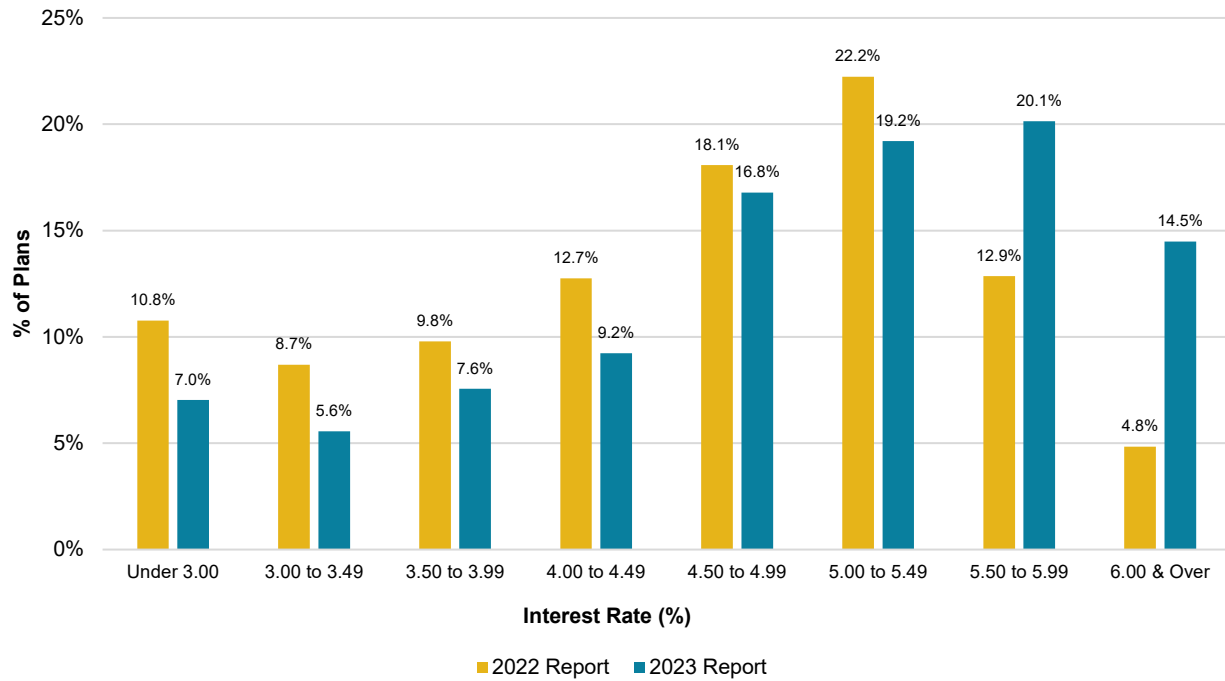
4. Chart 2.10 shows the distribution of going-concern interest rate assumptions used in the most recently filed valuation reports.

There are notable shifts in the distribution of interest rate assumptions. This report reveals a marked decrease in the number of plans with lower interest assumptions. Plans with assumptions under 4.00% have dropped from 29.2% in the 2022 Report to 20.1%.

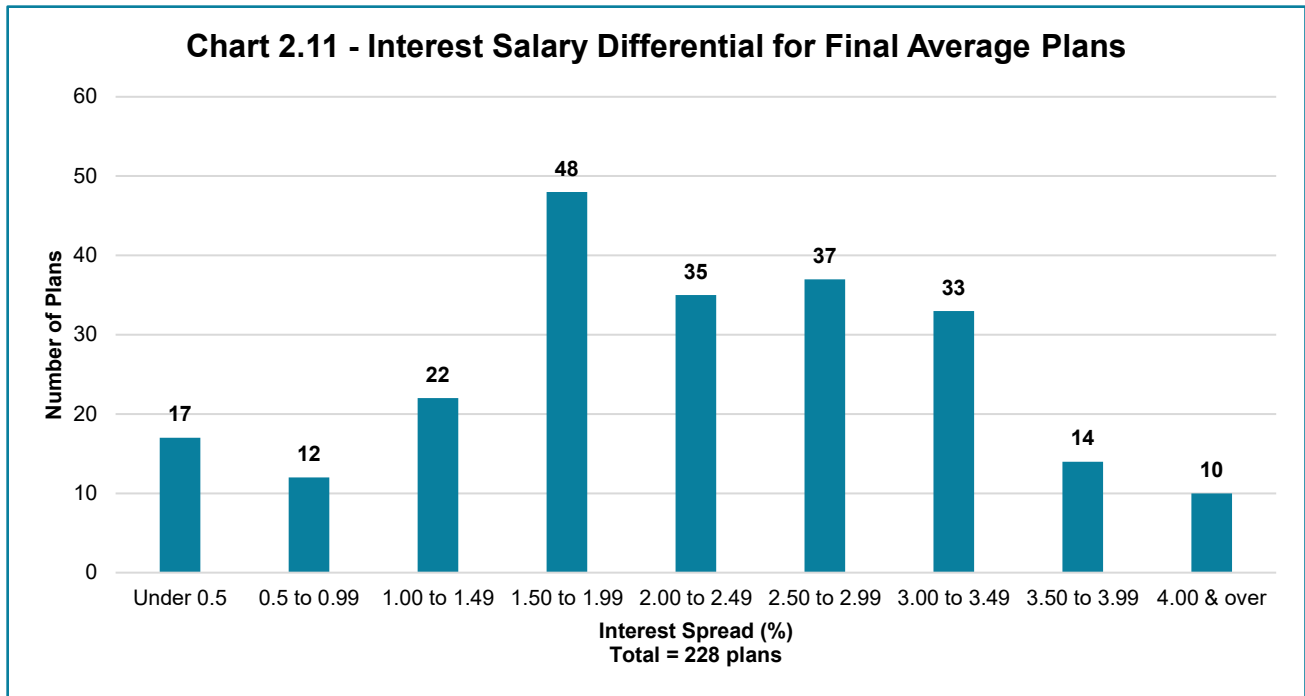
On the other hand, there is a substantial increase in the number of plans with higher interest assumptions. Plans with assumptions of 5.50% to 5.99% rose from 12.9% to 20.1%, while those with assumptions of 6.00% and over increased dramatically from 4.8% to 14.5%. This upward shift in interest rate assumptions suggests a more optimistic outlook on long-term returns, reflecting current economic conditions.

The 2018 funding regime introduced the requirement for certain plans to hold a Provision for Adverse Deviations (PfAD). Our analysis indicates that the use of a PfAD was almost always accompanied by the elimination of a margin previously included in the going-concern interest rate. Of the plans that were required by the regulations to use a PfAD, less than 4% maintained an explicit margin in developing their going-concern interest rate assumption. By contrast, about 93% of the pension plans which were not required to have a PfAD used an explicit margin in their going-concern interest rate assumption. FSRA will continue to monitor these developments to detect emerging trends in order to understand their implications on benefit security and pension risk management.

Chart 2.10 Going-Concern Interest Assumption



5. For final average earnings plans, the difference between the interest assumption and the salary increase assumption used in going-concern valuations fell within a range of 1.5% to 3.49%. This accounts for 67% of all plans providing final average benefits. The average spread between the interest assumption and the salary increase assumption widened to 2.14% from 1.78% in the 2022 Report.



6. Table 2.12 shows the provision for windup expenses used in solvency valuations, grouped by plan membership size, including active members, former members and other plan beneficiaries.

The expense allowance is also expressed as average dollar amounts per plan and per plan member. The average expense allowance per member generally decreases as plan membership size increases. The opposite pattern appears for plans with 10,000 or more members. Since there are only a small number of plans in the last two size categories (i.e., more than 10,000 members), greater caution should be exercised when interpreting the results for plans of this size.

Overall, there has been a 7.7% increase in the average windup expense per plan across all plans, compared to the 2022 Report. However, a notable increase is observed in windup expenses for smaller-sized plans (i.e., plan membership less than 500). The average windup expense per plan in this group has increased by more than 10%, accompanied by an approximate 9% rise in average windup expenses per member.

Table 2.12 – Provision for Windup Expenses

Plan Membership	# of Plans	Total Membership	Windup Expenses		
			Total Windup Expenses	Average Per Plan	Average Per Member
< 100	319	14,460	\$26,183,920	\$82,081	\$1,811
100 – 499	336	80,456	\$63,230,500	\$188,186	\$786
500 – 999	104	75,654	\$37,414,700	\$359,757	\$495
1,000 – 4,999	126	271,753	\$95,077,600	\$754,584	\$350
5,000 – 9,999	33	242,306	\$49,295,000	\$1,493,788	\$203
10,000 – 49,999	26	501,375	\$182,481,000	\$7,018,500	\$364
50,000+	9	2,309,582	\$993,000,000	\$110,333,333	\$430
All Plans	953	3,495,586	\$1,446,682,720	\$1,518,030	\$414

3.0 Current Funding Regime for DB Plans

The current funding framework for most DB pension plans was implemented through O. Reg. 250/18, with most provisions coming into force on May 1, 2018. These funding provisions apply to actuarial valuations filed after April 30, 2018 with a valuation date of December 31, 2017 or later. The funding rules do not apply to Listed JSPPs. They also do not apply to SOMEPPs but do apply to MEPPs providing DB pensions that are not SOMEPPs. This is the third annual report in which all plans will have filed an actuarial valuation report under the current funding regime.

This funding reform implemented in 2018 substantially ends a series of temporary solvency funding relief measures that were introduced starting in 2009.

3.1 Funding Framework

The current framework (O. Reg. 250/18) made substantial changes to the previous rules with respect to both the going-concern and solvency funding requirements.

Going-concern funding

Pension plans are required to establish and fund a Provision for Adverse Deviations (PfAD) on a going-concern basis.

Going-concern unfunded liabilities are amortized over a period not exceeding 10 years with special payments commencing up to one year after the valuation date. These going-concern special payments (except for those related to benefit improvements and benefit credits prior to the effective date of the plans) are consolidated at each valuation date into a single payment schedule.

The PfAD is calculated as a percentage that is applied to the going-concern liabilities as well as the normal costs. However, liabilities and normal costs relating to escalated adjustments may be excluded for this purpose. The PfAD is established as the sum of three components:

1. Open/closed plan component

The first component depends on whether the plan meets the definition of a closed plan. According to subsection 11.2(1) of the Regulation, a “closed plan” is defined as “a pension plan,

- a. That has no members who are entitled to defined benefits.
- b. In which at least 25 per cent of the members of the plan who are entitled to defined benefits are in a class or classes of employees from which new members are not permitted, according to the terms of the plan, to join the plan and accrue defined benefits”.

A fixed component of 5.0% is applicable for closed plans and 4.0% is applicable for plans that are not closed plans.

2. Asset mix component

The second component depends on the plan’s target asset allocation to fixed income assets (subject to a prescribed minimum credit rating), and to non-fixed income assets. The asset mix component of the PfAD ranges between 0% and 23% for closed plans and between 0% and 12% for plans that are not closed plans.

3. Benchmark Discount Rate (BDR) component

The third component is a function of the plan’s gross going-concern interest rate in relation to the benchmark discount rate (BDR) prescribed in the Regulation. Our analysis indicates 7.9% of the open plans and 7.5% of the closed plans have a non-zero BDR component.

Table 3.0 – BDR Components

Type	# of Plans	Average by which Gross GC Rate exceeds the BDR	Average BDR Component
Open	15	0.60%	7.86%
Closed	52	0.27%	3.73%
Total	67	0.35%	4.65%

The average BDR component for open plans is higher than for closed plans because a higher proportion of open plans use a more aggressive gross going-concern discount rate assumption (relative to the BDR) than closed plans and also because the duration of the plan liabilities are generally higher in open plans.

Solvency funding / reduced solvency deficiency

No solvency funding is required for plans that are at least 85% funded on a solvency basis. Solvency deficiencies below the 85% threshold, defined in the Regulation as a “Reduced Solvency Deficiency” must be amortized over a period not exceeding 5 years with solvency special payments commencing no later than one year after the valuation date.

The reduced solvency deficiency, as defined in section 1.3.2 of the Regulation, is the amount by which “A” exceeds “B” where,

“A” is the sum of,

- a. 85 per cent of the pension plan’s solvency liabilities.
- b. 85 per cent of the pension plan’s solvency liability adjustment.
- c. The pension plan’s prior year credit balance as of the valuation date.

“B” is the sum of the pension plan’s solvency assets and the solvency asset adjustment as of the valuation date.

Available actuarial surplus

Under the funding regime, a plan sponsor cannot take a contribution holiday unless a cost certificate certifying that the plan has available actuarial surplus is filed with FSRA within 90 days of the beginning of the plan fiscal year. Available actuarial surplus (for a plan for which special payments are not required or deferred), as defined in section 7.0.2 of the Regulation, is the lesser of the following:

- a. The amount by which the value of the assets of the pension plan, determined on a going-concern basis, including accrued and receivable income but excluding the amount of any letter of credit held in trust for the pension plan, exceeds the sum of going-concern liabilities, the amount equal to the provision for adverse deviations in respect of going-concern liabilities and the prior year credit balance; and
- b. Whichever of the following amounts applies to the plan:
 - In the case of a plan that is a public sector pension plan, the amount that, if it were deducted from the solvency assets of the pension plan, would reduce the solvency ratio to 1.05.
 - In the case of any other plan, the amount that, if it were deducted from the solvency assets of the pension plan, would reduce the transfer ratio to 1.05.

Of the pension plans included in the 2023 Report, 882 of the plans are required to have a PfAD. Table 3.1 presents a profile of these pension plans and Table 3.2 summarizes the PfAD components.

Table 3.1 – Plans Required to have a PfAD

Type	# of Plans	Active Members	Retired Members	Other Participants	Total Membership	Market Value of Assets	Going-Concern Liabilities	Average GC Ratio
						(in Millions)		
Open	191	169,679	134,291	54,460	358,430	93,911	91,084	115.9%
Closed	691	110,949	201,065	88,940	400,954	85,593	75,125	109.9%
Total	882	280,628	335,356	143,400	759,384	179,504	166,209	111.4%

Compared to the 2022 Report, the total number of open and closed plan decreased from 942 to 882. This decline was primarily due to a reduction in closed plans. In general, open plans exhibit larger asset sizes and membership sizes compared to closed plans. Despite there being 3.6 times more closed plans than open plans, on average, open plans have asset sizes 4.0 times larger and membership sizes 3.2 times larger than those of closed plans.

Table 3.2 – PfAD Components

Type	# of Plans	Asset Mix Component		BDR Component			Median PfAD
		Median Fixed Income %	Median Asset Mix PfAD	Median BDR	Median Gross GC Rate	# Plans BDR > GC Rate	
Open	191	40.0%	4.0%	6.5%	5.7%	176	8.0%
Closed	691	55.8%	4.4%	5.8%	5.2%	639	9.6%
Total	882	50.0%	4.0%	5.9%	5.3%	815	9.0%

Open plans have a slightly lower median PfAD of 8.0% compared to closed plans at 9.6%. The median PfAD for all plans has decreased marginally from 9.1% in the 2022 Report to 9.0% in this analysis.

3.2 Specified Ontario Multi-Employer Pension Plans (SOMEPPs)

In August 2007, a temporary funding framework applicable to SOMEPPs was implemented. A MEPP that meets the definition and satisfies the eligibility criteria described in the Regulation is eligible to elect SOMEPP status. Any MEPP that does not meet the prescribed definition and eligibility criteria for SOMEPP status or chose not to elect that status are required to continue to fund on a solvency basis.

SOMEPPs are temporarily exempt from solvency funding; Contributions to these plans during the period covered by the valuation report must not be less than the sum of:

- The normal cost.
- The remaining special payments for any previously established going-concern unfunded liability.
- The special payments for any new going-concern unfunded liability determined in the valuation report.

Any new going-concern unfunded liability must be liquidated over a period of 12 years. Furthermore, there are accelerated funding requirements for benefit improvements, requiring any increase in the going-concern unfunded liability resulting from the improvements to be liquidated over a period of eight years under prescribed conditions. There is no requirement to fund on a solvency basis during the period of temporary solvency funding relief, although solvency valuations are still required to be performed and their results must be set out in the valuation report.²

The temporary exemption for solvency funding has since been extended four times in 2009, 2012, 2018 and most recently in 2023. The most recent extension came into force on January

² More information on SOMEPPs is available at: <https://www.fsrao.ca/industry/pensions/multi-employer-pension-plans/funding-rules-specified-ontario-multi-employer-pension-plans-extended>

1, 2024 and will continue until the date on which the first report is filed for a valuation date after January 1, 2025.

In 2023, the Ontario government launched two consultations on proposed regulations necessary for implementing a permanent target benefit framework, that would replace the temporary funding regulations currently in place for SOMEPPs.

The objective of the proposed permanent framework for target benefit pension plans is to strengthen governance, improve transparency and support long-term plan sustainability for plan members and employers through written policies, disclosures and funding requirements.

The following tables provide selected statistics on the MEPPs that contain a DB provision. Of these 68 MEPPs, 58 of them (covering 97% of the total DB MEPP membership) have elected to become SOMEPPs.

Table 3.3 – Membership Information

	Total (<i>Median</i>) Membership Count				Total
	# of Plans	Active Members	Retired Members	Other Participants	
SOMEPPs	58	441,921 (1,280)	150,372 (772)	449,797 (1,079)	1,042,090 (3,239)
Non-SOMEPPs	10	8,821 (206)	9,406 (96)	15,873 (81)	34,100 (555)
Total (All DB MEPPs)	68	450,742 (1,223)	159,778 (723)	465,670 (1,005)	1,076,190 (3,153)

Table 3.4 – Funding Information

	Total (Median) Value			
	Market Value of Assets	Solvency Assets [‡]	Solvency Liabilities	Solvency Ratio
	(in Millions)			
SOMEPPs	\$44,544 (\$272)	\$44,348 (\$272)	\$57,923 (\$318)	76.6% (85.8%)
Non-SOMEPPs	\$3,435 (\$56)	\$3,447 (\$55)	\$2,962 (\$56)	116.4% (119.4%)
Total (All DB MEPPs)	\$47,979 (\$238)	\$47,795 (\$237)	\$60,885 (\$303)	78.5% (87.7%)

[‡]Market value of assets less provision for windup expenses

The plans that qualify as SOMEPPs tend to be significantly larger than non-SOMEPPs, when measured by the size of their assets, liabilities or plan membership. For example, the median solvency liabilities for SOMEPPs is about 5.7 times that of the non-SOMEPPs.

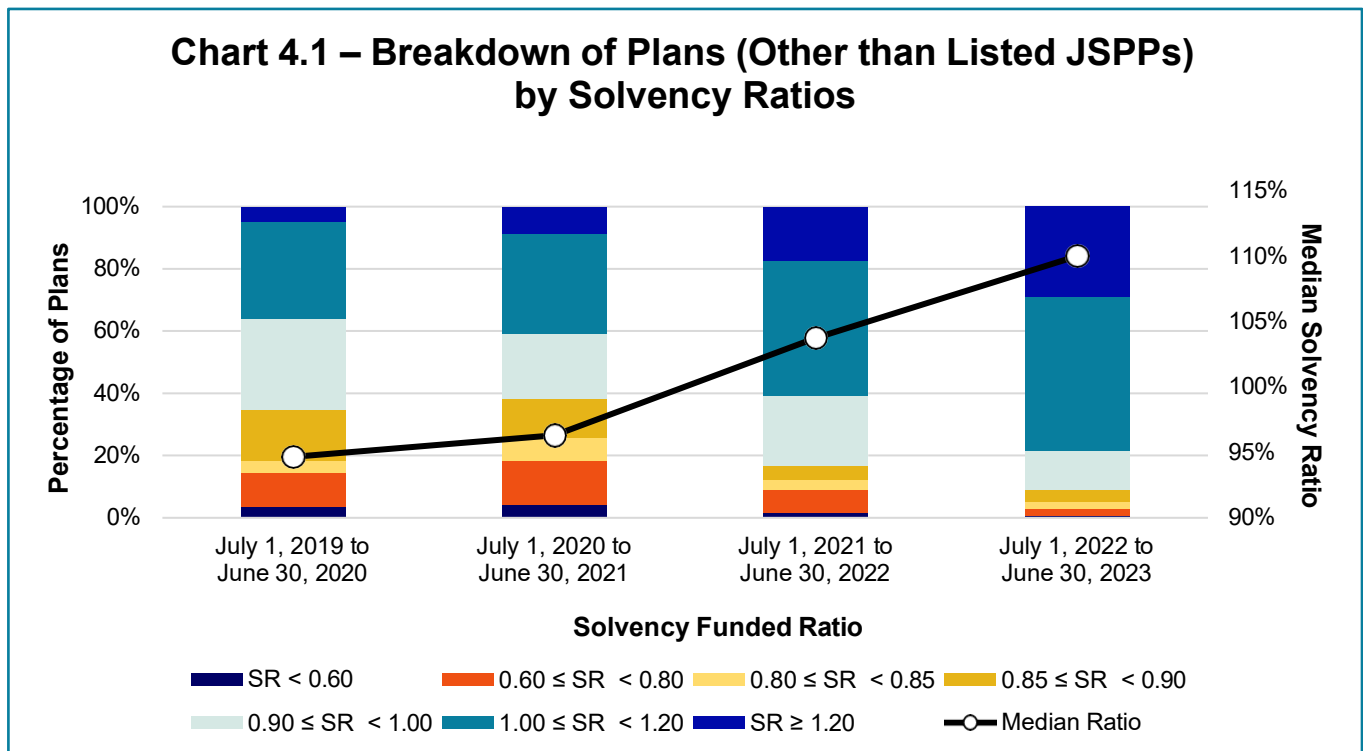
In terms of funding levels, SOMEPPs are considerably less well funded than non-SOMEPPs. The median solvency ratio for SOMEPPs is 86%, compared to 119% for non-SOMEPPs. Overall, the funding levels for both have improved substantially compared to the 2022 Report.

4.0 Trends Analysis

The following trends analysis incorporates data from all filed reports with valuation dates between July 1, 2019 and June 30, 2023 and, therefore, may include more than one valuation report from any given pension plan.

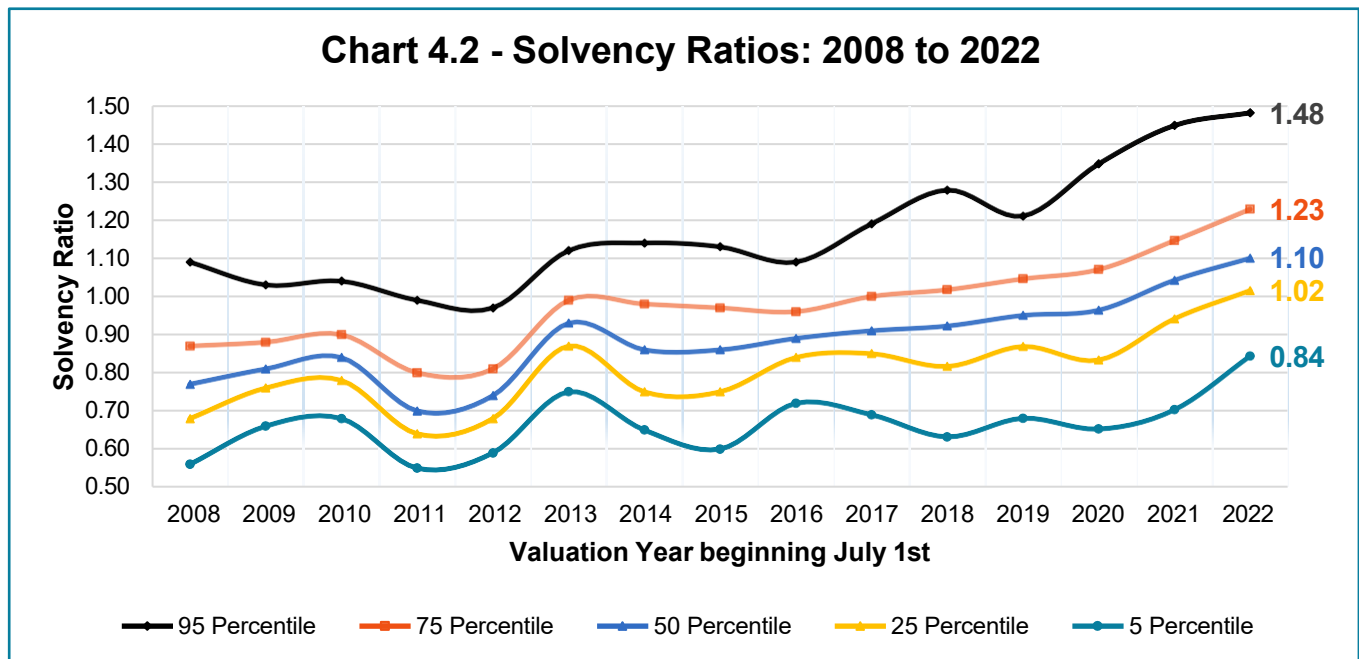
4.1 Solvency Funded Status

Chart 4.1 (additional details available in Appendix B) shows a breakdown of plans by solvency ratios for the past four annual valuation periods beginning on July 1 from 2019 to 2022. The majority of plans have a valuation date of either December 31 or January 1.



The analysis of solvency ratios among Ontario pension plans (other than Listed JSPPs) over the past four annual valuation periods reveals a notable trend towards improved financial health. The median solvency ratio steadily increased from 95% from 2019/2020 valuation period to 110% in 2022/2023 valuation period, indicating substantial improvement, particularly accelerating in the latter two periods. Moreover, the proportion of underfunded plans on a solvency basis (i.e., a solvency ratio less than 1.0) declined dramatically from 63.8% to 21.7% over the same timeframe. The improvement can be largely attributed to higher solvency discount rates, which positively impacts the solvency funded ratio by reducing the pension liabilities. Additional factors contributing to this trend include favorable investment performance and the adoption of de-risking strategies, etc.

Chart 4.2 shows the distribution of solvency ratios at different percentiles from 2008 to 2022.



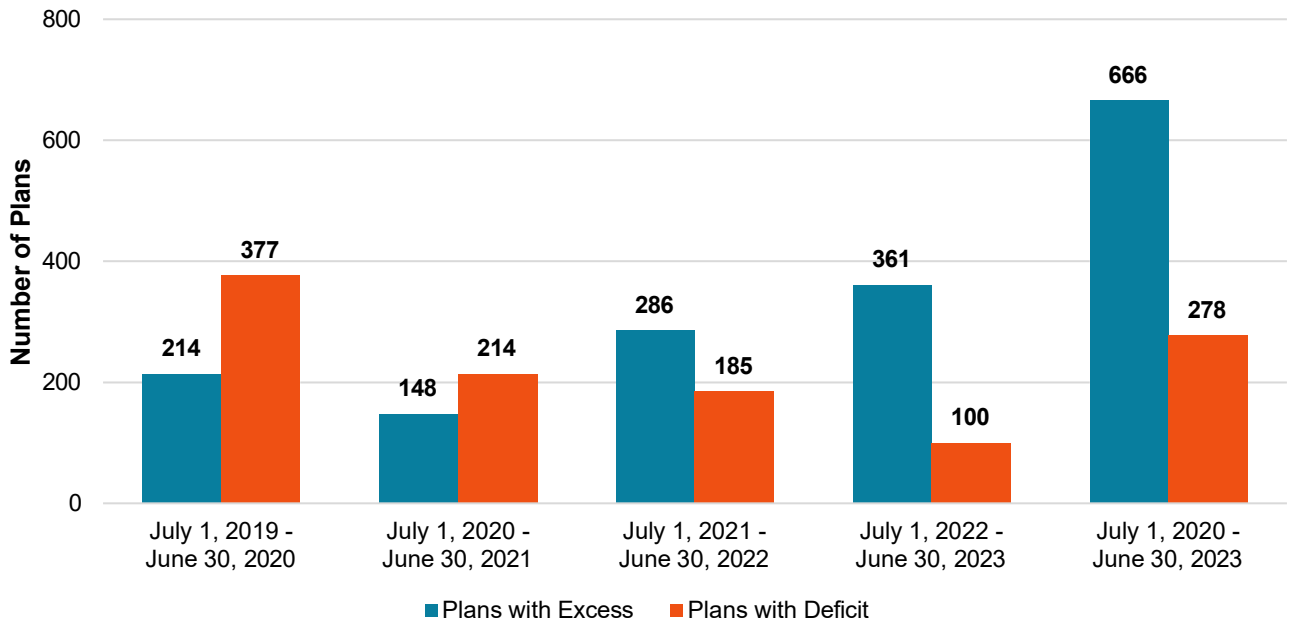
Following the 2008 financial crisis, the median solvency ratio dropped to 77% in the 2008 valuation period, reflecting widespread economic challenges and financial market turmoil. There was significant volatility in solvency ratios until around the 2015 valuation period. Since then, the median solvency ratio has shown fairly steady and gradual improvement, although there continues to be volatility in the distribution of these ratios above and below the median.

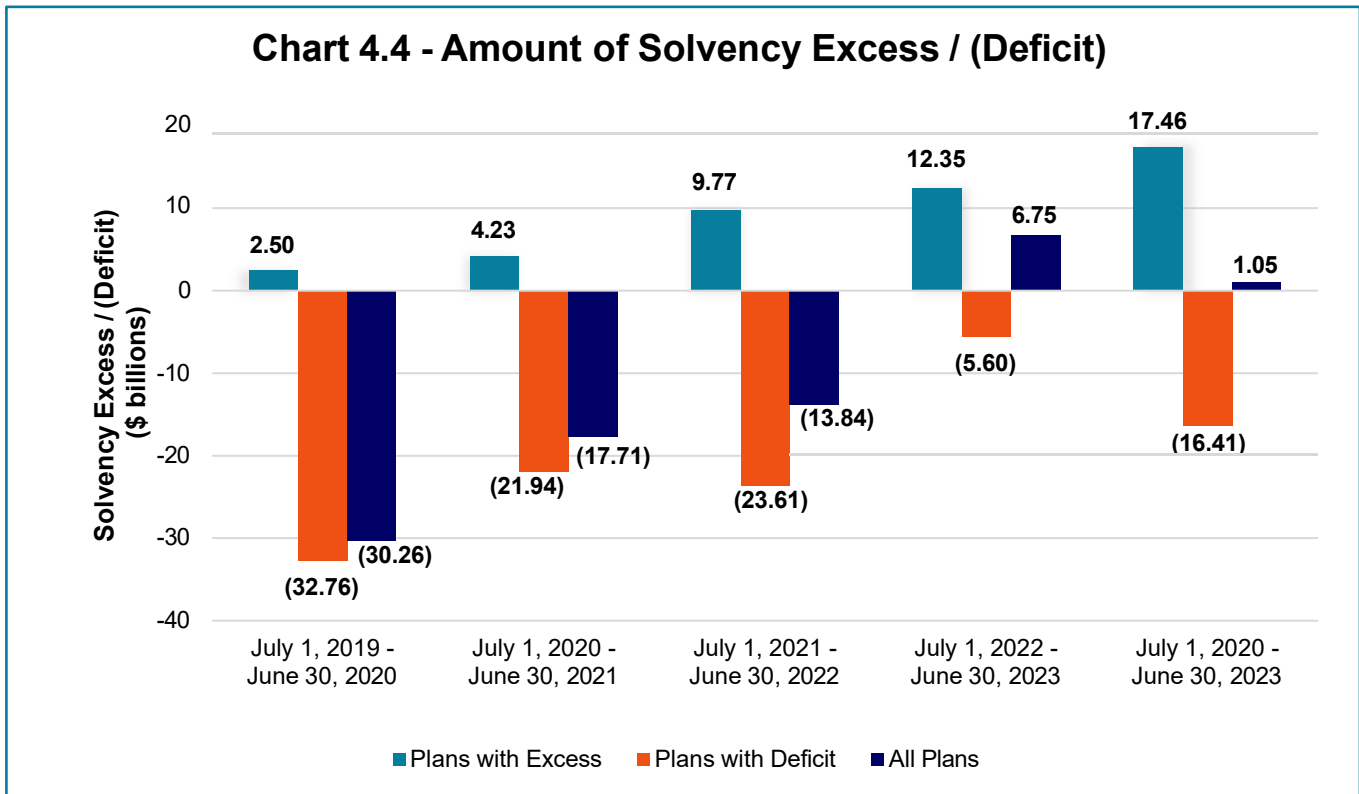
2020 and 2021 presented new challenges, particularly with the onset of the COVID-19 pandemic and its economic repercussions. Despite these challenges, pension plans remained resilient. The median solvency ratio sharply improved, surpassing 100% in the 2021 and 2022 valuation periods.

Charts 4.3 and 4.4 compare plans with a solvency excess to those with a solvency deficit for each of the four valuation periods from 2019/2020 to 2022/2023, as well as for the three-year valuation period from July 1, 2020 to June 30, 2023³, excluding Listed JSPPs. Chart 4.3 compares the number of plans and Chart 4.4 compares the amount of solvency excess or deficit. Notably, in the 2022/2023 valuation period, the number of plans with solvency excess exceeds those with solvency deficit by over 3.6 times, marking the highest level observed since monitoring began.

³ Individual valuation periods include those plans that filed a report with a valuation date that fell during that individual period. The July 1, 2020 - June 30, 2023 period includes only the last funding valuation report filed. The total number of plans included in each of the valuation periods is, therefore, higher than the number of plans included in the combined period.

Chart 4.3 - Number of Plans (Other than Listed JSPPs) with Solvency Excess vs. Solvency Deficit





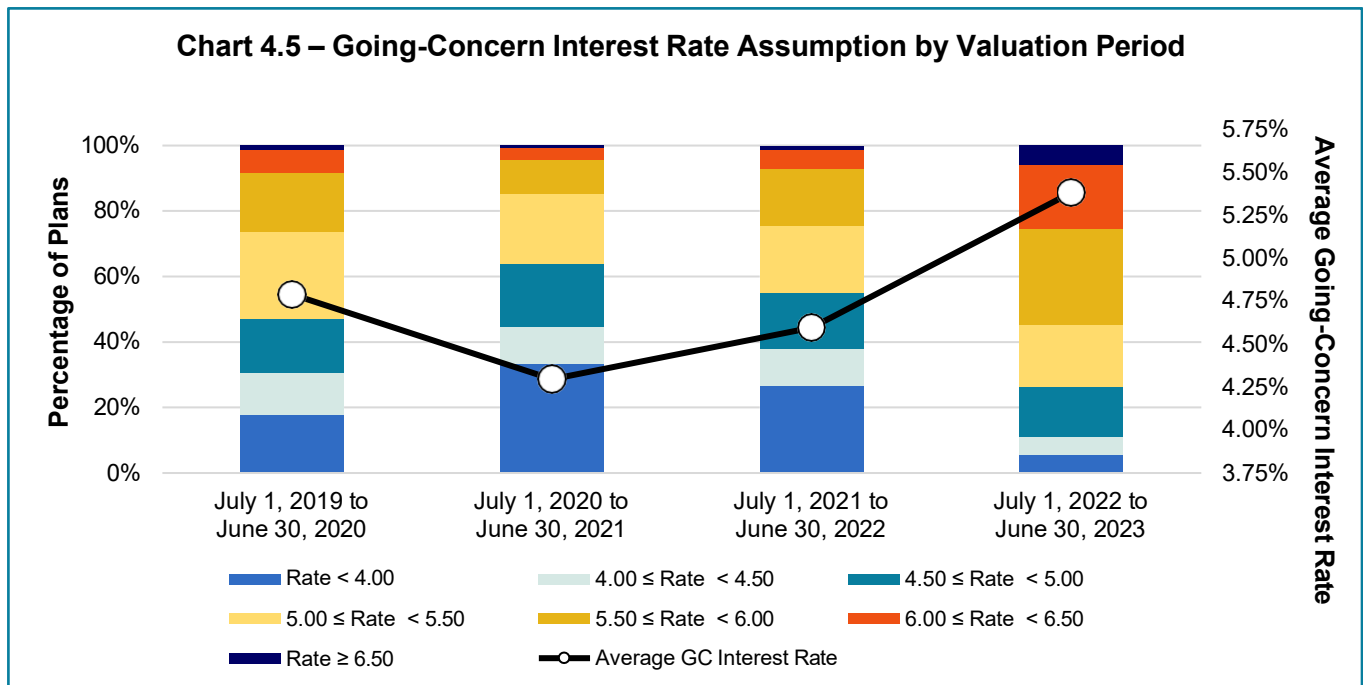
On a dollar amount basis, the latest filed reports during the July 1, 2020 to June 30, 2023 valuation period revealed a *net* solvency excess of \$1.1 billion (after allowance for expenses) on solvency liabilities of \$232.6 billion. However, pension plans are separate entities, and assets in one plan cannot be used by another plan. Therefore, looking only at the 278 plans with deficits, the total level of under-funding on a solvency basis is \$16.4 billion on solvency liabilities of \$107.1 billion.

Ontario’s legislation allows certain benefits (e.g., post-retirement indexation, consent benefits, excluded plant closure and excluded permanent layoff benefits) to be excluded in the determination of solvency liabilities. There were 228 plans that excluded one or more of these benefits, resulting in a reduction of liabilities totaling \$41.1 billion. Considering only the plans (excluding the Listed JSPPs) that have a windup deficit, the total windup funding shortfall is \$47.9 billion. This measures the funding shortfall of all the plans (excluding the Listed JSPPs) with a windup deficit if they were to have wound up at their last valuation dates. Of course, this only depicts a hypothetical scenario as pension plans would not all wind up simultaneously.

4.2 Actuarial Assumptions

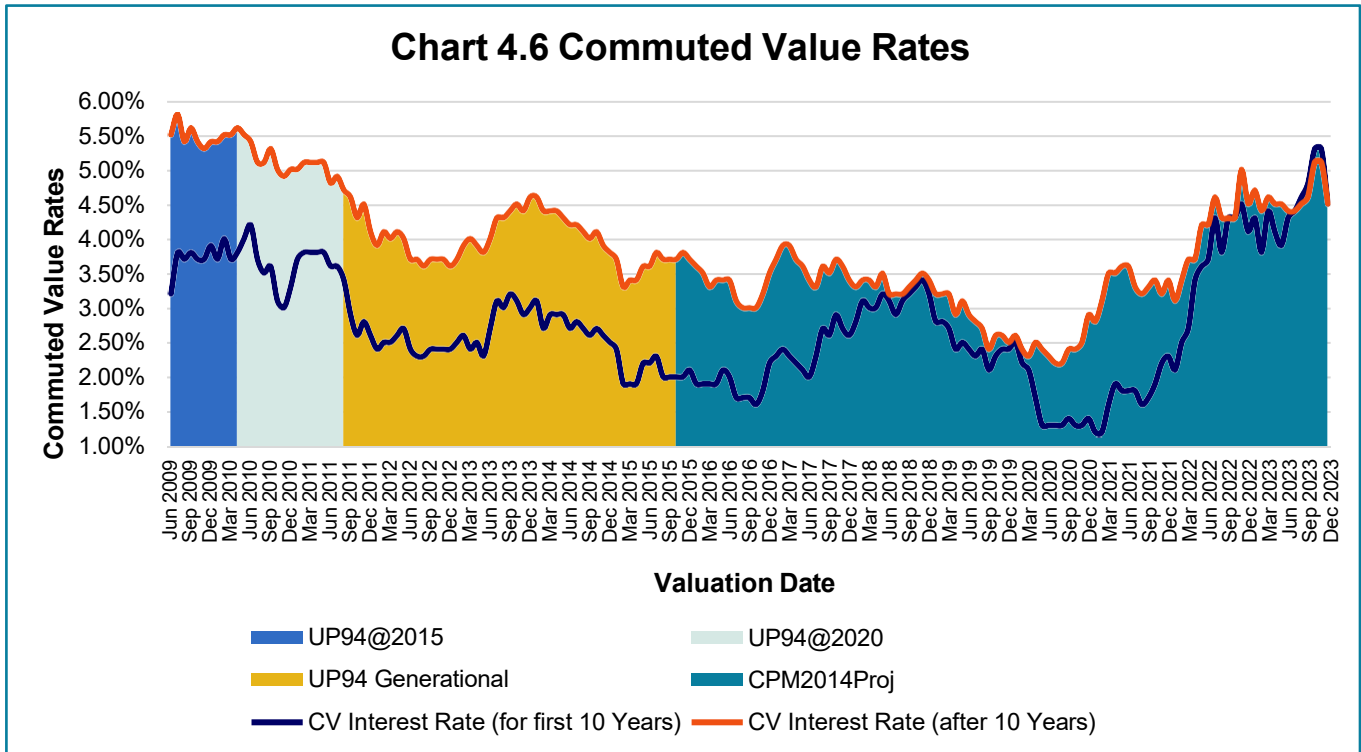
Going-concern interest rate

Chart 4.5 (additional details available in Appendix B) shows the interest rate assumptions used in the going-concern valuations. In our review of the going-concern interest rate assumptions over the past two decades, there has been a very long steady trend of decreasing interest rate assumptions, except for a pause in the 2017/2018 and 2018/2019 valuation periods (see previous reports) before resuming in the 2019/2020 period. However, as Chart 4.5 shows, this downward trend began to reverse in the 2021/2022 valuation period and continued to rise more significantly in the 2022/2023 valuation period, reflecting a notable change in the distribution of rates. It appears that the long-term trend has been broken.



Solvency interest rates

Chart 4.6 graphs the non-indexed commuted value and mortality basis over the period shown based on the CIA Standards of Practice for Pension Plans applicable as of the valuation date.

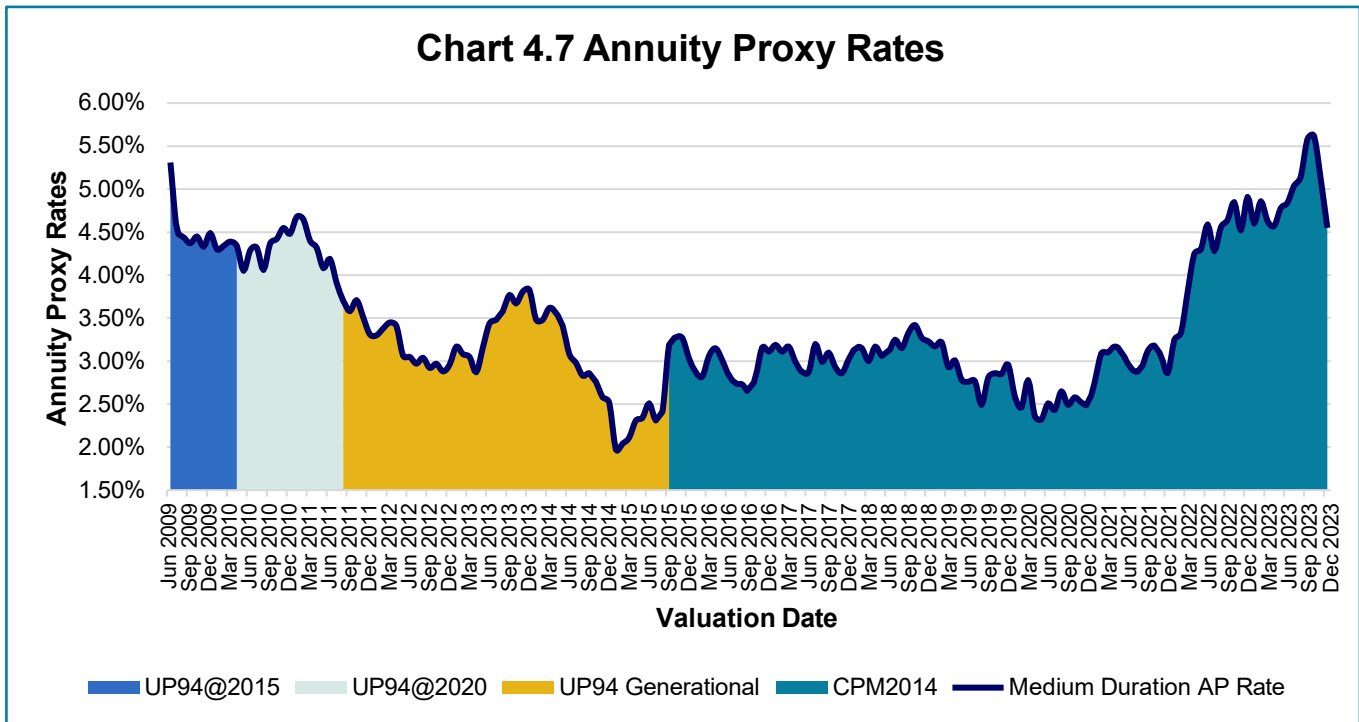


The CIA periodically updates its Guidance to actuaries for estimating the cost of purchasing a group annuity for Hypothetical Windup and Solvency Valuations. An [Explanatory Report](#) was issued on June 24, 2024 from the Committee on Pension Plan Financial Reporting (PPFRC) that was applicable for valuation dates between March 31, 2024 and June 29, 2024. The Guidance concluded that for valuations within this period, an appropriate discount rate for estimating the cost of purchasing a non-indexed group annuity, prior to any adjustment for sub- or super-standard mortality, would be determined based on the interpolation method, applicable durations and spreads outlined below:

Illustrative Block	Duration	Spread above unadjusted CANSIM V39062
Low Duration	7.8	160 bps
Medium Duration	9.8	150 bps
High Duration	11.7	150 bps

It should be noted that the 2023 Report does not reflect any updated guidance that may be issued by the PPFRC after June 24, 2024. Historically, any such guidance would not affect calculations up to December 31, 2023, the end date of the period covered by the 2023 Report.

Chart 4.7 graphs the non-indexed interest rates for annuity purchases since 2009 as set out in the historical CIA Guidance. The chart shows estimated interest rates based on liabilities with a medium duration, where applicable.



As the above charts demonstrate, after a prolonged period of relatively low interest rates spanning almost a decade, solvency interest rates began to climb sharply in 2022 and remained elevated in 2023. In June 2024, the Bank of Canada lowered its key interest rate to 4.75%, marking its first rate cut since March 2020. The potential for further rate cuts remains uncertain as of the preparation of this report.

5.0 Investment

The plans included in the investment data analysis are a subset of the 953 plans identified in Section 2 of this 2023 Report. This subset consists of plans that have filed an Investment Information Summary (IIS) for the most recent 2023 monitoring cycle (fiscal year-ends between July 1, 2022 and June 30, 2023). In the vast majority of cases (over 90%), the IIS reporting relates to the calendar year 2022. There are 944 plans included in the investment data analysis, representing 99% of the plans included in the funding data analysis.⁴ This number includes the 9 Listed JSPPs. For hybrid plans, only the DB assets are included in the data.

5.1 Summary of Pension Fund Profiles and Performance

The asset mix of the 944 plans for the most recent monitoring cycle and their performance are summarized in Table 5.1 and depicted in Chart 5.2, Chart 5.3 and Chart 5.4.

In the Asset Mix section, the weight of each asset class is shown for all plans in each subgroup and for all plans as a whole.

In the Performance section, all performance numbers are determined at the individual plan level. “Average Return” means the average gross rate of return and “Average Investment Fees” means the average expenses paid from the pension plan related to managing the pension plan’s investments, expressed as a percentage of average assets during the reporting year.

⁴ Plans not included here are primarily plans with outstanding IIS filings.

Table 5.1 – Investment Profile of All Plans

	SEPP		MEPP		Listed JSPP	
Number of Plans	867		68		9	
Asset Mix	Market Value (in Millions)	% of Total Investments	Market Value (in Millions)	% of Total Investments	Market Value (in Millions)	% of Total Investments
Cash and Short-Term Investments	\$5,408	3.0%	\$1,414	3.0%	\$67,604	11.6%
Bond	\$73,902	41.7%	\$12,860	27.4%	\$174,665	30.0%
Equity	\$55,109	31.1%	\$19,387	41.4%	\$51,438	8.8%
Real Estate	\$23,564	13.3%	\$8,598	18.4%	\$54,412	9.3%
Alternative Investments ⁵	\$19,296	10.9%	\$4,605	9.8%	\$235,229	40.3%
Total	\$177,279	100.0%	\$46,864	100.0%	\$583,348	100.0%
Performance	SEPP		MEPP		Listed JSPP	
Average Gross Return ⁶	-11.07%		-5.06%		-3.57%	
Average Investment Fees	0.36%		0.44%		0.48%	
Average Admin Fees	0.54%		0.41%		0.21%	
Average Total Fees	0.90%		0.85%		0.69%	

⁵ Alternative Investments include hedge funds, private equity, infrastructure, currency hedging, resource properties, commodities, etc.

⁶ The average return in this table and other tables in this section are the arithmetic (equally-weighted) average of investment returns of the pension funds in each subgroup. The average of investment returns weighted by the sizes of all 944 pension funds is -1.92%, compared to -10.51% on an equally-weighted basis.

Chart 5.2: Asset Allocation of SEPPs

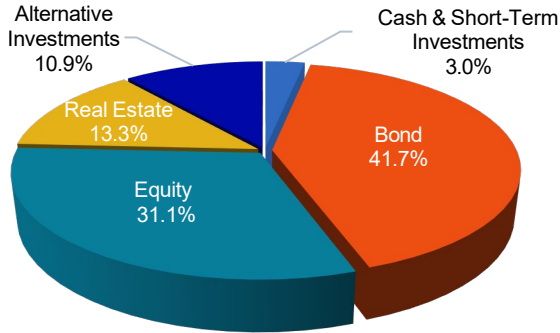


Chart 5.3: Asset Allocation of MEPPs

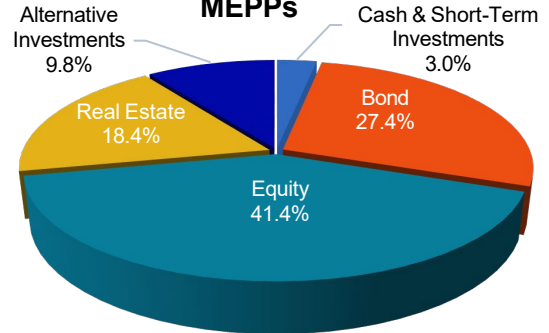
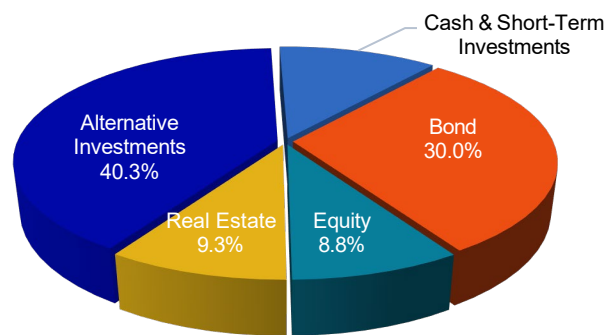


Chart 5.4: Asset Allocation of Listed JSPPs



On a broad basis, traditional fixed income assets (consisting of cash, short-term investments and bonds) constitute 45% of total investments for the SEPPs. Non-fixed income assets (consisting of equity, real estate and alternative investments) constitute 55% of total investments, although we note that the nature of alternative investments means that they cannot always be classified as purely fixed or non-fixed income. Despite the allocation between fixed and non-fixed income with no material changes from last year, there was a notable increase of 4.3% in real estate with a corresponding decrease in bonds and equity.

By comparison, the MEPPs and the 9 Listed JSPPs (which are mostly large public sector plans) have a very different aggregate asset mix. The MEPPs have a much lower allocation to traditional fixed income assets while the Listed JSPPs continue to exhibit a higher percentage of alternative investments and lower proportion of equity investments.

When compared to five years ago, SEPPs, MEPPs, and Listed JSPPs have reduced their equity holdings by approximately 9.0% to 10.5%. For SEPPs and MEPPs, the reallocation trend shows a preference towards real estate investments. In contrast, Listed JSPPs have drastically shifted from bonds and equity to alternative investments. Notably, the equity allocation for Listed JSPPs is now less than 9%, marking a significant drop of 7 percentage points compared to last year.

Table 5.5 – Performance Result Percentiles by Plan Type

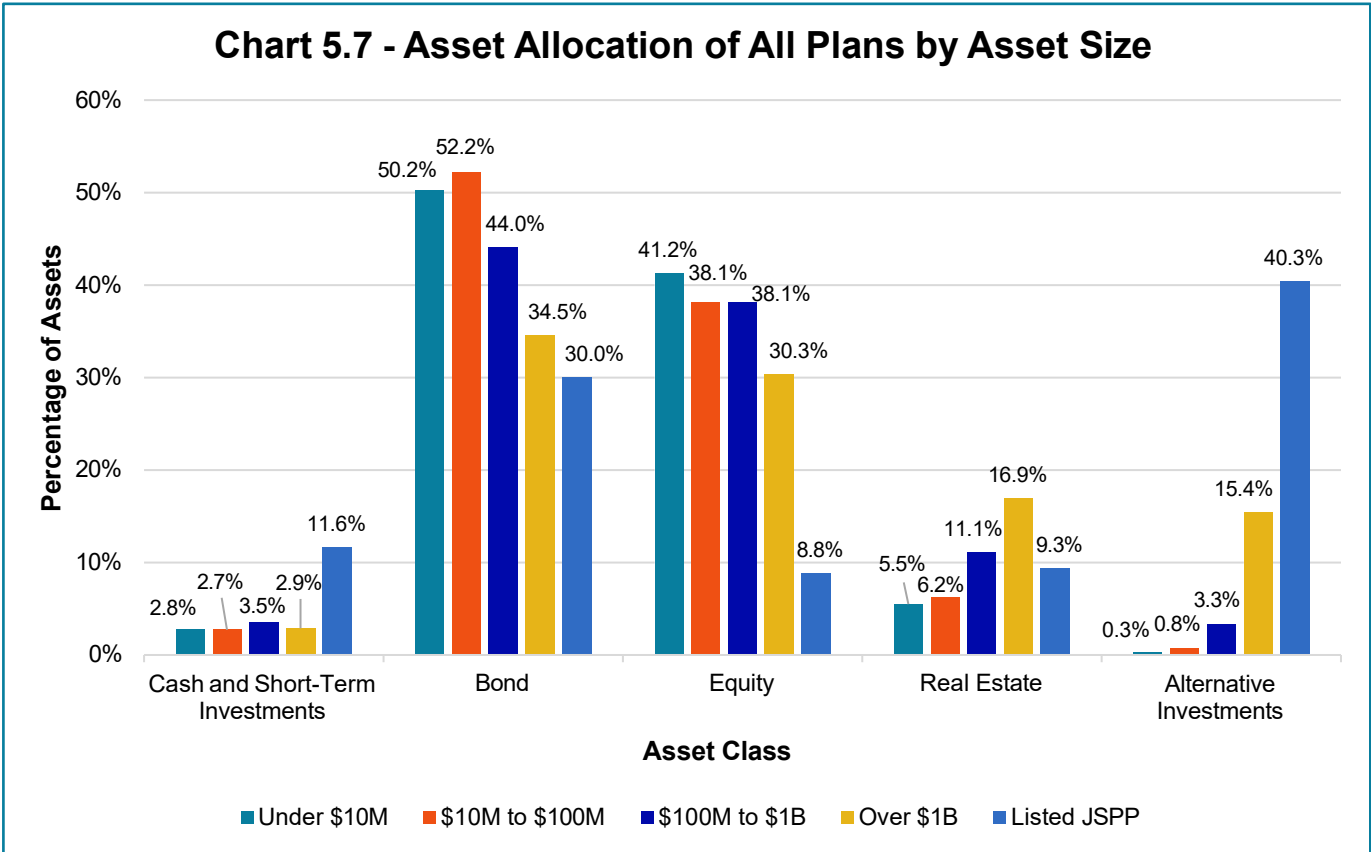
Plan Type	SEPP	MEPP	Listed JSP	All Plans
# of Plans	867	68	9	944
Gross Investment Returns				
90 th Percentile	0.00%	0.59%	4.21%	0.00%
75 th Percentile	-7.39%	-3.93%	-0.82%	-6.69%
Median	-11.99%	-5.72%	-6.26%	-11.04%
25 th Percentile	-16.30%	-7.20%	-7.33%	-16.06%
10 th Percentile	-19.29%	-8.94%	-8.10%	-19.04%
Investment Fees				
90 th Percentile	0.74%	0.69%	0.73%	0.73%
75 th Percentile	0.52%	0.53%	0.57%	0.52%
Median	0.32%	0.44%	0.45%	0.34%
25 th Percentile	0.13%	0.32%	0.29%	0.15%
10 th Percentile	0.00%	0.19%	0.22%	0.00%
Administrative Fees				
90 th Percentile	1.07%	0.68%	0.36%	1.02%
75 th Percentile	0.59%	0.39%	0.34%	0.57%
Median	0.27%	0.24%	0.18%	0.27%
25 th Percentile	0.09%	0.14%	0.10%	0.10%
10 th Percentile	0.00%	0.09%	0.09%	0.00%
Total Fees				
90 th Percentile	1.55%	1.23%	1.00%	1.53%
75 th Percentile	1.02%	0.88%	0.78%	1.00%
Median	0.65%	0.71%	0.56%	0.66%
25 th Percentile	0.39%	0.56%	0.42%	0.40%
10 th Percentile	0.23%	0.43%	0.36%	0.24%

Allocations to various asset classes vary among pension plans, based on the total value of their assets. Generally, the larger the pension fund, the higher the allocations to real estate and alternative investments and the less to bond and equity. This difference is especially noticeable when comparing pension funds with over \$1 billion in assets to those that are smaller. The asset allocation of all plans, and performance, by asset size is shown in Table 5.6 and depicted in Chart 5.7.

Table 5.6 – Asset Allocation of All Plans by Asset Size

Size of Plan Assets	Under \$10M	\$10M to \$100M	\$100M to \$1B	Over \$1B	Listed JSP	All Plans
# of Plans	240	443	211	41	9	944
Cash and Short-Term Investments	2.8%	2.7%	3.5%	2.9%	11.6%	9.2%
Bond	50.2%	52.2%	44.0%	34.5%	30.0%	32.4%
Equity	41.2%	38.1%	38.1%	30.3%	8.8%	15.6%
Real Estate	5.5%	6.2%	11.1%	16.9%	9.3%	10.7%
Alternative Investments	0.3%	0.8%	3.3%	15.4%	40.3%	32.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Performance						
Average Gross Return	-10.43%	-10.72%	-11.47%	-6.50%	-3.57%	-10.56%
Average Investment Fees	0.49%	0.34%	0.28%	0.34%	0.48%	0.37%
Average Admin Fees	1.04%	0.45%	0.22%	0.13%	0.21%	0.53%
Average Total Fees	1.54%	0.79%	0.49%	0.47%	0.69%	0.90%

Chart 5.7 - Asset Allocation of All Plans by Asset Size



Investment data reported in previous annual reports on the funding and investment of DB pension plans in Ontario from 2014 to 2023 monitoring cycles (each starting at July 1st the previous year) demonstrates a general decreasing trend in pension fund asset allocation in equity, decreasing from 52.0% in 2014 to 33.2% in 2023. Real estate investments experience significant growth, peaking at 14.4% in 2023. Alternative investments also show a steady rise, reaching 10.7% in 2023. Despite minor fluctuations, the allocation to bonds remains relatively stable, accounting for 38.7% of total investments in 2023. The asset allocation of all plans (other than the Listed JSPPs) over this period is shown in Chart 5.8 (additional details available in Appendix B).

Chart 5.8 - Asset Allocation of All Plans (Other than Listed JSPPs) from 2014 to 2023

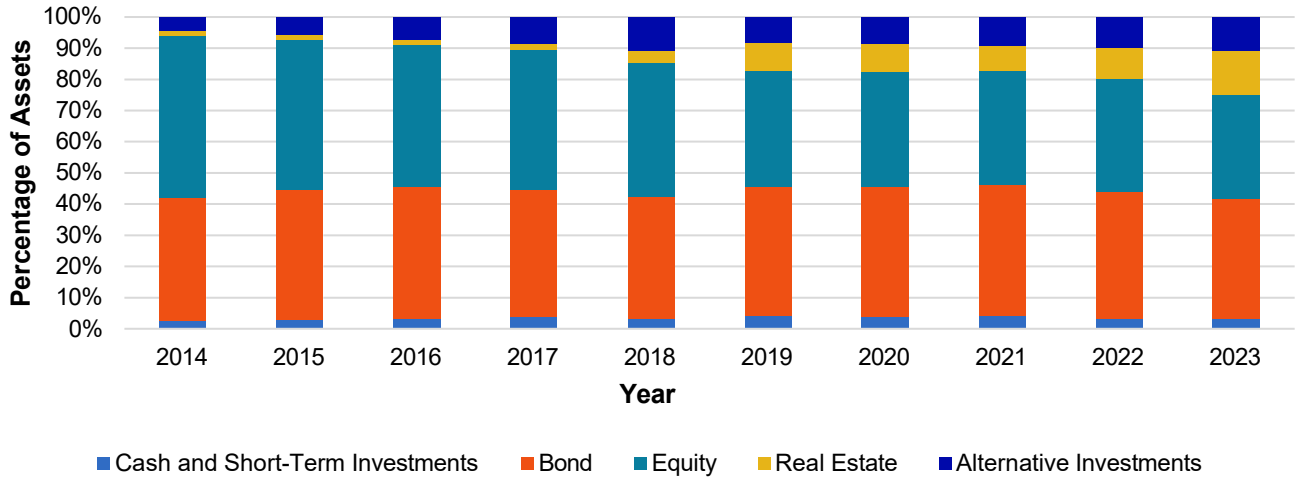
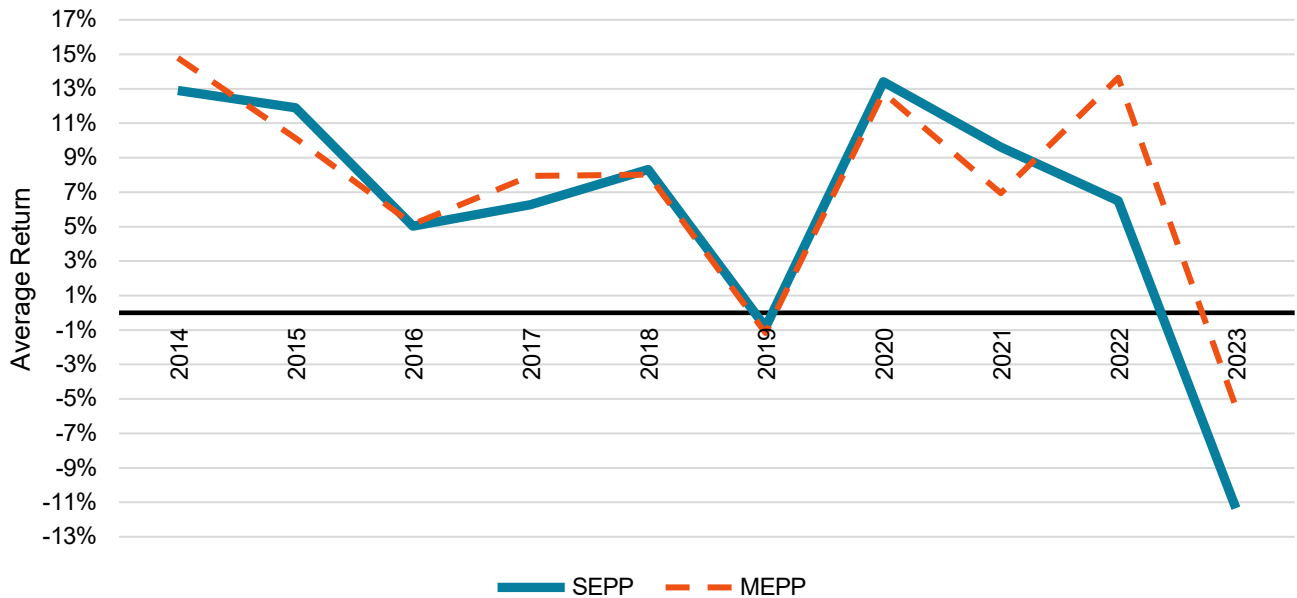


Chart 5.9 - Average Investment Returns (Net of Investment Fees) SEPP and MEPP (2014-2023)



5.2 Additional Information

This section provides additional fund performance information, for plans other than Listed JSPPs, based on a plan's percentage of funds invested in pooled funds.

By percentages invested in pooled funds (for plans other than Listed JSPPs)

Table 5.10 – Investment Results by Percentage Invested in Pooled Funds

% Invested in Pooled Funds		Plan Size			
		Under \$10M	\$10M to \$100M	\$100M to \$1B	Over \$1B
< 20%	Number of plans	9	39	26	13
	Average Gross Return	-13.39%	-9.88%	-10.94%	-9.50%
	Average Investment Fees	0.23%	0.29%	0.26%	0.23%
20% - 80%	Number of plans	14	40	50	23
	Average Gross Return	-8.97%	-12.34%	-10.01%	-5.73%
	Average Investment Fees	0.46%	0.26%	0.26%	0.40%
> 80%	Number of plans	217	364	135	5
	Average Gross Return	-10.40%	-10.63%	-12.11%	-2.27%
	Average Investment Fees	0.51%	0.35%	0.29%	0.33%
Total	Number of plans	240	443	211	41
	Average Gross Return	-10.43%	-10.72%	-11.47%	-6.50%
	Average Investment Fees	0.49%	0.34%	0.28%	0.34%

Allocation to pooled funds decreases with the size of the plan. In general, pooled funds allow investors to access a diversified portfolio managed by professional fund managers. By investing in pooled funds, investors can potentially benefit from economies of scale, professional expertise, and broader market exposure. This explains why a vast majority of smaller-sized plans (90%) have allocated more than 80% assets to pooled funds.

6.0 Baseline Projections

This section estimates annual funding contributions and funded positions of all plans to December 31, 2023 to facilitate continued monitoring and trend analysis.

6.1 Estimated DB Funding Contributions in 2024

Table 6.1 presents 2024 estimated funding contributions – comprising normal costs and special payments – for DB plans, including hybrid plans with defined benefit provisions. Estimates are based on contribution recommendations set out in the most recently filed plan valuation reports between July 1, 2020 and June 30, 2023.⁷

Table 6.1 – Estimated DB Funding in 2024

	SEPP		MEPP	Listed JSPP	All Plans
	Plans with Solvency Excess	Plans with Solvency Deficit			
Number of Plans	643	233	68	9	953
(In Millions)					
Employer Normal Cost Contributions	\$1,450	\$708	\$1,897	\$6,656	\$10,711
Member Required Contributions	\$515	\$539	\$163	\$6,251	\$7,468
Sub-Total	\$1,965	\$1,247	\$2,060	\$12,907	\$18,179
Special Payments	\$47	\$365	\$174	\$683	\$1,269
Total	\$2,012	\$1,612	\$2,234	\$13,590	\$19,448

⁷ For plans where the AIS reported contributions did not extend to cover 2024, the 2024 estimated contributions were determined assuming contributions would continue at the last available rate.

Total 2024 DB funding contributions are estimated to be \$19.4 billion of which 6.5% represents special payments of \$1.3 billion. This compares to the total 2023 DB funding contributions estimated in the 2022 Report of \$19.1 billion. The increase of \$371 million consists of increases of \$27 million in employer normal costs and \$294 million in member required contributions and \$50 million in special payments.

For SEPPs, the table also provides a breakdown of estimated funding contributions between plans with a solvency excess and plans with a solvency deficit in the most recently filed report. Special payments of \$47 million represent 2.3% of total contributions for SEPPs with a solvency excess. This compares with special payments of \$365 million, representing about 22.6% of total contributions for SEPPs with solvency deficits.

Estimated 2024 funding contributions are determined after consideration of prior year credit balances or funding excesses, subject to statutory restrictions.

6.2 Projected Financial Position as at December 31, 2023

December 31, 2023 solvency position projection

Table 6.2 presents the distribution of solvency ratios reported in the last filed valuation reports and the distribution of projected solvency ratios (PSRs) derived by projecting DB solvency plan assets and actuarial liabilities to the end of 2023 (with a comparison of PSRs as at December 31, 2022 from the 2022 Report). The projections reflect the impact of investment returns, changes in solvency interest rates and expected funding contributions.

Table 6.2 – Distribution of Solvency Ratios

	Actual as at Last Filed Valuation	Projected Solvency Ratio as at Dec 31, 2023			
		SEPP	MEPP	Listed JSP	All Plans
Median SR	107%	118%	104%	127%	117%
SR < 70%	1%	0%	0%	0%	0%
70% ≤ SR < 85%	3%	1%	18%	0%	2%
85% ≤ SR < 100%	25%	12%	28%	11%	13%
100% ≤ SR	71%	87%	54%	89%	85%

The median projected solvency ratio for all plans has increased to 117% as at December 31, 2023 from 113% as at December 31, 2022. The increase is primarily attributable to:

- A 9% increase due to an estimated median net investment return of 10.3% and estimated contributions made in 2023; partially offset by
- A 5% decrease due to changes in the solvency valuation interest rates leading to increased liabilities.

December 31, 2023 going-concern position projection

With the enhanced focus on going-concern funded positions of DB plans under the funding regime, FSRA also estimated going-concern funded ratios as at December 31, 2023 to facilitate further proactive tracking in the future. December 31, 2023 going-concern funding ratios were developed by projecting DB going-concern plan assets and actuarial liabilities to the end of 2023 and reflecting actual/estimated investment returns to the end of 2023.

In contrast to the projected solvency ratios, the projected going-concern funded ratios are not based on prescribed interest rates but chosen by the plan actuary in consultation with the plan administrator. Our projection assumes that the going-concern actuarial assumptions, and in particular the interest rate, would remain unchanged from those used in the last filed actuarial

valuation report. However, because the going-concern interest rate assumption is not prescribed, more variability is expected in the projected results when compared to actual outcomes.

Table 6.3 – Distribution of Going-concern (GC) Ratios

	Actual as at Last Filed Valuation	Projected GC Ratio as at Dec 31, 2023			
		SEPP	MEPP	Listed JSPP	All Plans
Median GC Ratio	111%	108%	113%	105%	108%
GC Ratio < 70%	1%	1%	0%	0%	1%
70% ≤ GC Ratio < 85%	2%	9%	2%	0%	8%
85% ≤ GC Ratio < 100%	14%	22%	19%	33%	22%
100% ≤ GC Ratio	83%	68%	79%	67%	69%

Please note that the projected going-concern ratios provided above include the PfAD. If the PfADs were excluded, the ratios would be higher.

Methodology and assumptions

Results reported in the most recently filed valuation reports (i.e., assets and liabilities) were projected to December 31, 2023 reflecting estimated investment returns and expected contributions along with the following assumptions:

- Sponsors would use all available funding excess and prior year credit balances for contribution holidays subject to statutory restrictions.
- Sponsors would make all required normal cost contributions and minimum statutory special payments.

- Cash outflows equal to pension amounts payable to retired members as reported in the last filed valuation reports were deducted from both plan assets and liabilities. Plan administration costs were indirectly reflected through the use of net after expense investment returns.

Each plan's unique projection period investment returns for 2020, 2021 and 2022 were determined based on its IIS filings.

Table 6.4 – Individual Plan 2020, 2021 and 2022 Rate of Return Statistics

	5 th Percentile	1 st Quartile	2 nd Quartile	3 rd Quartile	95 th Percentile
2022 Gross Return	-20.3%	-16.1%	-11.0%	-6.6%	2.4%
2022 Net After Investment Expense	-20.9%	-16.3%	-11.4%	-7.0%	2.0%
2022 Net After All Expense	-21.6%	-16.8%	-11.7%	-7.5%	1.7%
2021 Gross Return	-3.1%	3.3%	8.3%	12.4%	16.8%
2021 Net After Investment Expense	-3.3%	2.9%	8.0%	12.0%	16.4%
2021 Net After All Expense	-3.7%	2.4%	7.5%	11.5%	16.0%
2020 Gross Return	3.7%	7.9%	9.8%	11.6%	14.9%
2020 Net After Investment Expense	3.2%	7.4%	9.5%	11.4%	14.6%
2020 Net After All Expense	2.7%	6.9%	8.9%	10.9%	14.0%

For 2023, each plan's returns were estimated based on its 2022 IIS asset allocation information in conjunction with 2023 market index returns, offset by a 25 basis point quarterly expense allowance.

Table 6.5 – Estimated Rate of Return Statistics for 2023 based on Market Index Returns

	5 th Percentile	1 st Quartile	2 nd Quartile	3 rd Quartile	95 th Percentile
2023 Gross Return	8.0%	9.8%	11.4%	12.8%	13.4%
2023 Net After All Expense	7.0%	8.8%	10.3%	11.7%	12.3%

Table 6.6 – 2023 Market Index Returns

	S&P / TSX Total Return Index	MSCI World Total Net Return Index	FTSE Canada Universe Bond Index	FTSE Canada Long Term Bond Index	Cohen & Steers Global Realty Majors Index
Q4 2023	8.1%	8.7%	8.3%	14.8%	14.3%
Q3 2023	-2.2%	-1.4%	-3.9%	-9.5%	-3.9%
Q2 2023	1.1%	4.5%	-0.7%	0.6%	-2.5%
Q1 2023	4.6%	7.6%	3.2%	4.7%	-0.1%

Table 6.7 – Projected Solvency Valuation Bases at December 31, 2022 and 2023:

	Commuted Value Basis	Annuity Purchase Basis
December 31, 2023	Interest: 4.50% for 10 years, 4.50% thereafter Mortality: CPM2014 generational	Interest: 4.55% Mortality: CPM2014 generational
December 31, 2022	Interest: 4.10% for 10 years, 4.50% thereafter Mortality: CPM2014 generational	Interest: 4.91% Mortality: CPM2014 generational

7.0 Glossary

The following terms are explained for the purpose of this report:

Defined Benefit (DB) Pension Plan: In a defined benefit pension plan, the amount of the pension benefit is determined by a defined formula, usually based on years of service. There are several types of defined benefit plans, including:

- Final Average – the benefit is based on the member’s average earnings over the member’s last several years (typically three or five) of employment and years of service.
- Career Average – the benefit is based on the member’s earnings over the member’s entire period of service.
- Flat Benefit – the benefit is based on a fixed dollar amount for each year of service.

Defined Contribution (DC) Pension Plan: In a defined contribution plan, the pension benefit is based solely on the amount of pension that can be provided by the amount contributed to the member’s individual account together with any expenses and investment returns allocated to that account.

Frozen DB Plans: Pension plans in which members have a frozen defined benefit entitlement and do not accrue any future service in that pension plan.

Frozen Hybrid: Pension plans in which members have a frozen defined benefit entitlement but are accruing future defined contribution benefits.

Funding Valuation: This is a valuation of a defined benefit pension plan prepared for funding purposes. Two types of valuations are required by the PBA: a *going-concern* valuation (which assumes the pension plan will continue indefinitely); and a *solvency* valuation (which assumes the plan would be fully wound up as at the effective date of the valuation). Under Ontario’s legislation, a solvency valuation may exclude the value of specified benefits (e.g., indexation, prospective benefit increases, or plant closure/layoff benefits).

Hybrid Pension Plan: A hybrid pension plan contains both defined benefit and defined contribution provisions. A member's pension benefit may be a combination of the defined benefit plus the defined contribution entitlement or a pension benefit which is the greater of the defined benefit entitlement or the defined contribution entitlement.

Jointly sponsored pension plan (JSPP): A jointly sponsored pension plan is a special type of pension plan in which decision making and contributions are shared by both plan members and their employer(s). A JSPP provides defined benefits to plan members and contributions are always made by both plan members and their employers (this is known as a contributory plan).

Multi-Employer Pension Plan (MEPP): A multi-employer pension plan covers the employees of two or more unrelated employers. These plans may provide defined benefits but, in most MEPPs, the required contributions are negotiated and fixed through collective bargaining.

Single Employer Pension Plan (SEPP): A single employer pension plan is one in which a single employer, or several related employers within a corporate group, participate and contribute to the same pension plan. A SEPP can be provided to all employees, or just certain classes of employees (e.g., all unionized employees). It is usually governed and administered by the plan sponsor without input from plan members.

Appendix A – Additional Information

This appendix provides additional details of the profile of the plans that have been included in the funding data analysis. The data consists of DB pension plans that have filed valuation reports with valuation dates between July 1, 2020 and June 30, 2023. Please refer to Section 2.0 – Funding Data for details of how the data was compiled.

Table A.1 shows a reconciliation of the 1,012 plans analyzed in the 2022 Report to the 953 plans analyzed in the 2023 Report and Table A.2 compares the number of plans analyzed in the current report with the plans analyzed in previous reports.

Table A.1 – Reconciliation of Plans from the 2022 Report to the 2023 Report

Plan Type	Final Average	Career Average	Flat Benefit	Hybrid	Frozen DB & Hybrid	MEPP	Listed JSP	Total
2022 Report	269	62	127	305	173	67	9	1,012
New Plans / Spin-Offs	1		1	1				3
Change Jurisdiction	1		(1)			1		1
Change Designated Plan Status	(1)				1			0
Asset Transfer	(6)	(1)	(2)	(1)	(8)			(18)
Conversion From DB to DC				(1)	(1)			(2)
Windup	(12)	(1)	(7)	(9)	(13)			(42)
Data Correction		(1)						(1)
2023 Report	252	59	118	295	152	68	9	953

Table A.2 – Plans Included in Current and Previous Reports by Plan/Benefit Type

Year	Final Average	Career Average	Flat Benefit	Hybrid	Frozen DB & Hybrid	MEPP	Listed JSPP	Total	Total Membership
2023	252	59	118	295	152	68	9	953	3,495,586
2022	269	62	127	305	173	67	9	1,012	3,437,906
2021	286	69	133	326	190	68	8	1,080	3,382,291
2020	304	83	138	343	205	69	7	1,149	3,367,124
2019	324	88	143	359	236	73	7	1,230	3,338,522
2018	354	94	157	384	295	73	7	1,364	3,377,627
2017	356	95	162	385	306	74	0	1,378	1,870,615
2016	352	94	166	384	264	73	0	1,333	1,866,565
2015	366	104	174	397	170	72	0	1,283	1,835,156
2014	384	112	188	386	168	73	0	1,311	1,833,773
2013	425	132	202	391	135	76	0	1,361	1,860,156
2012	455	140	216	387	113	76	0	1,387	1,832,800
2011	491	152	234	381	110	70	0	1,438	1,828,604
2010	548	172	262	371	83	70	0	1,506	1,866,444
2009	640	197	322	310	n/a	70	0	1,539	1,899,155

Table A.3 shows a breakdown of the number of plans by size of plan membership and Table A.4 shows a breakdown of the total members covered by size of plan membership.

Table A.3 – Number of Plans by Size of Membership in Plan

Number of Members in Plan	SEPP	MEPP	Listed JSPP	Total
0 – 49	185	0	0	185
50 – 99	133	1	0	134
100 – 249	198	3	0	201
250 – 499	134	1	0	135
500 – 999	93	10	1	104
1,000 – 4,999	102	24	0	126
5,000 – 9,999	22	11	0	33
10,000+	9	18	8	35
Total	876	68	9	953

Table A.4 – Total Membership by Size of Membership in Plan

Number of Members in Plan	SEPP	MEPP	Listed JSPP	Total
0 – 49	4,345	0	0	4,345
50 – 99	10,059	56	0	10,115
100 – 249	32,268	512	0	32,780
250 – 499	47,194	482	0	47,676
500 – 999	67,104	7,913	637	75,654
1,000 – 4,999	214,434	57,319	0	271,753
5,000 – 9,999	155,705	86,601	0	242,306
10,000+	237,349	923,307	1,650,301	2,810,957
Total	768,458	1,076,190	1,650,938	3,495,586

Appendix B – Supplementary Tables

This appendix provides supplementary data to what is presented in some of the charts in the main body of the report. The inclusion of these tables augments the charts and provides continuity with previous reports to users who may be interested in the additional data.

The following table, Table 2.8, corresponds to the data presented in Chart 2.8 in the main body of the report. It provides a breakdown of plans and going-concern assets by asset valuation method.

Table 2.8 – Asset Valuation Method

Asset Valuation Method	# of Plans	% of Plans	% of Total Going-Concern Assets
Market	752	78.9%	11.4%
Smoothed Market	200	21.0%	88.5%
Other	1	0.1%	0.1%
Total	953	100.0%	100.0%

Table 4.1 corresponds to the data presented in Chart 4.1. It provides a breakdown of plans by solvency ratios for the past four annual valuation periods beginning on July 1 from 2019 to 2022⁸.

Table 4.1 – Breakdown of Plans (Other than Listed JSPPs) by Solvency Ratios

Solvency Ratio (SR)	July 1, 2019 to June 30 2020		July 1, 2020 to June 30 2021		July 1, 2021 to June 30, 2022		July 1, 2022 to June 30, 2023	
	# of Plans	% of Plans	# of Plans	% of Plans	# of Plans	% of Plans	# of Plans	% of Plans
SR < 0.60	21	3.6%	15	4.1%	7	1.5%	3	0.6%
0.60 ≤ SR < 0.80	64	10.8%	51	14.1%	36	7.6%	11	2.4%
0.80 ≤ SR < 0.85	23	3.9%	28	7.7%	14	3.0%	10	2.2%
Sub-Total < 0.85	108	18.3%	94	25.9%	57	12.1%	24	5.2%
0.85 ≤ SR < 0.90	96	16.2%	44	12.2%	21	4.5%	17	3.7%
0.90 ≤ SR < 1.00	173	29.3%	76	21.0%	107	22.7%	59	12.8%
Sub-Total < 1.00	377	63.8%	214	59.1%	185	39.3%	100	21.7%
1.00 ≤ SR < 1.20	186	31.5%	117	32.3%	205	43.5%	227	49.2%
SR ≥ 1.20	28	4.7%	31	8.6%	81	17.2%	134	29.1%
Total	591	100.0%	362	100.0%	471	100.0%	461	100.0%
Median Ratio	0.95		0.96		1.04		1.10	

⁸The number of plans for 2019-2022 inclusive may differ from those reported in the 2022 Report due to a variety of reasons including reports filed after last year's cut-off date of Dec. 31, 2022, plans that have been wound up, converted to a DC arrangement, plans that filed a late report or have had their registration moved out of the province.

Table 4.5 presents the corresponding data for Chart 4.5, providing detailed interest rate assumptions used in the going-concern valuations.

Table 4.5 – Going-Concern Interest Rate Assumption by Valuation Period

Rate (%)	July 1, 2019 to June 30 2020		July 1, 2020 to June 30 2021		July 1, 2021 to June 30, 2022		July 1, 2022 to June 30, 2023	
	# of Plans	% of Plans	# of Plans	% of Plans	# of Plans	% of Plans	# of Plans	% of Plans
Rate < 4.00	106	17.7%	124	33.5%	129	26.8%	25	5.3%
4.00 ≤ Rate < 4.50	78	13.0%	42	11.4%	53	11.0%	27	5.8%
4.50 ≤ Rate < 5.00	98	16.4%	70	18.9%	83	17.3%	71	15.2%
5.00 ≤ Rate < 5.50	159	26.5%	80	21.6%	98	20.4%	89	19.0%
5.50 ≤ Rate < 6.00	109	18.2%	38	10.3%	84	17.5%	138	29.5%
6.00 ≤ Rate < 6.50	41	6.9%	13	3.5%	28	5.8%	90	19.2%
Rate ≥ 6.50	8	1.3%	3	0.8%	6	1.2%	28	6.0%
Total	599	100.0%	370	100.0%	481	100.0%	468	100.0%
Average (%)	4.79%		4.30%		4.59%		5.38%	

Table 5.8 corresponds to the data presented in Chart 5.8, providing the asset allocation of all plans (other than the Listed JSPPs) over the last 10 years.

Table 5.8 – Asset Allocation of All Plans (Other than Listed JSPPs) from 2014 to 2023

Asset Class	% of Total Investments									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Cash and Short-Term Investments	2.7%	2.9%	3.3%	3.7%	3.4%	4.2%	3.9%	4.2%	3.3%	3.0%
Bond	39.4%	41.8%	42.4%	41.1%	38.9%	41.4%	41.5%	41.9%	40.7%	38.7%
Equity	52.0%	48.0%	45.3%	44.7%	43.0%	37.2%	36.9%	36.6%	36.1%	33.2%
Real Estate	1.5%	1.7%	1.8%	2.1%	3.8%	9.0%	9.1%	8.1%	10.2%	14.4%
Alternative Investments	4.4%	5.6%	7.2%	8.4%	10.9%	8.2%	8.6%	9.2%	9.7%	10.7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%