# Funding of Defined Benefit Pension Plans in Ontario

# Seventh Annual Report

***Overview and Selected Findings***
***2007-2010***

**Financial Services Commission of Ontario**

**March 2011**

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***Overview and Selected Findings***
***2007-2010***

## 1.0 Introduction

The Financial Services Commission of Ontario (FSCO) is an agency of the Ministry of Finance that regulates Ontario registered pension plans in accordance with the *Pension Benefits Act* (PBA) and Regulation 909, as amended (Regulation).

FSCO has prepared this report in order to provide pension stakeholders with up-to-date funding, investing, and actuarial information related to defined benefit (DB) pension plans in Ontario. The information is presented on an across-the-board basis only. It is based on the latest filed funding valuation reports for DB plans that had valuation dates between July 1, 2007 and June 30, 2010, and the financial statements for the fiscal year ending in the period between July 1, 2009 and June 30, 2010.

### Risk-Based Monitoring

In July 2000, FSCO implemented a risk-based approach to monitor the funding of DB pension plans[1]. This approach involves the collection of key actuarial and financial data from funding valuation reports filed with FSCO, using a standard form called the Actuarial Information Summary (AIS)[2]. The collected data are entered into a database, and a selective risk-based review system identifies individual funding reports for detailed compliance reviews.

Over the three- year period ending on December 31, 2010, AIS data for approximately 5,400 funding valuation reports were entered into our database and screened through the selective review system. Thirty-one per cent of these reports were selected for further review. Of the reviews that were completed, approximately 11% were identified as having material compliance concerns that required further follow up. With very few exceptions, FSCO has been able to resolve the identified concerns with the plans' actuaries and/or administrators.

In 2006, to broaden the risk-based approach to monitoring DB pension plans, FSCO implemented a risk-based monitoring of pension fund investments[3]. This program involves the collection of key financial and investment data for DB plans on an annual basis, using a standard

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[1] *Risk-based Supervision of the Funding of Ongoing Defined Benefit Pension Plans* (May 2000), an overview of the risk-based approach, is available at: http://www.fsco.gov.on.ca/english/pensions/riskbasedsupervision.pdf

[2] The AIS is a standardized form, developed jointly by FSCO, the Canada Revenue Agency, the federal Office of the Superintendent of Financial Institutions, and the Régie des rentes du Québec. It is prepared by an actuary and filed with FSCO in conjunction with a funding valuation report.

[3] Further information on the risk-based approach for monitoring pension fund investments is available at: http://www.fsco.gov.on.ca/english/pensions/InvestmentInformationSummary.asp

form called the Investment Information Summary (IIS). The collected data are entered into a database, and a selective risk-based review system identifies plans with potential investment concerns for further review. The annual monitoring cycle covers plans whose plan fiscal year end date is between July 1 of one year and June 30 of the next. Over 90% of the plans have a plan fiscal year end date of December 31.

With the exception of the first two years of implementation, 2005-2006 and 2006-2007, where designated plans[4] were not exempted from the IIS filing, the number of plans that are required to file an IIS has been close to 2,000. For the most recent monitoring cycle, IIS data for 1,618 plans have been entered into the IIS database and assessed with the predetermined risk criteria. This initial assessment flagged approximately 30% of the IIS filings for further desk review. These flagged plans are being further reviewed to determine whether there are any investment or funding concerns that need to be addressed. Any material compliance concerns identified are communicated to the plan administrators with whom FSCO follows up to ensure that the concerns are addressed.

**Funding Relief Measures**

On August 24, 2007, Ontario introduced changes to the Regulation affecting the funding rules for multi-employer pension plans (MEPPs). The Regulation provides temporary funding relief for Specified Ontario Multi-Employer Pension Plans (SOMEPPs) in respect of reports filed with valuation dates on or after September 1, 2007 and before September 1, 2010 (subsequently extended to September 1, 2012). A SOMEPP is exempt from the requirement to fund on a solvency basis.

On June 23, 2009, the Regulation was further amended to provide temporary funding relief for other Ontario registered DB pension plans. These measures provide for the deferral of special payments for new going concern and solvency deficiencies for up to 12 months, consolidation of previously determined solvency special payments, and amortization of new solvency deficiencies over 10 years instead of 5 years, with member consent.

This report contains summary statistics relating to the use of these relief measures.

**DB Plan Reporting**

The AIS and IIS databases provide FSCO with the information it needs to compile relevant pension plan funding and investment data and to identify certain DB pension plan trends in Ontario. This is FSCO's seventh annual report on DB funding and investments.

[4] Designated Plans are defined in section 8515 of the federal Income Tax Regulations. Generally, these are plans for connected persons and highly-paid executives.

***Key Findings***

Some of the key findings in this Seventh Annual Report are:

Funding Data

- Overall, the funded position of pension plans has deteriorated from what was reported in the annual DB funding report dated March 2010 (the Sixth Annual Report)[5]. In particular, the median funded ratio on a going concern basis has decreased from 104% to 102%, while the median funded ratio on a solvency basis has decreased from 89% to 86%.

- Compared with the Sixth Annual Report, more plans were less than fully funded on either a going concern or solvency basis, or both, at their last valuation date. Specifically:
    - Eighty-four per cent of the plans were less than fully funded on a solvency basis (versus 79% in the Sixth Annual Report).
    - Forty-five per cent of the plans were less than fully funded on a going concern basis (versus 39% in the Sixth Annual Report).

- Assumptions and methods for the going concern valuations continue to be quite uniform when compared to prior valuations. For example:
    - Over 98% of the plans used the unit credit cost method.
    - Over 99% of the plans used either a market or smoothed market value of assets.
    - The average interest rate assumption used for going concern valuations decreased from 6.22% to 6.01% over the 2006 to 2009 valuation period, and over 99% of the 2009 valuations used an interest rate below 7%.
    - For the 2009 valuations, all of the plans used an up-to-date (1994 or later) mortality table.

- The minimum required contributions for 2010, including employer normal cost, member required contributions and special payments, are estimated to increase to $8.1 billion, up from the $6.7 billion estimated for 2009 in the Sixth Annual Report.

- After a partial recovery in 2009 from the poor asset returns during 2008, the funded position of pension plans is expected to see a small improvement during 2010. Improvements resulting from favourable investment returns in 2010 (estimated at 9.8%) and special payments to fund deficiencies are estimated to be largely offset by a decrease in the interest rates and increased longevity assumptions for determining solvency liabilities. Overall, the median solvency ratio[6] for pension plans is projected to increase from 84% at the end of 2009 to 85% at the end of 2010.

[5] Available at: http://www.fsco.gov.on.ca/english/pensions/DBFundRep10.pdf

[6] A plan's solvency ratio is the ratio of the market value of the plan's assets to the plan's solvency liabilities.

Funding Relief Data

- The statistics on the utilization of the temporary funding relief measures as of December 31, 2010 are as follows:
    - Of the 70 MEPPs that contain a defined benefit provision, 40 plans (57%) have elected to be treated as a SOMEPP. These 40 MEPPs represents 90% of the total plan membership covered by the 70 MEPPs.
    - Of the 1,092 non-designated DB plans that have filed a valuation report with a valuation date on or after September 30, 2008, 319 plans (29%) have elected to use one or more of the funding relief options introduced in June 2009.

Investment Data

- The typical asset mix of pension funds changed from a fixed income/non-fixed income split of 45%/55% in 2008 to a split of 43%/57% in 2009.

- Pension funds of MEPPs generally invested more in non-fixed income assets than single employer pension plans.

- There do not seem to be significant differences in asset mix, average return and average investment fees between plans with different benefit types.

- As expected, small plans and plans that invest largely in pooled funds pay higher investment fees.

## 2.0 Funding Data Analysis

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, 2007 and June 30, 2010. The data were compiled from the AIS and funding valuation reports received by FSCO on or before the data cutoff date, December 31, 2010.

Generally, funding valuation reports must be filed once every three years on both a going concern and solvency basis. However, if solvency concerns are indicated,[7] annual filing is required until these concerns are eliminated. Early filings may also be required when events such as plan mergers, partial windups, or sales of businesses occur. To avoid double counting, only the data from a plan's most recently filed report were considered.

For the purposes of this report, designated plans, and plans where members are no longer accruing future DB or defined contribution (DC) benefits (referred to as Frozen Plans) have been excluded. In addition, seven large public sector plans have been excluded in order not to skew the results of our analysis. A new category of plans is included in this year's report, specifically plans in which members have a frozen DB entitlement but are accruing future DC benefits in the plan (referred to as Frozen Hybrid). Previously, these plans were classified as "Frozen DB Plans – Future DC Accruals Only" and were excluded from the analysis.

In total, 1,506 plans were included in the funding data analysis. Table 2.1 below presents a profile of these plans. In this Seventh Annual Report, an Appendix has been added as Section 8.0 to provide further details about the plans that are included in the analysis.

**Table 2.1 - Summary of Plans Included**

| Plan/ Benefit Type | # of Plans | Active Members | Retired Members | Other Participants | Total Participants | Market Value of Assets ($ Millions) |
|---|---|---|---|---|---|---|
| Final Average | 548 | 195,579 | 120,342 | 51,532 | 367,453 | 54,809 |
| Career Average | 172 | 32,605 | 17,260 | 10,544 | 60,409 | 3,568 |
| Flat Benefit | 262 | 77,673 | 105,118 | 31,901 | 214,692 | 22,646 |
| Hybrid | 371 | 165,202 | 151,438 | 82,793 | 399,433 | 37,003 |
| Frozen Hybrid | 83 | 5,671 | 4,710 | 4,412 | 14,793 | 997 |
| MEPP | 70 | 357,007 | 99,821 | 352,836 | 809,664 | 18,353 |
| **Total** | **1,506** | **833,737** | **498,689** | **534,018** | **1,866,444** | **137,375** |
| **Average Age** | | **43.1** | **71.8** | **43.0** | | |

[7] A report indicates solvency concerns if (i) the solvency ratio is less than 80%, (ii) the solvency ratio is between 80% and 90% and the solvency liabilities exceed the market value of assets by more than $5 million or (iii) the employer has elected to exclude plant closure or permanent layoff benefits from the calculation of solvency liabilities.

The plans that were excluded from the funding data analysis consist of 166 Frozen DB Plans and 7 large public sector plans as described previously. The profiles of these plans are summarized in Table 2.2.

**Table 2.2 - Summary of Excluded Plans**

| Plan Type | Plan Sub-Type | # of Plans | Active Members | Retired Members | Other Participants | Total Participants | Market Value of Assets ($Millions) |
|---|---|---|---|---|---|---|---|
| **Public Sector Pension Plans** | **Large Public Sector** | 7 | 712,557 | 363,194 | 145,589 | 1,221,340 | $202,330 |
| | **Average Age** | | **44.5** | **70.2** | **52.7** | | |
| **Frozen DB Plans** | **No Future DB/DC accruals** | 166 | 9,539 | 26,918 | 11,899 | 48,356 | $4,610 |
| | **Average Age** | | **45.6** | **74.6** | **50.2** | | |

In addition, 123 plans that are in the process of winding up have been excluded from the funding data analysis.

## 2.1 Summary of Funding Data

In aggregate on a going concern basis, of the 1,506 plans analyzed, 682 (45%) were less than fully funded. In total, these plans covered 1,866,444 members, of which 1,074,141 (58%) were in plans that were not fully funded.

In aggregate on a solvency basis, 1,270 (84%) plans were less than fully funded covering 1,629,636 (87%) of total members.

Table 2.3 and Table 2.4 below show the distributions of these underfunded plans by plan/benefit type and membership:

**Table 2.3 - Distribution of Underfunded Plans on a Going Concern Basis**

| Plan/Benefit Type | By Plan | | By Membership | |
|---|---|---|---|---|
| | Number of Plans | As % of Total Plans by Plan/Benefit Type | Number of Members | As % of Total Membership by Plan/Benefit Type |
| Final Average | 301 | 55% | 198,305 | 54% |
| Career Average | 59 | 34% | 10,665 | 18% |
| Flat Benefit | 78 | 30% | 91,100 | 42% |
| Hybrid | 175 | 47% | 142,740 | 36% |
| Frozen Hybrid | 39 | 47% | 7,077 | 48% |
| MEPP | 30 | 43% | 624,254 | 77% |
| **Total** | **682** | **45%** | **1,074,141** | **58%** |

**Table 2.4 - Distribution of Underfunded Plans on a Solvency Basis**

| Plan/Benefit Type | By Plan | | By Membership | |
|---|---|---|---|---|
| | Number of Plans | As % of Total Plans by Plan/Benefit Type | Number of Members | As % of Total Membership by Plan/Benefit Type |
| Final Average | 418 | 76% | 275,092 | 75% |
| Career Average | 157 | 91% | 55,084 | 91% |
| Flat Benefit | 250 | 95% | 208,792 | 97% |
| Hybrid | 319 | 86% | 293,336 | 73% |
| Frozen Hybrid | 65 | 78% | 12,700 | 86% |
| MEPP | 61 | 87% | 784,632 | 97% |
| **Total** | **1,270** | **84%** | **1,629,636** | **87%** |

Summary information by plan maturity (as measured by the proportion of total plan liabilities relating to pensioners) on a solvency basis is provided in Table 2.5 below:

**Table 2.5 – Funding Information on Solvency Basis by Plan Maturity**

| Proportion of Solvency Liabilities relating to Pensioners | Number of Plans | Total Membership | Solvency Assets ($ millions) | Solvency Liabilities ($ millions) | Ratio of Solvency Assets to Solvency Liabilities | Ratio of Active Members to Pensioners |
|---|---|---|---|---|---|---|
| Less than 25% | 398 | 235,622 | 8,782 | 10,164 | 86% | 7.7 : 1 |
| 25%≤ ratio <50% | 671 | 1,084,750 | 60,294 | 70,310 | 86% | 2.7 : 1 |
| 50%≤ ratio <75% | 338 | 399,607 | 50,326 | 58,270 | 86% | 0.7 : 1 |
| 75% and over | 99 | 146,465 | 17,499 | 25,040 | 70% | 0.3 : 1 |
| **Total** | **1,506** | **1,866,444** | **136,902** | **163,783** | **84%** | **1.7 : 1** |

Tables 2.6 and 2.7 below provide a more detailed breakdown of the going concern and solvency funded ratios in respect of different types of DB pension plans.

For all plans analyzed, the median funded ratios were 102% on a going concern basis and 86% on a solvency basis. Note also that of the 70 MEPPs, 33 (47%) had a solvency ratio of less than 80%. These 33 plans have approximately 672,300 members and former members, representing approximately 83% of the total MEPP membership.

**Table 2.6 - Going Concern Funded Ratio**

| Funded Ratio (FR) | Final Average | Career Average | Flat Benefit | Hybrid | Frozen Hybrid | MEPP | All Plans |
|---|---|---|---|---|---|---|---|
| FR < 0.60 | 3 | 2 | 3 | 2 | 1 | 1 | 12 |
| 0.60 ≤ FR < 0.80 | 25 | 2 | 12 | 17 | 7 | 3 | 66 |
| 0.80 ≤ FR < 0.90 | 114 | 16 | 18 | 60 | 11 | 5 | 224 |
| 0.90 ≤ FR < 1.00 | 159 | 39 | 45 | 96 | 20 | 21 | 380 |
| 1.00 ≤ FR < 1.20 | 204 | 95 | 123 | 157 | 29 | 35 | 643 |
| FR ≥ 1.20 | 43 | 18 | 61 | 39 | 15 | 5 | 181 |
| **Total** | **548** | **172** | **262** | **371** | **83** | **70** | **1,506** |
| Median Ratio | 0.98 | 1.04 | 1.07 | 1.01 | 1.03 | 1.03 | 1.02 |

**Table 2.7 - Solvency Funded Ratio**

| Solvency Ratio (SR) | Final Average | Career Average | Flat Benefit | Hybrid | Frozen Hybrid | MEPP | All Plans |
|---|---|---|---|---|---|---|---|
| SR < 0.60 | 4 | 2 | 7 | 3 | 2 | 7 | 25 |
| 0.60 ≤ SR < 0.80 | 116 | 46 | 94 | 83 | 20 | 26 | 385 |
| 0.80 ≤ SR < 0.90 | 172 | 73 | 100 | 140 | 25 | 9 | 519 |
| 0.90 ≤ SR < 1.00 | 126 | 36 | 49 | 93 | 18 | 19 | 341 |
| 1.00 ≤ SR < 1.20 | 100 | 12 | 11 | 38 | 13 | 9 | 183 |
| SR ≥ 1.20 | 30 | 3 | 1 | 14 | 5 | 0 | 53 |
| **Total** | **548** | **172** | **262** | **371** | **83** | **70** | **1,506** |
| Median Ratio | 0.88 | 0.84 | 0.82 | 0.87 | 0.89 | 0.83 | 0.86 |

## 2.2 Summary of Actuarial Assumptions and Methods

The key actuarial assumptions and methods used in going concern valuations are as follows:

- Over 98% of the plans used the unit credit cost method (with salary projection for final average plans and hybrid plans with final average benefits) to calculate the going concern liabilities.

**Table 2.8 - Liability Valuation Method**

| Liability Valuation Method | # of Plans | % of Plans |
|---|---|---|
| Unit Credit (with salary projection) | 889 | 59.0% |
| Unit Credit (with no salary projection) | 599 | 39.8% |
| Entry Age Normal | 12 | 0.8% |
| Individual Level Premium | 2 | 0.1% |
| Aggregate | 3 | 0.2% |
| Other | 1 | 0.1% |
| **Total** | **1,506** | **100.0%** |

- Assets were most frequently valued using a market or market-related approach, with over 99% of the plans using either a market or smoothed market value.

**Table 2.9 - Asset Valuation Method**

| Asset Valuation Method | # of Plans | % of Plans |
|---|---|---|
| Market | 1,002 | 66.5% |
| Smoothed Market | 496 | 33.0% |
| Book | 5 | 0.3% |
| Book & Market Combined | 2 | 0.1% |
| Other | 1 | 0.1% |
| **Total** | **1,506** | **100.0%** |

- For going concern valuations, four plans (only one plan with a valuation date in 2009) still used a mortality assumption based on the 1983 Group Annuity Mortality (GAM) table developed by the Society of Actuaries, while over 95% used a more up-to-date 1994 table (e.g., 1994 GAM Static, 1994 Group Annuity Reserving (GAR), 1994 Uninsured Pensioner (UP).[8]

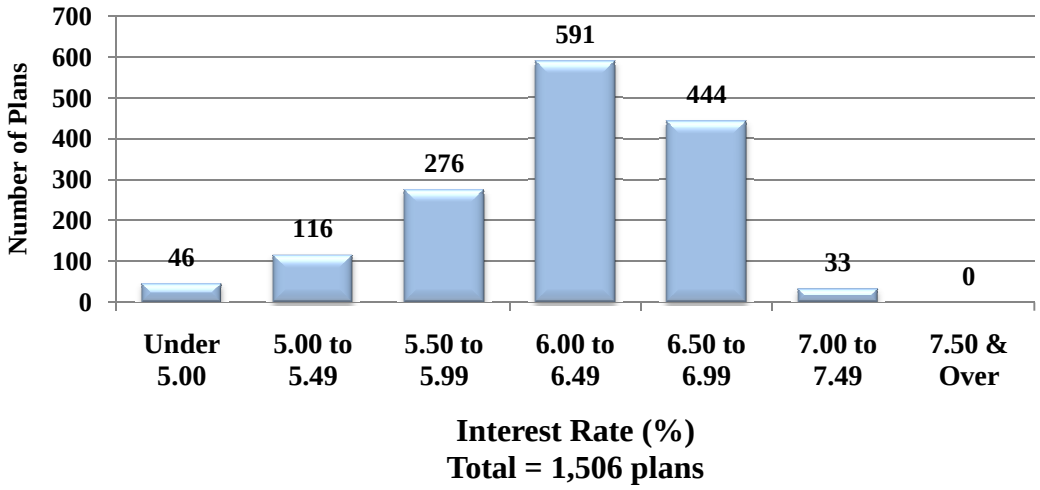
**Table 2.10 - Mortality Assumption**

| Mortality Assumption | # of Plans | % of Plans |
|---|---|---|
| 1983 GAM | 4 | 0.3% |
| 1994 GAM Static | 20 | 1.3% |
| 1994 GAR | 13 | 0.9% |
| 1994 UP | 1,416 | 94.0% |
| Other (RP-2000, 1995 Buck) | 53 | 3.5% |
| **Total** | **1,506** | **100.0%** |

In 2010, we started collecting data about whether the mortality assumption includes a provision for future mortality improvements and will provide information on this in future reports as the data becomes available.

- Interest rate assumptions used to value the going concern liabilities were generally lower than in prior years, with approximately 93% of the plans using a rate at or below 6.50%. Rates continued to fall within a relatively narrow range, with 64% of the plans using a rate between 6.0% and 6.5% inclusive.[9]

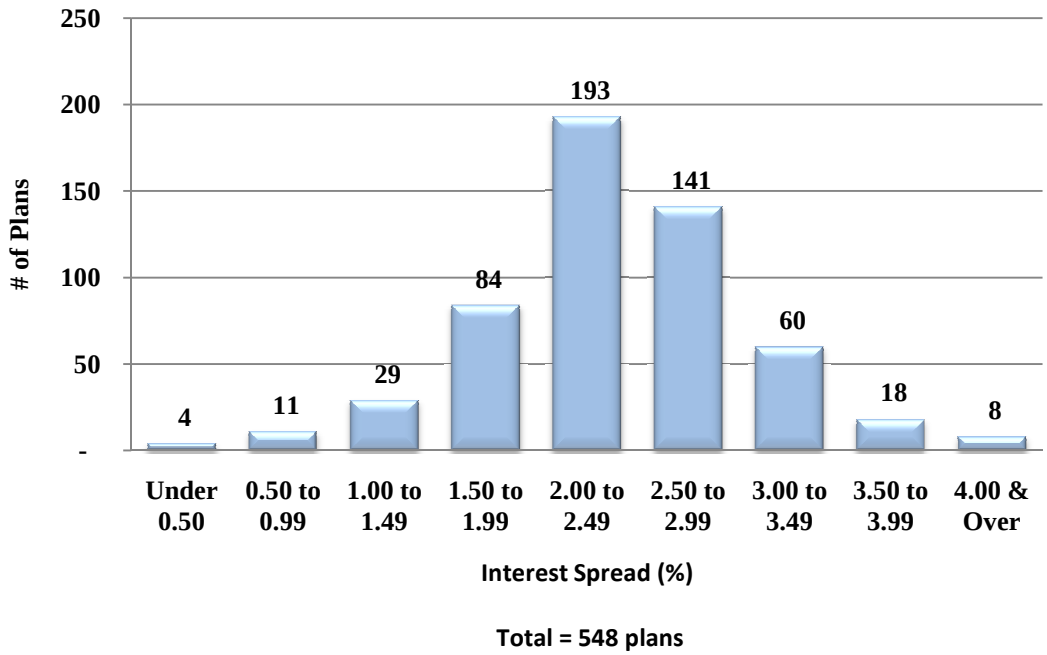
**Chart 2.11 - Going Concern Interest Assumption**




[8] Also see commentary on mortality assumptions that accompanies Table 4.6 in this report.
[9] Of the 444 plans that used a going concern interest rate assumption in the range of 6.50% to 6.99%, 376 plans used an interest rate of 6.50%.

- For final average earnings plans, the difference between the interest assumption and the salary increase assumption used in going concern valuations typically fell within a range of 1.5% to 3.0% inclusive (accounting for 85% of all plans providing final average benefits).[10] The average spread between the interest assumption and the salary increase assumption was 2.24%

**Chart 2.12 - Interest Salary Differential for Final Average Plans**




- Table 2.13 shows the total wind up expense allowance made in solvency valuations by plan membership size, including members, former members and other beneficiaries.[11] The expense allowance is also expressed in average dollar amounts per plan and per plan member. The average expense allowance per member generally decreases as plan membership size increases. The reverse pattern appears for plans with 10,000 or more members. Because there are only a small number of plans in the last two size categories (i.e., more than 5,000 members), greater caution should be exercised when interpreting the results for plans of this size.

  The average per member wind up expense allowances are generally comparable to those previously reported in the Sixth Annual Report, with a modest increase for plans with less than 1,000 plan members and a decrease for plans with more than 5,000 plan members.

[10] Of the 60 final average plans with interest-salary differential in the range of 3.00% to 3.49%, 47 plans had an interest-salary differential of 3.00%.

[11] For confidentiality reasons, the two plans with more than 50,000 members and other beneficiaries were excluded from this analysis.

**Table 2.13 - Provision for Wind Up Expenses**

| Plan Membership | Total Plans | Total Membership | Wind Up Expenses | | |
|---|---|---|---|---|---|
| | | | Total WU Expenses | Average Per Plan | Average Per Member |
| <100 | 491 | 22,989 | $ 23,153,861 | $ 47,157 | 1,007 |
| 100-499 | 562 | 137,897 | 64,193,075 | 114,223 | 466 |
| 500-999 | 164 | 115,950 | 37,320,481 | 227,564 | 322 |
| 1,000-4,999 | 210 | 427,751 | 97,975,118 | 466,548 | 229 |
| 5,000-9,999 | 34 | 229,574 | 42,629,000 | 1,253,794 | 186 |
| 10,000-49,999 | 26 | 464,359 | 137,127,000 | 5,274,115 | 295 |
| **Total** | **1,487** | **1,398,520** | **$ 402,398,535** | **$ 270,611** | **$ 288** |

## 3.0 Temporary Funding Relief

This section provides summary membership and funding statistics, as well as the impact on funding costs for plans that utilized the temporary funding relief measures available under the PBA and Regulation.

### 3.1 Specified Ontario Multi-Employer Pension Plans (SOMEPPs)

For a MEPP that elects to be treated as a SOMEPP, the contributions to the plan must not be less than the sum of the normal cost, the special payments for any previously established going concern unfunded liability, and 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 instead of the usual 15 years. Furthermore, there are limitations on benefit improvements, requiring amortization over 8 years under prescribed conditions. There is no requirement to fund on a solvency basis during this period, although solvency valuations are still required to be performed and their results set out in the valuation report[12].

The following tables provide selected statistics on the MEPPs that contain a defined benefit provision. Up to December 31, 2010, 40 of the 70 MEPPs have elected to become a SOMEPP.

**Table 3.1 - Membership Information**

| | # of Plans | Total (*Median*) Membership Count | | | |
|---|---|---|---|---|---|
| | | Active Members | Retired Members | Other Participants | Total |
| SOMEPPs | 40 | 324,106 *(1,697)* | 78,537 *(822)* | 329,417 *(1,395)* | 732,060 *(4,877)* |
| Non-SOMEPPs | 30 | 32,901 *(510)* | 21,284 *(320)* | 23,419 *(328)* | 77,604 *(1,301)* |
| **Total (All MEPPs)** | **70** | **357,007** ***(1,107)*** | **99,821** ***(434)*** | **352,836** ***(768)*** | **809,664** ***(2,550)*** |

**Table 3.2 - Funding Information**

| | Total (*Median*) Value | | | |
|---|---|---|---|---|
| | Market Value of Assets | Solvency Assets ‡ | Solvency Liabilities | Ratio of Solvency Assets to Solvency Liabilities |
| | ($millions) | | | |
| SOMEPPs | $13,313 *($119.4)* | $13,159 *($119.0)* | $20,581 *($157.5)* | 63.9% *(71.4%)* |
| Non-SOMEPPs | $5,040 *($72.4)* | $5,025 *($72.2)* | $5,195 *($83.6)* | 96.7% *(95.8%)* |
| **Total (All MEPPs)** | **$18,353** ***($91.3)*** | **$18,184** ***($90.8)*** | **$25,776** ***($94.4)*** | **70.5%** ***(84.4%)*** |

‡ *Market value of assets less provision for wind up expenses*

The plans that elected to become a SOMEPP tend to be significantly larger than non-SOMEPPs as measured by the size of assets, liabilities and membership. For example, the median size of

[12] Further information on SOMEPPs is available at: http://www.fsco.gov.on.ca/english/pensions/meppsolvency-qanda.asp

solvency liabilities for the SOMEPPs is approximately 88% larger than that for the non-SOMEPPs.

In terms of funding levels, the SOMEPPs are significantly less well funded than the non-SOMEPP plans. The median solvency ratio for the SOMEPPs is 71.4% compared to 95.8% for the non-SOMEPP plans.

### 3.2 2009 Funding Relief

Effective June 23, 2009 and for a temporary period, the administrator of a plan that meets certain criteria may choose one or more of the following three funding relief options in the first filed valuation report with a valuation date on or after September 30, 2008 (referred to as the solvency relief report)[13]:

**Option 1** - Defer, up to one year, the start of special payments required to liquidate any new going concern unfunded liability or new solvency deficiency determined in the solvency relief report.

**Option 2** - Consolidate special payments for pre-existing solvency deficiencies into a new five-year payment schedule that starts on the valuation date of the solvency relief report.

**Option 3** - With the consent of members and former members, extend the period for liquidating the new solvency deficiency from 5 years to a maximum of 10 years.

Up to December 31, 2010, a total of 1,092 non-designated DB plans filed a valuation report with FSCO that had a valuation date on or after September 30, 2008[14]. Of these, 319 (29%) plans elected one or more of the funding relief options (Electing Plans) and 773 (71%) plans did not elect any relief (Non-Electing Plans).

**Table 3.3 - Membership Information***

| | # of Plans | Total (*Median*) Membership Count | | | |
|---|---|---|---|---|---|
| | | **Active Members** | **Retired Members** | **Other Participants** | **Total** |
| Electing Plans | 319 | 116,465 *(107)* | 130,836 *(64)* | 42,789 *(35)* | 290,090 *(206)* |
| Non-Electing Plans | 773 | 1,204,627 *(73)* | 583,170 *(52)* | 563,206 *(37)* | 2,351,003 *(162)* |
| **Total (All Plans)** | **1,092** | **1,321,092 *(180)*** | **714,006 *(116)*** | **605,995 *(72)*** | **2,641,093 *(368)*** |

**** Based on the solvency relief report***

[13] Further information is available at: http://www.fsco.gov.on.ca/english/pensions/solvency-qanda.asp

[14] This number includes 111 Frozen DB Plans and 5 public sector pension plans that were excluded from the funding data analysis as described in Section 2.0 of this report.

**Table 3.4 - Funding Information***

| | Total (*Median*) Value | | |
|---|---|---|---|
| | **Solvency Assets** | **Solvency Liabilities** | **Ratio of Solvency Assets to Solvency Liabilities** |
| Electing Plans | $29,153 *($15)* | $43,335 *($18)* | 67.5% *(76.3%)* |
| Non-Electing Plans | $241,707 *($11)* | $261,863 *($14)* | 92.3% *(82.7%)* |
| **Total ($ millions)** | **$270,860 *($13)*** | **$270,860 *($16)*** | **88.8% *(82.3%)*** |

**** Based on the solvency relief report***

Electing Plans tend to be larger than Non-Electing plans as measured by the size of assets, liabilities, and membership. For example, the median size of solvency liabilities in respect of the Electing Plans is approximately 29% larger than that of the Non-Electing Plans.

In terms of funding levels, the Electing Plans are generally less well funded than the Non-Electing Plans. The median solvency ratio for the Electing Plans is 76.3% compared to 82.7% for the Non-Electing Plans.

Table 3.5 shows the distribution of the options elected by the Electing Plans. As can be seen, the combined use of Options 1 and 2 was the most prevalent choice, accounting for 52.0% of all plan elections. The next most common choice was Option 1 only at 26.4% of plan elections, followed by Option 2 only and "All Options", each of which were chosen by 7.5% of the Electing Plans.

**Table 3.5 - Distribution of Funding Relief Options**

| Election | Number of Plans | % of Plans |
|---|---|---|
| Option 1 only | 84 | 26.4% |
| Option 2 only | 24 | 7.5% |
| Option 3 only | 7 | 2.2% |
| Option 1 and 2 | 166 | 52.0% |
| Option 1 and 3 | 12 | 3.8% |
| Option 2 and 3 | 2 | 0.6% |
| All Options | 24 | 7.5% |
| **Total** | **319** | **100.0%** |

In order to assess the cash funding implications of these relief measures, we compared the minimum levels of required contributions before and after the application of funding relief, for the 12-month period following the valuation date of the solvency relief reports filed by the Electing Plans. As shown in Table 3.6, the required funding contributions for Electing Plans were reduced significantly. Specifically, their minimum required contributions were reduced from $3,302 million to $1,675 million, a reduction of approximately $1,627 million or 49%. It is also noted that the bulk of the reduction (95%) was attributable to the lower solvency special payments.

**Table 3.6 - Required Contributions in the 12-month Period Commencing on the Valuation Date of the Solvency Relief Report**

| Required Contributions | Before Application of Funding Relief | After Application of Funding Relief | Reduction in Required Contributions |
|---|---|---|---|
| | ($ Millions) | | |
| Employer Normal Cost | $514 | $514 | $0 |
| Going Concern Special Payments | $690 | $612 | $78 |
| Solvency Special Payments | $2,098 | $549 | $1,549 |
| **Total Minimum Required Contributions** | **$3,302** | **$1,675** | **$1,627** |

# 4.0 Trends Analysis

The following trends analysis incorporates data from all filed reports with valuation dates between July 1, 2006 and June 30, 2010.

## 4.1 Solvency Funded Status

Table 4.1 shows a breakdown of plans by solvency ratios for the following valuation years[15]:

- 2006 valuation year: July 1, 2006 to June 30, 2007
- 2007 valuation year: July 1, 2007 to June 30, 2008
- 2008 valuation year: July 1, 2008 to June 30, 2009
- 2009 valuation year: July 1, 2009 to June 30, 2010

The majority of plans have a valuation date of either December 31 or January 1. Plans having solvency concerns are required to file valuation reports annually and, therefore, would appear in our database for more than one valuation year.

**Table 4.1 - Solvency Ratios by Valuation Year**

| Solvency Ratio (SR) | 2006 | | 2007 | | 2008 | | 2009 | |
|---|---|---|---|---|---|---|---|---|
| | # of Plans | % of Plans | # of Plans | % of Plans | # of Plans | % of Plans | # of Plans | % of Plans |
| SR < 0.60 | 21 | 2.3% | 14 | 2.0% | 39 | 7.7% | 16 | 2.1% |
| 0.60 ≤ SR < 0.80 | 159 | 17.7% | 126 | 17.6% | 269 | 53.0% | 320 | 41.0% |
| **Sub-Total < 0.8** | **180** | **20.0%** | **140** | **19.6%** | **308** | **60.7%** | **336** | **43.1%** |
| 0.80 ≤ SR < 0.90 | 290 | 32.2% | 240 | 33.5% | 96 | 18.9% | 288 | 36.9% |
| 0.90 ≤ SR < 1.00 | 248 | 27.6% | 193 | 27.0% | 51 | 10.0% | 95 | 12.2% |
| **Sub-Total < 1.00** | **718** | **79.8%** | **573** | **80.1%** | **455** | **89.6%** | **719** | **92.2%** |
| 1.00 ≤ SR < 1.20 | 138 | 15.3% | 109 | 15.2% | 39 | 7.7% | 47 | 6.0% |
| SR ≥1.20 | 44 | 4.9% | 34 | 4.7% | 14 | 2.7% | 14 | 1.8% |
| **Total** | **900** | **100.0%** | **716** | **100.0%** | **508** | **100.0%** | **780**[16] | **100.0%** |
| Median Ratio | 0.89 | | 0.89 | | 0.77 | | 0.81[17] | |

Table 4.1 above shows that the solvency ratios improved somewhat in 2009, partially recovering from the significant decline in 2008. However, they have not recovered to the pre-2008 levels.

[15] The numbers of plans for 2006-2008 inclusive may differ from those reported in the Sixth Annual Report due to (a) reports filed after last year's cutoff date of December 31, 2009, (b) plans that have been wound up, converted to a DC arrangement, or became a Frozen DB plan with no DB/DC accruals, and (c) inclusion of Frozen Hybrid plans in our analysis starting with this Seventh Annual Report.

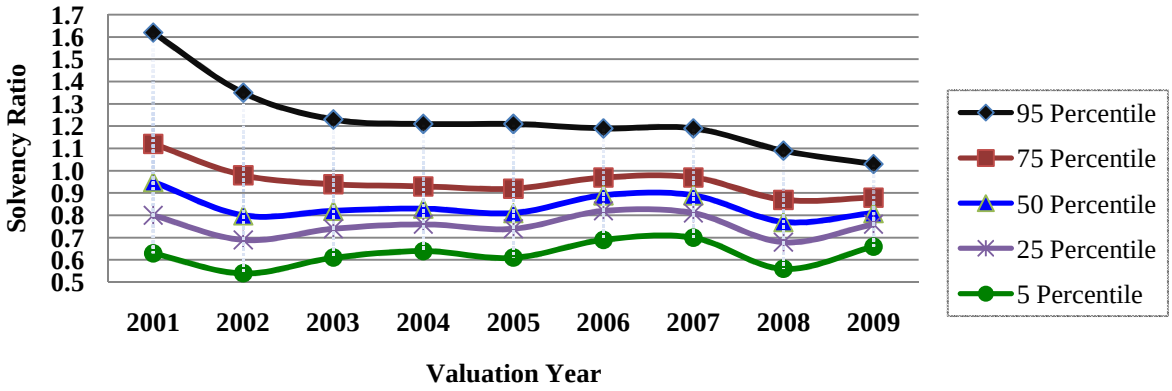
[16] There was a significant increase in the number of reports from the 2008 to the 2009 valuation year. This may be due to a reduction in the number of voluntary early filings for 2008 due to the financial crisis that year.

[17] This median solvency ratio pertains only to those plans that have filed a 2009 valuation. This differs from the median solvency ratio shown in Table 2.7 as that ratio is based on all plans included in the funding data analysis, some of which would have a valuation prior to 2009.

The percentage of plans with a solvency ratio less than 0.80 decreased from 60.7% in 2008 to 43.1% in 2009. However, the proportion of underfunded plans on a solvency basis (i.e., solvency ratio less than 1.0) increased in 2009 to 92.2%, its highest level over the last four years.

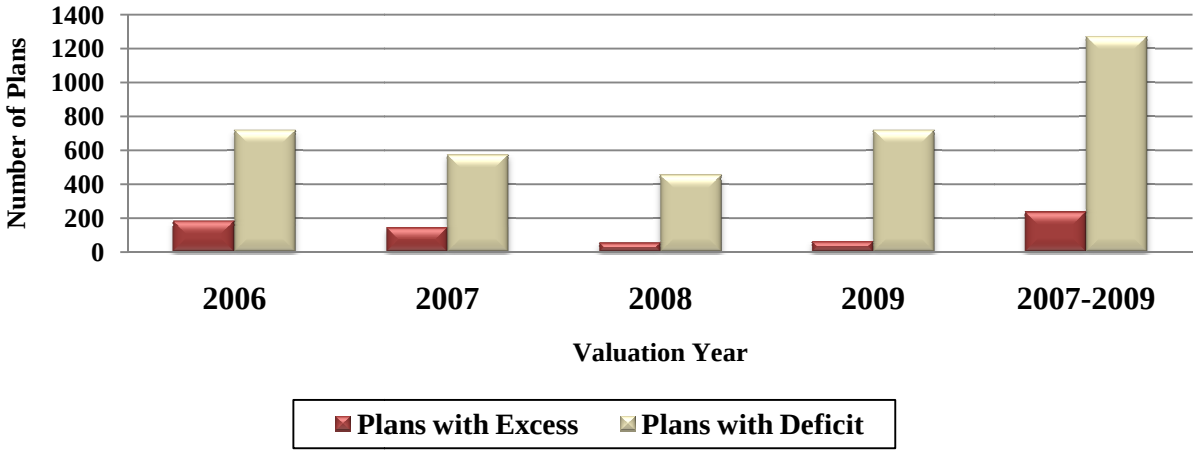
Chart 4.2 shows the distribution of solvency ratios at different percentiles from 2001 to 2009. Of note, the solvency ratios at all percentiles declined sharply from the 2007 valuation year to the 2008 valuation year but the solvency ratios at 75 percentile or lower have increased somewhat in the 2009 valuation year.

**Chart 4.2 - Solvency Ratios: 2001 to 2009**



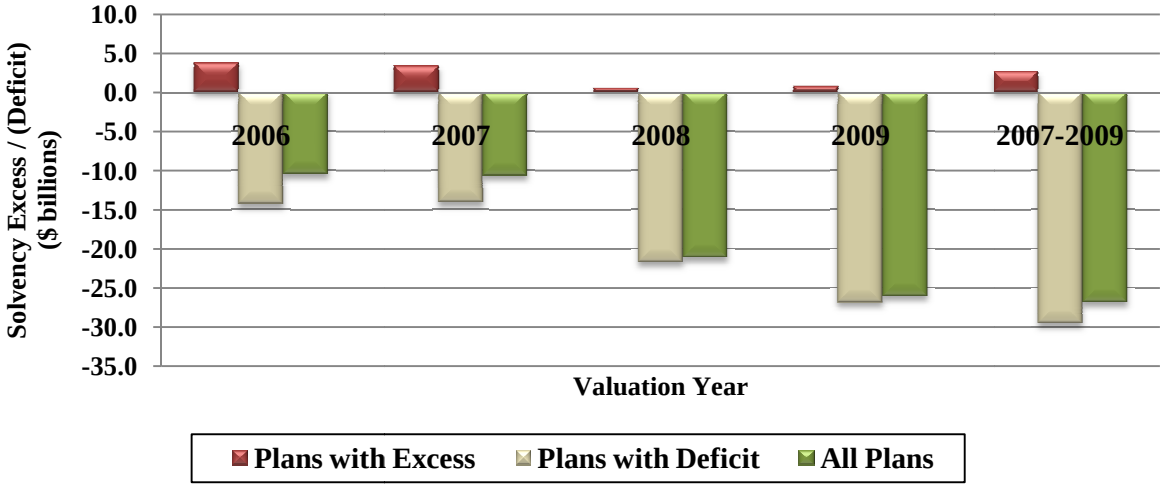
Charts 4.3 and 4.4 below compare plans with a solvency excess to those with a solvency deficit for each of the four valuation years from 2006 to 2009, as well as for the three-year valuation period of 2007 to 2009[18]. Chart 4.3 compares the number of plans and Chart 4.4 compares the amount of solvency excess (deficit).

**Chart 4.3 - Solvency Funding Positions of Ontario DB Plans (Number of Plans)**




The number of plans with solvency excesses has remained well below the number of plans with solvency deficits.

**Chart 4.4 - Solvency Funding Position of Ontario DB Plans (Amount of Solvency Excess / (Deficit))**




[18] Individual valuation years include those plans that filed a report with a valuation date that fell during that individual year. The 2007-09 period includes only the last funding valuation report filed for a plan with a valuation date falling in the period July 1, 2007 to June 30, 2010. The sum of the number of plans included in each of the 2007, 2008 and 2009 valuation years is therefore higher than the number of plans included in the combined period 2007-2009.

On a dollar amount basis, plans that filed a report within the three valuation years 2007 to 2009 reported a *net* solvency deficit of $26.9 billion (after allowance for expenses) on solvency liabilities of $163.8 billion. This represents the aggregate level of under-funding for the DB plans registered in Ontario, exclusive of the seven large public sector plans and the other excluded plans previously described. In contrast, the *net* solvency deficit reported in the Sixth Annual Report was $19.6 billion. Under the Regulation, where a funding valuation report filed with FSCO discloses that a solvency deficiency exists, the employer is required to make special payments to eliminate the deficiency within 5 years. These rules are modified for plans that have availed themselves of either the solvency relief measures or that have been accepted as a SOMEPP.

Ontario's legislation allows certain benefits (e.g., post-retirement indexation, consent benefits, plant closure and permanent layoff benefits) to be excluded in the calculation of solvency liabilities. There were 258 plans that excluded one or more of these benefits, resulting in a reduction of liabilities in the amount of $14.0 billion. Thus, the aggregate *wind up* funding shortfall for those plans that filed a report within the three valuation years 2007 to 2009 would have exceeded their *net* solvency deficit by the same amount. This translates into a wind up funding deficit of $40.9 billion ($26.9 plus $14.0), after allowance for expenses, on wind up liabilities of $177.8 billion. It measures the extent of funding shortfall of all Ontario DB pension plans if they were to have wound up at their last valuation dates. Of course, this only depicts a hypothetical scenario as the majority of pension plans still continue.

## 4.2 Actuarial Assumptions

Table 4.5 shows the interest rate assumptions used in the going concern valuations. Since 2006, there has been a clear trend to use a lower interest rate assumption. This downward trend has been reported since we started publishing trend statistics for valuation years after 2000.

**Table 4.5 - Interest Rate Assumption by Valuation Year**

| Rate (%) | 2006 | | 2007 | | 2008 | | 2009 | |
|---|---|---|---|---|---|---|---|---|
| | # of Plans | % of Plans | # of Plans | % of Plans | # of Plans | % of Plans | # of Plans | % of Plans |
| Rate < 5.00 | 12 | 1.3% | 13 | 1.8% | 18 | 3.5% | 19 | 2.4% |
| 5.00 ≤ Rate < 5.50 | 39 | 4.3% | 33 | 4.6% | 34 | 6.7% | 71 | 9.1% |
| 5.50 ≤ Rate < 6.00 | 126 | 14.0% | 91 | 12.7% | 70 | 13.8% | 160 | 20.5% |
| 6.00 ≤ Rate < 6.50 | 277 | 30.9% | 292 | 40.9% | 196 | 38.6% | 307 | 39.4% |
| 6.50 ≤ Rate < 7.00 | 372 | 41.3% | 260 | 36.3% | 180 | 35.4% | 216 | 27.7% |
| 7.00 ≤ Rate < 7.50 | 74 | 8.2% | 26 | 3.6% | 9 | 1.8% | 7 | 0.9% |
| Rate ≥ 7.50 | 0 | 0.0% | 1 | 0.1% | 1 | 0.2% | 0 | 0.0% |
| **Total** | **900** | **100.0%** | **716** | **100.0%** | **508** | **100.0%** | **780** | **100.0%** |
| Average (%) | 6.22% | | 6.16% | | 6.09% | | 6.01% | |

The average of the assumed interest rates declined from 6.22% to 6.01% over the four valuation years 2006 to 2009. As for the 2008 valuation year, the most prevalent assumed interest rates for 2009 remained within the 6.00% to 6.49% range.

The proportion of plans using an interest rate assumption of 7% or higher has decreased each year. Over 99% of the plans with a 2009 valuation used an assumed interest rate below 7%.

Table 4.6 shows the distribution of the mortality tables used in going concern valuations. In the 2009 valuation year, all but one plan is now using more up-to-date mortality tables, i.e., the 1994 tables (GAM, GAR, UP) and the use of the 1983 GAM table has virtually ceased.[19]

**Table 4.6 - Mortality Assumption by Valuation Year**

| Mortality Assumption | 2006 | | 2007 | | 2008 | | 2009 | |
|---|---|---|---|---|---|---|---|---|
| | # of Plans | % of Plans | # of Plans | % of Plans | # of Plans | % of Plans | # of Plans | % of Plans |
| 1983 GAM | 12 | 1.3% | 8 | 1.1% | 4 | 0.8% | 1 | 0.1% |
| 1994 GAM static | 53 | 5.9% | 12 | 1.7% | 7 | 1.4% | 5 | 0.6% |
| 1994 GAR | 14 | 1.6% | 8 | 1.1% | 11 | 2.2% | 9 | 1.2% |
| 1994 UP | 798 | 88.6% | 665 | 92.9% | 471 | 92.6% | 723 | 92.7% |
| Other | 23 | 2.6% | 23 | 3.2% | 15 | 3.0% | 42 | 5.4% |
| **Total** | **900** | **100.0%** | **716** | **100.0%** | **508** | **100.0%** | **780** | **100.0%** |

Other than for the 1994 GAR table which uses generational mortality (i.e. includes projected mortality improvements), sufficient information was not available to identify whether projected mortality improvements had been incorporated into the mortality tables used for valuations. The necessary data to do this analysis is being collected and this information will be shown in future reports as the data becomes available.

[19] All of the plans in 2009 using "Other" mortality assumptions (43 of them) used other post-1994 mortality tables – e.g., RP2000.

## 5.0 Investment Data Analysis

The plans included in the investment data analysis were those of the 1,506 plans summarized in Table 2.1 that have filed an IIS for the most recent monitoring cycle (which covers plans whose plan fiscal year end date was between July 1, 2009 and June 30, 2010). There are 1,315 plans in this subset[20], representing 87% of the total.

For hybrid plans, only the defined benefit component of the pension fund is included in the data.

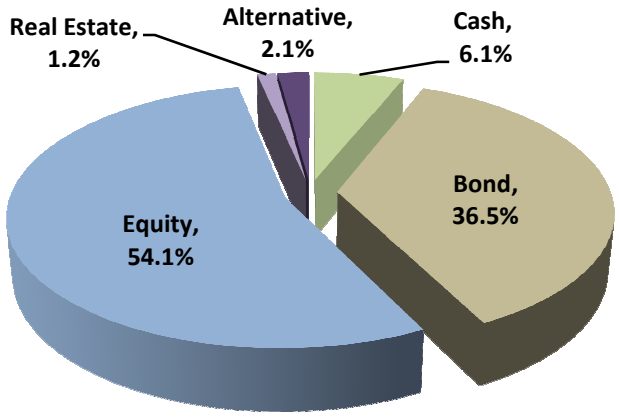
### 5.1 Summary of Pension Fund Profiles (2009/2010)[21]

The asset mix of the 1,315 pension funds, as a whole, for the most recent monitoring cycle is described in Table 5.1 and depicted in Chart 5.1.

**Table 5.1 – Investment Profile of All Plans as a Whole**

| | Asset Class[22] | Market Value ($Millions) | % of Total Investments |
|---|---|---|---|
| **Asset Mix** | Cash | $7,828 | 6.1% |
| | Bond | $47,078 | 36.5% |
| | Equity | $69,821 | 54.1% |
| | Real Estate | $1,561 | 1.2% |
| | Alternative Investments[23] | $2,732 | 2.1% |
| | **Total** | **$129,020** | **100.0%** |

**Chart 5.1: Asset Mix of All Plans as a Single Portfolio**




[20] Plans included in the funding data analysis that are not in the investment data analysis are primarily plans with outstanding IIS filings.
[21] The analysis in this section is based on the subset of the plans summarized in Table 2.1 that have filed an IIS in respect of a fiscal year end date between July 1, 2009 and June 30, 2010. There are 1,315 plans in this subset.
[22] Plan assets invested in pooled funds totaling $51,719 million or 40.1% of total investments. Pooled funds are included in the asset mix of all plans based on their underlying asset classes.
[23] Alternative Investments include hedge funds, private equity, infrastructure, currency hedging, resource properties, commodities, etc.

On a broad basis, fixed income assets consisting of cash and bonds constitute 43% of total investments, whereas non-fixed income assets consisting of equity, real estate and alternative investments constitute 57% of total investments.

## 5.2 Summary of Fund Performance (2009/2010)[24]

This section provides statistics on asset mix and investment performance by various categories for the latest monitoring cycle.

The 1,315 plans included in the analysis are very diverse. To illustrate the investment results for pension plans that have different characteristics, the asset mix and performance data are presented by different plan type, benefit type, plan size, solvency ratio and percentage invested in pooled funds.

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. "Return" means the rate of return, net of all investment expenses, while "Average Investment Fees" means the average expenses paid from the pension plan that are related to managing the pension plan's investments, expressed as a percentage of average assets during the reporting year. The previous report contained information about the investment performance of pension plans relative to benchmarks. This information is no longer being reported because the data from the IIS filing does not allow benchmarks to be reliably determined.

### By Plan Type

The investment profile of single employer pension plans (SEPPs) and MEPPs is given below. The asset mix and average performance returns are shown in Table 5.2A, while the percentile performance returns appear in Table 5.2B.

**Table 5.2A – Investment Results by Plan Type**

| Plan Type | | SEPP | MEPP | All Plans |
|---|---|---|---|---|
| # of Plans | | 1,251 | 64 | 1,315 |
| **Asset Mix** | Fixed Income | 43.3% | 38.0% | 42.6% |
| | Non-Fixed Income | 56.7% | 62.0% | 57.4% |
| | | | | |
| **Performance** | Average Return[25] | 15.05% | 15.18% | 15.05% |
| | Average Investment Fees | 0.52% | 0.39% | 0.52% |

[24] The analysis in this section is based on the subset of the plans summarized in Table 2.1 that have filed an IIS in respect of a fiscal year end date between July 1, 2009 and June 30, 2010. There are 1,315 plans in this subset.
[25] The average return in this table and those in Tables 5.3-5.6 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 pension funds is 14.26%, compared to 15.05% on an equally-weighted basis shown in this table.

**Table 5.2B – Performance Result Percentiles by Plan Type**

| Plan Type | SEPP | MEPP | All Plans |
|---|---|---|---|
| **Investment Returns** | | | |
| 90th Percentile | 20.28% | 19.33% | 20.24% |
| 75th Percentile | 17.44% | 17.10% | 17.43% |
| Median | 15.24% | 15.71% | 15.26% |
| 25th Percentile | 12.93% | 13.40% | 12.95% |
| 10th Percentile | 9.50% | 11.75% | 9.74% |
| | | | |
| **Investment Fees** | | | |
| 90th Percentile | 0.95% | 0.52% | 0.94% |
| 75th Percentile | 0.63% | 0.43% | 0.62% |
| Median | 0.42% | 0.37% | 0.41% |
| 25th Percentile | 0.29% | 0.33% | 0.29% |
| 10th Percentile | 0.16% | 0.25% | 0.16% |

## By Benefit Type

The investment profile of pension plans with various benefit types is given in Table 5.3.

**Table 5.3 – Investment Results by Benefit Type[26]**

| Benefit Type | | FAE | CAE | FB | Hybrid | All Plans |
|---|---|---|---|---|---|---|
| # of Plans | | 490 | 159 | 270 | 396 | 1,315 |
| **Asset Mix** | Fixed Income | 39.7% | 43.1% | 43.1% | 45.8% | 42.6% |
| | Non-Fixed Income | 60.3% | 56.9% | 56.9% | 54.2% | 57.4% |
| | | | | | | |
| **Performance** | Average Return | 15.02% | 14.87% | 15.15% | 15.11% | 15.05% |
| | Average Investment Fees | 0.48% | 0.55% | 0.57% | 0.52% | 0.52% |

## By Plan Size

The investment profile of pension funds of various sizes is given in Table 5.4.

**Table 5.4 – Investment Results by Plan Size**

| Size of Plan Assets | | Small (<$25 Million) | Medium (>$25M, <$250M) | Large (>$250 Million) | All Plans |
|---|---|---|---|---|---|
| # of Plans | | 811 | 410 | 94 | 1,315 |
| **Asset Mix** | Fixed Income | 43.0% | 42.5% | 42.5% | 42.6% |
| | Non-Fixed Income | 57.0% | 57.5% | 57.5% | 57.4% |
| | | | | | |
| **Performance** | Average Return | 15.04% | 15.32% | 14.04% | 15.05% |
| | Average Investment Fees | 0.64% | 0.36% | 0.30% | 0.52% |

[26] MEPPs are included in the various benefit type categories to which they belong.

**By Solvency Ratio**
The investment profile of pension plans with various solvency ratios is given in Table 5.5.

**Table 5.5 – Investment Results by Solvency Ratio (SR)**

| Solvency Ratio (SR) | | SR < 0.8 | 0.8≤SR<1 | SR ≥ 1.0 | All Plans |
|---|---|---|---|---|---|
| # of Plans | | 308 | 795 | 212 | 1,315 |
| **Asset Mix** | Fixed Income | 44.0% | 41.3% | 42.7% | 42.6% |
| | Non-Fixed Income | 56.0% | 58.7% | 57.3% | 57.4% |
| | | | | | |
| **Performance** | Average Return | 15.40% | 15.28% | 13.70% | 15.05% |
| | Average Investment Fees | 0.52% | 0.50% | 0.56% | 0.52% |

**By Percentages Invested in Pooled Funds**
The results for plans with various percentages invested in pooled funds are given in Table 5.6.

**Table 5.6 – Investment Results by Percentage Invested in Pooled Funds**

| Percentage Invested in Pooled Funds | | < 20% | 20% to 80% | > 80% | All Plans |
|---|---|---|---|---|---|
| # of Plans | | 207 | 212 | 896 | 1,315 |
| **Asset Mix** | Fixed Income | 47.4% | 37.9% | 40.6% | 42.6% |
| | Non-Fixed Income | 52.6% | 62.1% | 59.4% | 57.4% |
| | | | | | |
| **Performance** | Average Return | 14.39% | 15.16% | 15.18% | 15.05% |
| | Average Investment Fees | 0.42% | 0.36% | 0.58% | 0.52% |

## 5.3 Investment Observations

This section presents some key observations of the analyses set out in sections 5.1 and 5.2. The focus is on those findings that are both sufficiently recognizable for 2009 and commonly evident for the previous monitoring cycles. These observations are as follows:

- The typical asset mix of pension funds changed from a fixed income/non-fixed income split of 45%/55% in 2008 to a split of 43%/57% in 2009.

- Pension funds of MEPPs generally invested more in non-fixed income assets than SEPPs.

- There do not seem to be significant differences in asset mix, average return and average investment fees between different benefit types.

- As expected, large plans have lower investment fees than small plans. However, large plans had lower average return than smaller plans in 2009.

# 6.0 2010 Projections

## 6.1 Estimated DB Funding Contributions in 2010

Table 6.1 presents the estimated funding contributions – comprising normal costs and special payments – that are expected to be made in respect of the DB plans in 2010, including those related to defined benefit provisions under hybrid plans. The estimates are based on the information from the most recently filed funding valuation reports with valuation dates between July 1, 2007 and June 30, 2010.[27]

**Table 6.1 - Estimated DB Funding in 2010 ($ Millions)**

| | Plans with Solvency Excess | Plans with Solvency Deficit | All Plans |
|---|---|---|---|
| Number of Plans | 241 | 1,265 | 1,506 |
| | | | |
| Employer Normal Cost Contributions | $699 | $2,558 | $3,257 |
| Member Required Contributions | $181 | $409 | $590 |
| **Sub-total** | **$880** | **$2,967** | **$3,847** |
| Special Payments | $42 | $4,241 | $4,283 |
| **Total** | **$922** | **$7,208** | **$8,130** |

The total DB funding contributions in 2010 are estimated to be $8.1 billion, which is higher than the estimated contributions for 2009 of $6.7 billion set out in the Sixth Annual Report. The increase of $1.4 billion is made up of the changes in the following factors:

- An increase of $1,504 million in the required special payments (primarily from solvency special payments); and
- A decrease of $87 million in the required employer normal cost and member contributions.

The special payments of $4.3 billion represent 53% of the total estimated 2010 funding contributions of $8.1 billion.

The table also provides a breakdown of the estimated funding contributions between plans that had a solvency excess and plans that had a solvency deficit. The aggregate special payments of $42 million for plans with a solvency excess represent 5% of the total contributions of $0.9 billion for these plans. This compares with the aggregate special payments of $4.2 billion for plans with a solvency deficit, which represent about 58% of the total contributions of $7.2 billion for these plans.

[27] For plans where AIS reported contributions did not extend to the end of 2010, the 2010 estimated contributions were determined assuming contributions would continue at the same rate as that reported for the valuation period.

The estimated 2010 funding contributions are determined without considering the existence of a prior year credit balance or funding excess, which can be used to reduce required contributions during the valuation period. A total of $801.1 million of prior year credit balances were reported for 147 plans that had a non-zero prior year credit balance.

## 6.2 Projected Solvency Position as at December 31, 2010

This section presents a projection of the solvency funding position of DB plans to the end of 2010 by capturing the impact of investment returns, changes in solvency interest rates and the special payments expected to be made during 2010. The methodology and assumptions used are described below.

### *Methodology and Assumptions*

The results reported in the last filed funding valuations (i.e., assets and liabilities) were first adjusted, where appropriate, to reflect the financial conditions as at December 31, 2009. Projections were then made to the end of 2010 based on the following assumptions:

- Sponsors would use all available funding excess and prior year credit balance, subject to any statutory restrictions, for contribution holidays;

- Sponsors would make the normal cost contributions and special payments, if required, at the statutory minimum level; and

- Amounts of cash outflow would be the same as the pension amounts payable to retired members as reported in the last filed funding valuation; plan administration costs were not reflected.

The median investment returns of pension funds (shown in Table 6.2 below) were used to project the market value of assets. The actual investment performance of individual plans was not reflected.

**Table 6.2 – Median Pension Fund Returns**

| Year | Annual Rate of Return[28] |
|---|---|
| 2006 | 12.3% |
| 2007 | 1.5% |
| 2008 | -15.9% |
| 2009 | 16.2% |
| 2010 | 9.8% |

[28] For years 2006 to 2009, the rates are the median investment returns of pension funds provided in the Canadian Institute of Actuaries' *A Report on Canadian Economic Statistics 1924-2009*, dated March 2010. The rate for 2010 is derived from a representative weighted average of the 2010 return on the S&P/TSX index (30%), the MSCI World index (25%) and the DEX Universe Bond Index (45%). Note that the projected solvency ratio as at December 31, 2009 shown in the Sixth Annual Report was determined using an annual rate of return of 15.6% for 2009.

The projected liabilities as at December 31, 2009 and December 31, 2010 were determined by extrapolating the solvency liabilities from the last valuation, and then adjusting them to reflect any changes in the solvency valuation basis, as provided in Table 6.3.

**Table 6.3 – Solvency Liability Projection Basis**

| Valuation Date | Commuted Value Basis[29] | Annuity Purchase Basis[30] |
|---|---|---|
| December 31, 2009 | Interest: 3.90% for 10 years, 5.40% thereafter<br>Mortality: 1994 UP projected to 2020 | Interest: 4.59%<br><br>Mortality: 1994 UP projected to 2015 |
| December 31, 2010 | Interest: 3.30% for 10 years, 5.00% thereafter<br>Mortality: 1994 UP projected to 2020 | Interest: 4.58%<br><br>Mortality: 1994 UP projected to 2020 |

***Projection Results***

Table 6.4 presents the distribution of solvency ratios that were reported in the filed funding valuations and the distribution of projected solvency ratios (PSRs) derived from the projected assets and liabilities.

**Table 6.4 - Distribution of Solvency Ratios**

| Distribution of Solvency Ratio | As at Last Filed Valuation | PSR as at December 31, 2009 | PSR as at December 31, 2010 |
|---|---|---|---|
| 10th percentile | 74% | 74% | 75% |
| 25th percentile | 79% | 79% | 80% |
| **50th percentile** | **86%** | **84%** | **85%** |
| 75th percentile | 95% | 90% | 91% |
| 90th percentile | 104% | 102% | 101% |

[29] The commuted value basis used for the December 31, 2009 and December 31, 2010 solvency projections in this report is based on the Canadian Institute of Actuaries' Standards of Practice – Practice-Specific Standards for Pension Plans, Section 3500 on Pension Commuted Values, dated June 2010.

[30] The interest rate for annuity purchase at December 31, 2010 is derived based on the recommendation for the period September 30, 2010 to December 30, 2010, inclusive, as set out in the Canadian Institute of Actuaries' Memorandum of November 5, 2010 providing Guidance for Assumptions for Hypothetical Wind-Up and Solvency Valuations Update – November 2010**.** Specifically, the rate is calculated as the December CANSIM V39062 rate plus 110 bps.

As can be seen from the above table, the median PSR is projected to improve from 84% to 85% between December 31, 2009 and December 31, 2010. The slight improvement in the median PSR is the net effect of the following factors:

- Assumed pension fund returns in 2010 being higher than the valuation discount rates used at December 31, 2009;
- The extent by which expected contributions made during 2010 were in excess of the increase in solvency liabilities due to benefit accruals in 2010; and;
- Solvency valuation basis used to calculate the solvency liabilities at December 31, 2010 being stronger than that used at December 31, 2009.

Of note, the median investment return for pension funds in 2010 is assumed to be 9.8% (see Table 6.2), which is higher than the valuation discount rates used at December 31, 2009 and would have the effect of improving the solvency funded status. However, the solvency liability valuation basis was affected during 2010 by falling interest rates and the use of lower mortality rates, both of which would increase liabilities thereby reducing the solvency funded status.

## 7.0 Glossary

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

**Defined Benefit 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 3 or 5) 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; and
- **Flat Benefit** – the benefit is based on a fixed dollar amount for each year of service.

**Defined Contribution Pension Plan**: In a defined contribution plan, the amount of the pension benefit is based solely on the amount contributed to the member's individual account together with any expenses and investment returns allocated to that account.

**Frozen Hybrid:** Pension plans in which members have a frozen Defined Benefit entitlement but are accruing future Defined Contribution benefits.

**Funded Ratio**: The funded ratio of a plan is the ratio of the plan's assets to the plan's liabilities.

**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, for example, indexation, prospective benefit increases, or plant closure/layoff benefits.

**Hybrid Pension Plan**: A hybrid pension plan contains both defined benefit and defined contribution provisions.

**Investment Return**: Rate of return on the pension fund for the reporting year, net of all investment expenses.

**Liability and Asset Valuation Methods**: These are the actuarial methods used by actuaries to value the liabilities and assets of a pension plan.

**Multi-Employer Pension Plan (MEPP)**: A multi-employer pension plan covers the employees of two or more employers and is specifically defined in the legislation. Typically, these plans provide defined benefits but the required contributions are negotiated through collective bargaining.

**Smoothed Market Value**: The smoothed market value is determined by using an averaging method that stabilizes short-term fluctuations in the market value of plan assets, normally calculated over a period of not more than five years.

# 8.0 Appendix – Additional Information for Plans in Funding Data Analysis

This appendix provides additional details of the profile of the plans that have been included in the funding data analysis. The dataset consists of DB pension plans that have filed funding valuation reports with valuation dates between July 1, 2007 and June 30, 2010. Please refer to **Section 2.0 – Funding Data Analysis** of this report for details of how the dataset was compiled.

Table 8.1 shows a reconciliation of the 1,539 plans analyzed in the 6th Annual Report to the 1,506 plans analyzed in the current report.

**Table 8.1 – Reconciliation of Plans from Sixth Annual Report to Seventh Annual Report**

| Plan Type: | Final Average | Career Average | Flat Benefit | Hybrid | Frozen Hybrid | MEPP | TOTAL |
|---|---|---|---|---|---|---|---|
| **Sixth Annual DB Report** | **640** | **197** | **322** | **310** | **0** | **70** | **1,539** |
| New Plans / Spin-offs | 2 | 2 | | | | | 4 |
| Previously Designated Plan | 1 | | | 1 | | | 2 |
| Previously Out of Province | | | | 3 | | | 3 |
| Filed outstanding report * | | | 1 | | | | 1 |
| Previously Frozen Plan | 1 | | 1 | 1 | | | 3 |
| Change in Benefit Type | | | | | | | |
| • FAE | (54) | | 1 | 53 | | | 0 |
| • CAE | | (10) | | 10 | | | 0 |
| • FB | 7 | 2 | (20) | 11 | | | 0 |
| • Hybrid | 1 | | 1 | (2) | | | 0 |
| Frozen DB (excluded from analysis) | (16) | (5) | (5) | (8) | | | (34) |
| Wind up (excluded from analysis) | (31) | (13) | (39) | (6) | | | (89) |
| Change to Designated Status | (1) | | | | | | (1) |
| Plans with Reports Outstanding ** | (1) | (1) | | (2) | | | (4) |
| DC conversion | (1) | | | | | | (1) |
| Frozen Hybrid Plan | | | | | 83 | | 83 |
| **Seventh Annual DB Report** | **548** | **172** | **262** | **371** | **83** | **70** | **1,506** |

* *These are plans that were not included in last year's analysis because they did not file a funding valuation report with a valuation date between July 1, 2006 and June 30, 2009. They have since filed a funding valuation report with a valuation date between July 1, 2007 and June 30, 2010.*

** *These are plans that were included in last year's analysis but are omitted from this year's analysis because they did not file a funding valuation report with a valuation date between July 1, 2007 and June 30, 2010. As such they are considered to have a report outstanding because of the requirement to file a report on at least a triennial basis.*

Table 8.2 compares the number of plans analyzed in the current report with the plans analyzed in previous reports.

**Table 8.2 – Plans Included in Current and Previous Reports by Plan/Benefit Type**

| Year | Final Average | Career Average | Flat Benefit | Hybrid | Frozen Hybrid | MEPP | Total |
|---|---|---|---|---|---|---|---|
| 2011 | 548 | 172 | 262 | 371 | 83 | 70 | 1,506 |
| 2010 | 640 | 197 | 322 | 310 | n/a | 70 | 1,539 |
| 2009 | 619 | 220 | 338 | 315 | n/a | 72 | 1,564 |
| 2008 | 663 | 236 | 362 | 292 | n/a | 79 | 1,632 |
| 2007 | 730 | 271 | 394 | 224 | n/a | 79 | 1,698 |
| 2006 | 805 | 293 | 424 | 127 | n/a | 73 | 1,722 |

Table 8.3 shows a breakdown of number of plans by size of plan membership. Table 8.4 shows a breakdown of total members covered by size of plan membership.

**Table 8.3 – Number of Plans by Size of Membership in Plan**

| Number of Members in Plan | Non-MEPP | MEPP | Total |
|---|---|---|---|
| 0 – 49 | 287 | 1 | 288 |
| 50 – 99 | 213 | - | 213 |
| 100 – 249 | 321 | 3 | 324 |
| 250 – 499 | 237 | 4 | 241 |
| 500 – 999 | 155 | 11 | 166 |
| 1,000 – 4,999 | 185 | 26 | 211 |
| 5,000 – 9,999 | 23 | 12 | 35 |
| 10,000 + | 15 | 13 | 28 |
| **Total** | **1,436** | **70** | **1,506** |

**Table 8.4 – Total Membership by Size of Membership in Plan**

| Number of Members in Plan | Non-MEPP | MEPP | Total |
|---|---|---|---|
| 0 – 49 | 7,596 | 35 | 7,631 |
| 50 – 99 | 15,821 | - | 15,821 |
| 100 – 249 | 51,300 | 587 | 51,887 |
| 250 – 499 | 85,051 | 1,592 | 86,643 |
| 500 – 999 | 109,815 | 7,539 | 117,354 |
| 1,000 – 4,999 | 367,599 | 62,961 | 430,560 |
| 5,000 – 9,999 | 151,612 | 85,304 | 236,916 |
| 10,000 + | 267,986 | 651,646 | 919,632 |
| **Total** | **1,056,780** | **809,664** | **1,866,444** |

**Abbreviations**

| | |
|---|---|
| AIS | Actuarial Information Summary |
| CAE | Career Average Earnings |
| DB | Defined Benefit |
| DC | Defined Contribution |
| FAE | Final Average Earnings |
| FB | Flat Benefit |
| FSCO | Financial Services Commission of Ontario |
| FR | Funded Ratio |
| IIS | Investment Information summary Form 8 |
| MEPP | Multi-Employer Pension Plan |
| PBA | Pension Benefits Act (Ontario) |
| PSR | Projected Solvency Ratio |
| SEPP | Single Employer Pension Plan |
| SR | Solvency Ratio |
| SOMEPP | Specified Ontario Multi-Employer Pension Plan |