

Alberta Federation of Labour (AFL) - Coalition on Pensions

December 31, 2013 Projection of Financial Positions: Local Authorities Pension Plan (LAPP) and Public Service Pension Plan (PSPP)

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Table of Contents

Section 1 - Background and Purpose	2
Section 2 - Methodology.....	3
Section 3 – Results	5
Section 4 – Commentary on Results	7
Appendix A: Summary of Plan Designs	8
Appendix B: Summary of Assumptions.....	9
Appendix C: Assumed New Entrant Profiles for Projections.....	10
Appendix D: LAPP Data as at December 31, 2012	11
Appendix E: PSPP Data as at December 31, 2012.....	12
Appendix F: Reproduction of December 31, 2012 Valuation Results for LAPP and PSPP.....	15

Section 1 - Background and Purpose

We have been requested by the AFL to determine the estimated funded position as at December 31, 2013 for LAPP and PSPP in their current forms i.e. without any changes to Plan benefits. The purpose of this report is to summarize the results of our analysis.

Note that the starting date for our analysis is December 31, 2012 for LAPP and PSPP, since this is the date of the most recently completed valuation reports for both Plans.

Section 2 - Methodology

We undertook the following process in our analysis:

1. We reproduced the results of the December 31, 2012 valuation for LAPP and PSPP based on December 31, 2012 data and assumptions (see Appendix F for results). We feel that we have reproduced the LAPP and PSPP valuation results with sufficient accuracy in order to perform the analysis requested by the AFL.
2. We projected the valuation results for LAPP and PSPP for one year to December 31, 2013 under a base case scenario. For the base case scenario we assumed that actual Plan experience for both Plans follows the assumptions used in the December 31, 2012 valuations.

We used an assumed rate of return for 2013 of 14.0% for LAPP and PSPP. At the time of writing this report we were not aware of the actual 2013 investment returns for LAPP and PSPP. The RBC Investor and Treasury Services survey of Canadian Pension Plans reported a median return of 14.2% for 2013. Therefore, we have used a return of 14.0% for both LAPP and PSPP in our projections.

For the purpose of our projections, we assumed that the active member population in both Plans increases by 1.5% per year. Alberta Finance has projected the growth of the Alberta population to be 1.5% per year from 2012 to 2041 in their most recent population projection.

The assumed new entrant profile we used for both Plans is summarized in Appendix C. The new entrant profile was determined from the data summaries in the December 31, 2012 valuation reports for LAPP and PSPP.

In addition we have used the following funding policies in our projections:

- The valuation assumptions for the December 31, 2013 valuations remain the same as the December 31, 2012 assumptions for both Plans;
- Contribution rates include annual administration expenses of 0.5% of earnings for PSPP and \$35 million for LAPP, as per the December 31, 2012 valuations.
- We used the smoothed value of assets in our projections as described in the December 31, 2012 valuations of both Plans.
- Previous deficits continue to be funded over the amortization periods already established. New deficits funded over a 15-year period.

3. We also projected the valuation results for LAPP and PSPP as at December 31, 2013 under alternative scenarios. The changes from the Base Case scenario are summarized below:

Scenario 1:

For both plans we have provided a scenario with the mortality table changed to use the newly released Canadian Institute of Actuaries (CIA) Canadian Pensioners' Mortality (CPM) table. The base Public Sector table was used along with the corresponding mortality improvement scale B. The rates were further adjusted using a size adjustment factor based on the average of the monthly pensions for LAPP and PSPP retired employees.

The CIA recommends that the mortality table reflect the experience of the particular plan. The most recent LAPP valuation used the UP94 Generational table with Projection Scale AA. The most recent PSPP valuation used a table of mortality rates that were 93% of the LAPP rates. We reviewed the mortality experience for LAPP and PSPP from the valuation reports over the last 10 years. In addition, PSPP undertook a mortality experience study in 2010. Both PSPP and LAPP have experienced small mortality losses over the last 10 years. Therefore, we would expect the actuaries for both LAPP and PSPP to adopt the newer CIA mortality tables at some point in the future. We have used a table that we feel would be appropriate for both LAPP and PSPP currently.

Scenario 2:

For LAPP we have also run a scenario using the new CPM table from Scenario 1 as well as a new discount rate of 6.2%. The 6.2% discount rate was used in the December 31, 2012 valuation of PSPP.

Our projections were adjusted to reflect any differences between our results and the LAPP and PSPP Plan actuaries' results for the base December 31, 2012 valuations.

Note that the results should be treated as estimates at this stage, since the results were based on the member data summaries in the PSPP and LAPP December 31, 2012 valuation reports. In addition we have not performed any data tests, membership reconciliation, asset reconciliation or gain/loss analysis.

A summary of the assumptions and data used in our analysis is included in Appendices B, C, D and E.

Section 3 - Results

Table 1 below summarizes the actual results from the LAPP and PSPP valuations as at December 31, 2012 as well as the results of our projection of the December 31, 2013 valuation results.

We summarized the following results:

Funding ratio (%): this is the ratio of the smoothed asset value divided by the Plan's going concern past service liability.

Normal cost (% of pay): this represents the cost of benefits accruing over the next year and is sometimes called the current service cost. The normal cost includes an allowance for administration expenses.

Total contribution rate (% of pay): this is the total of the normal cost and the past service cost required to amortize any unfunded liabilities.

Unfunded liability (\$): this is the difference between the smoothed asset value and the Plan's going concern past service liability.

Table 1: Projection Results

Actual Results	Year-end December 31, 2012	
	LAPP	PSPP
Base Case Scenario:		
1. Funding Ratio	81%	76%
2. Normal cost for following year (% of pay)	17.1%	16.5%
3. Total Contribution rate for following year (% of pay)	24.2%	26.4%
4. Unfunded liability	\$5.4B	\$2.2B

	Year-end December 31, 2013	
	LAPP	PSPP
Base Case Scenario:		
1. Funding Ratio	85%	80%
2. Normal cost for following year (% of pay)	17.0%	17.1%
3. Total Contribution rate for following year (% of pay)	23.0%	25.3%
4. Unfunded liability	\$4.5B	\$1.9B
Scenario 1 – New Mortality Table:		
1. Funding Ratio	83%	78%
2. Normal cost for following year (% of pay)	17.5%	17.5%
3. Total Contribution rate for following year (% of pay)	24.4%	27.2%
4. Unfunded liability	\$5.5B	\$2.2B
Scenario 2 – LAPP: New Mortality Table and 6.2% Discount Rate:		
1. Funding Ratio	87%	n/a
2. Normal cost for following year (% of pay)	16.0%	n/a
3. Total Contribution rate for following year (% of pay)	21.4%	n/a
4. Unfunded liability	\$3.8B	n/a

Section 4 - Commentary on Results

LAPP – Comparison of December 31, 2012 and December 31, 2013 Results:

1. Base Scenario:
 - The funding ratio is expected to improve from 81% to 85%.
 - The total contribution rate is expected to decrease from 24.2% to 23.0%.
 - The unfunded liability decreases from \$5.4 billion to \$4.5 billion.

2. Scenario 1 – New Mortality Table:
 - The funding ratio is expected to improve from 81% to 83%.
 - The total contribution rate is expected to increase from 24.2% to 24.4%.
 - The unfunded liability increases from \$5.4 billion to \$5.5 billion.

The overall impact of the new mortality table on the results as at December 31, 2013 is:

- The funding ratio decreases by 2% from 85% to 83%.
- The total contribution rate increases by 1.4% of pay from 23.0% to 24.4%.

3. Scenario 2 – New Mortality Table and Discount Rate:
 - The funding ratio is expected to improve from 81% to 87%.
 - The total contribution rate is expected to decrease from 24.2% to 21.4%
 - The unfunded liability decreases from \$5.4 billion to \$3.8 billion.

PSPP – Comparison of December 31, 2012 and December 31, 2013 Results:

1. Base Scenario:
 - The funding ratio is expected to improve from 76% to 80%.
 - The total contribution rate is expected to decrease from 26.4% to 25.3%.
 - The unfunded liability decreases from \$2.2 billion to \$1.9 billion.

2. Scenario 1 – New Mortality Table:
 - The funding ratio is expected to improve from 76% to 78%.
 - The total contribution rate is expected to increase from 26.4% to 27.2%.
 - The unfunded liability remains unchanged at \$2.2 billion.

The overall impact of the new mortality table on the results as at December 31, 2013 is:

- The funding ratio decreases by 2% from 80% to 78%.
- The total contribution rate increases by 1.9% of pay from 25.3% to 27.2%.

Appendix A: Summary of Plan Designs

Plan Provisions	Present LAPP	Present PSPP
Pension Formula	1.4% up to YMPE, plus 2.0% over YMPE	1.4% up to YMPE, plus 2.0% over YMPE
Service Cap	35 years	35 years
Average Period	5 years	5 years
Maximum Covered Earnings	\$150,000	\$150,000
Early Retirement - Unreduced - age only - age + service - Reduced - reduction - minimum age	Age 55 and 85 points 3% per year early 55	Age 55 and 85 points 3% per year early 55
Vesting	2 years of LAPP service	2 years of PSPP service
Normal form of pension	Life, guaranteed 5 years	Life, guaranteed 5 years
Death before retirement - no spouse - with spouse	Commuted value of accrued pension Spouse pension as if member had retired immediately and chosen a J&S 100% pension	Commuted value of accrued pension (only if vested; otherwise member contributions with interest) Spouse pension as if member had retired immediately and chosen a J&S 100% pension (only if vested; otherwise member contributions with interest)
Indexing	Guaranteed at 60% of AB CPI	Guaranteed at 60% of AB CPI
Termination of service: - non vested - vested	Member contributions with interest Deferred pension from age 55 or commuted value; plus 50% rule contributions	Member contributions with interest Deferred pension from age 55 or commuted value; plus 50% rule contributions

Appendix B: Summary of Assumptions

Summary		
Actuarial Assumptions	LAPP December 31, 2012	PSPP December 31, 2012
Discount rate:	5.75%	6.2%
Earnings Increases:	LAPP SMP scale plus general increases of: 3.3125% in 2013 grading to 3.75% in 2019 and after	PSPP SMP scale plus general increases of: 2.25% for 3 years; 3.50% thereafter
Indexing:	0.90% for three years, 1.5% thereafter	1.35%
YMPE Increases:	2.0% in 2013, grading to 3.75% in 2019	3.50%
Early Retirement:	Two scales for > 85 pts and < 85 pts > 85pts includes: Age 55 - 33% Age 57 - 22% Age 59 - 19% Age 60 - 27% Age 62 - 22%	Based on gender, age and service; from age 55 to 65
Spouse:	80% of members have spouse; spouse 3 years younger	100% Married; female spouse 3 years younger
Mortality Rates:	UP94 tables Gen proj AA	93% of UP94 tables Gen proj AA
Termination Rates:	After 2 year select period Age 30 - 4.00%M, 9.50% F Age 35 - 4.70% , 7.30% Age 40 - 3.20%, 5.40% Age 45 - 2.70%, 4.50% Age 50 - 4.20%, 5.55%	Based on gender, age and service; from age 21 to 54
Percent electing deferred pension on termination:	25%	20% if service less than 5 years 50% if service greater than 5 years
Load added to going concern liability to determine commuted value:	40%	Commuted value based on solvency interest rate of 3.6% and indexing rate of 1.35%

Appendix C: Assumed New Entrant Profiles for Projections

	LAPP	PSPP
Average age at hire:	35	35
Average salary at hire:	\$63,000	\$58,400
Gender split:	30%M; 70%F	30%M; 70%F

Appendix D: LAPP Data as at December 31, 2012

Active Members	
Number:	145,933
Expected average annualized pay for following year:	\$72,198
Average years of pensionable service:	8.7 years
Average age:	45.2 years
Average employee contributions with interest:	\$39,676

Deferred Pensioners	
Number:	17,856
Average annual deferred pension at normal retirement, with COLA to January 1 of following year:	\$6,265
Average age:	47.6 years

Hold-on-Deposits	
Number:	9,544
Average contributions with interest:	\$2,689
Average age:	46.2 years

Pensioners and Survivors	
Number:	48,866
Average annual pension at January 1 of following year:	\$15,031
Average age:	70.9 years

Appendix E: PSPP Data as at December 31, 2012

Active Members	
Number:	
Male	13,090
Female	<u>27,620</u>
Total	40,710
Average Age:	
Male	43.9
Female	<u>44.3</u>
Total	44.2
Average PSPP Service:	
Male	10.4
Female	<u>10.1</u>
Total	10.2
Average 2012 Annualized Earnings:	
Male	\$70,889
Female	<u>\$60,051</u>
Total	\$63,536

CPS Suspended Member Data:	
Number:	
Male	1,506
Female	<u>1,655</u>
Total	3,161
Average Age:	
Male	48.1
Female	<u>47.2</u>
Total	47.7
Average PSPP Service:	
Male	10.0
Female	<u>10.2</u>
Total	10.1
Average CPS:	
Male	17.1
Female	<u>16.4</u>
Total	16.7
Average 2012 Annualized Earnings:	
Male	\$108,212
Female	<u>\$100,230</u>
Total	\$104,033
Deferred Member Data	
Number:	
Male	2,832
Female	<u>5,810</u>
Total	8,642
Average Age:	
Male	48.6
Female	<u>47.0</u>
Total	47.5
Average Deferred Pension:	
Male	\$7,272
Female	<u>\$5,555</u>
Total	\$6,118

Pensioner/Beneficiary Data	
Number:	
Male	8,659
Female	<u>13,219</u>
Total	21,878
Average Age:	
Male	72.2
Female	<u>72.2</u>
Total	72.2
Average Current Pension: <i>(including any coordination)</i>	
Male	\$16,014
Female	<u>\$11,459</u>
Total	\$13,262

Appendix F: Reproduction of December 31, 2012 Valuation Results for LAPP and PSPP

	LAPP Results (\$M)	G&B (\$M)	% Difference
LAPP Going Concern Liabilities:			
- Active and Disabled Members	\$17,886	\$17,310	-3%
- Deferred Members	\$1,142	\$1,040	-9%
- Retirees	\$9,394	\$8,582	-9%
LAPP Normal Cost	\$1,532	\$1,644	7.3%
LAPP Normal Cost (% of Plan Earnings)	17.08%	18.3%	7.3%

	PSPP Results (\$M)	G&B (\$M)	% Difference
PSPP Going Concern Liabilities:			
- Active and Disabled Members	\$4,606	\$4,371	-5%
- Deferred and CPS Suspended Members	\$1,153	\$682	-40%
- Retirees	\$3,473	\$3,217	-7%
PSPP Normal Cost	\$384	\$367	-5%
PSPP Normal Cost (% of Plan Earnings)	16.50%	16.11%	-2%

Commentary on reproduction:

We believe that the main reason for the differences in results between our numbers and those produced by the LAPP and PSPP actuaries is that we do not have individual member data. In particular, we do not have any detailed data for the deferred and retired Plan members. Our results are based on the data summaries in the LAPP and PSPP valuation reports.