

Alberta Federation of Labour (AFL) - Coalition on Pensions

Costing of Plan Changes for Local Authorities Pension Plan (LAPP) and Public Service Pension Plan (PSPP)

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T: (604) 551-4312
400-601 West Broadway
Vancouver BC V5Z 4C2

Toll-free: (888) 800-1450
georgeandbell.com

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Section 1 - Background and Purpose

The Alberta government has proposed to make a number of changes to the LAPP and PSPP pension Plans for service after January 1, 2016. A summary of the current Plan designs and proposed changes to the Plans are included in Appendices A and B of this report.

We have been requested by the AFL to prepare costings of alternative Plan designs for both LAPP and PSPP. The purpose of this report is to summarize the results of our costings.

The costings we have performed are described below:

1. Change the member's commuted value payout on termination to be based on the funding discount rate instead of the solvency discount rate i.e. for LAPP we used a discount rate of 5.75% and for PSPP we used a discount rate of 6.35%.
2. Adjust the member's commuted value on termination by the Plan's funding ratio i.e. 80% for LAPP and 77% for PSPP.
3. Combination of Costings 1 and 2 above i.e. calculate the commuted value on termination based on the funding discount rate and adjust the resulting commuted value by the Plan's funding ratio.
4. Double the CPP benefit. We have assumed that the impact on the Plans would be to reduce the pension accrual rate for earnings below the YMPE to 0.8% from 1.4%. i.e. if the current CPP benefit represents 0.6% of earnings below the YMPE, the new CPP benefit will be 1.2% of earnings below the YMPE.
5. Double the YMPE i.e. increase the YMPE to \$100,000.
6. Fresh start of all past unfunded liabilities as at December 31, 2011 and amortization of the December 31, 2011 total unfunded liability over 15 years.
7. Fresh start of all past unfunded liabilities as at December 31, 2011 and amortization of the December 31, 2011 total unfunded liability over 20 years.
8. For LAPP only we calculated the revised contribution rate based on the PSPP funding discount rate of 6.35% instead of 5.75%.

Note that all costings were performed as at December 31, 2011 for LAPP and PSPP, since this is the date of the most recently filed valuation reports for both Plans.

Note that for costings 1, 2 and 3, the operation of the "50% rule" will have a big impact on the contribution rate. The "50% rule" provides a lump sum payment to members on termination, death or retirement of the excess of the member's contributions with interest over 50% of the member's commuted value. The "50% rule" refund is becoming an increasingly expensive benefit in LAPP and PSPP as member contributions increase. For the purpose of costings 1, 2 and 3 we have assumed that the "50% rule" refund amounts would not change when the member termination benefits are reduced i.e. the 50% rule refunds would be based on the member's unreduced pension benefit.

For costings 5 and 6 we would expect the employee and employer contributions to the CPP to increase. We have not included these increased CPP contributions in our analysis or results at this stage.

Section 2 - Methodology

We undertook the following process in our analysis:

1. We reproduced the results of the December 31, 2011 valuation for LAPP and PSPP based on December 31, 2011 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 costings requested by the AFL.
2. We estimated the impact on LAPP and PSPP as at December 31, 2011 of the Alberta Government's proposed Plan design changes. For the purpose of this costing, we have assumed that future Plan indexing would be at 50% of Alberta CPI i.e. at the target level of indexing. Since indexing will not be guaranteed in future, it is quite possible that indexing will be below 50% of Alberta CPI at some point in the future. Therefore, we have provided an alternative costing assuming indexing of 0% in future.
3. We estimated the impact on the financial position of LAPP and PSPP as at December 31, 2011 of making the different plan design changes described in Section 1.

All of our costings were adjusted to reflect any differences between our results and the LAPP and PSPP Plan actuaries' results for the base December 31, 2011 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, 2011 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 costings is included in Appendices C, D and E. All of the costings for each Plan were performed using the same data and assumptions, except for costing 8 for LAPP.

Section 3 - Results

Tables 1 and 2 below summarize the results of our calculations: Table 1 for LAPP and Table 2 for PSPP. Note that our calculations have been performed assuming that the Plan design changes are made for future service only i.e. past service benefits are unchanged. We also illustrate the impact in Tables 1 and 2 on the required contributions if the Plan design changes are made for past service. Costings 6, 7 and 8 impact the past service costs automatically.

We summarize the following key results in Tables 1 and 2:

Past service cost (as % of pay): this represents the amortization of all unfunded liabilities at the valuation date.

Future service cost (as % of pay): this represents the cost of benefits accruing over the next year, and is sometimes called the normal cost or current service cost.

Total cost (as % of pay): this is the total required contribution rate, including the past service cost and the future service cost.

Table 1: LAPP

Summary of Plan Design Costings at December 31, 2011:

Costing:				1	2	3	4	5	6	7	8
Description:	Current LAPP	New LAPP (Indexing of 50% of CPI)	New LAPP (Indexing of 0%)	CV based on funding discount rate instead of solvency rate	CV adjusted by funding ratio	Combination of costings 1 and 2	Double CPP	Double YMPE	Fresh Start for un-funded liability - 15 years	Fresh start for un-funded liability - 20 years	6.35% discount rate
Results for future service changes:											
Past Service Cost:	7.4%	7.4%	7.4%	7.4%	7.4%	7.4%	7.4%	7.4%	5.27%	4.19%	4.56%
Future Service Cost:	16.76%	14.2%	12.27%	15.76%	16.06%	15.26%	12.85%	14.74%	16.76%	16.76%	14.88%
Total Cost:	24.16%	21.6%	19.67%	23.16%	23.46%	22.66%	20.25%	22.14%	22.03%	20.95%	19.44%
Difference from Current LAPP:	0%	-2.56%	-4.49%	-1%	-0.7%	-1.5%	-3.91%	-2.02%	-2.13%	-3.21%	-4.72%
Employee Contribution:	11.58%	10.3%	9.34%	11.08%	11.23%	10.83%	9.62%	10.57%	10.52%	9.98%	9.22%
Employer Contribution:	12.58%	11.3%	10.34%	12.08%	12.23%	11.83%	10.62%	11.57%	11.52%	10.98%	10.22%
Impact on total cost for past service change:	N/A	N/A	N/A	-0.7%	-0.5%	-1.0%	-4.4%	-2.5%	N/A	N/A	N/A

- Notes:
1. New LAPP represents the Plan design as proposed by the Alberta Government
 2. The employee and employer contributions above used LAPP's current cost-sharing formula.

Table 2: PSPP

Summary of Plan Design Costings at December 31, 2011:

Costing:				1	2	3	4	5	6	7
Description:	Current PSPP	New PSPP (Indexing of 50% of CPI)	New PSPP (Indexing of 0%)	CV based on funding discount rate instead of solvency rate	CV adjusted by funding ratio	Combination of costings 1 and 2	Double CPP	Double YMPE	Fresh Start for unfunded liability - 15 years	Fresh start for unfunded liability - 20 years
Results for future service change:										
Past Service Cost:	9.34%	9.34%	9.34%	9.34%	9.34%	9.34%	9.34%	9.34%	6.76%	5.3%
Future Service Cost:	16.28%	14.05%	13.13%	15.23%	15.69%	14.88%	12.18%	15.06%	16.28%	16.28%
Total Cost:	25.62%	23.39%	22.47%	24.57%	25.03%	24.22%	21.52%	24.4%	23.04%	21.58%
Difference from Current PSPP:	0%	-2.23%	-3.15%	-1.05%	-0.59%	-1.4%	-4.1%	-1.22%	-2.58%	-4.04%
Employee Contribution:	12.81%	11.70%	11.24%	12.29%	12.52%	12.11%	10.76%	12.2%	11.52%	10.79%
Employer Contribution:	12.81%	11.70%	11.24%	12.29%	12.52%	12.11%	10.76%	12.2%	11.52%	10.79%
Impact on total cost for past service change:	N/A	N/A	N/A	-0.52%	-0.31%	-0.71%	-4.7%	-1.5%	N/A	N/A

- Notes:
1. New PSPP represents the Plan design as proposed by the Alberta Government
 2. The employee and employer contributions above used PSPP's current cost-sharing formula.

Section 4 - Commentary on Results

Commentary based on plan design changes summarized in section 3:

The impact of the various Plan design changes on LAPP and PSPP is different due to the different demographic profile of the two Plans and the different valuation assumptions.

Alberta Government Proposed Plan Changes (with funding for indexing of 50% of CPI):

- LAPP: future service cost reduced by approximately 2.6%.
- PSPP: future service cost reduced by approximately 2.2%.

Alberta Government Proposed Plan Changes (with no funding for indexing):

- LAPP: future service cost reduced by approximately 4.5%.
- PSPP: future service cost reduced by approximately 3.2%.

The impact on both Plans is significant, in particular if the Plans do not fund for future pension indexing.

Costing 1: Calculate commuted values based on funding discount rate instead of solvency rate.

- LAPP: future service cost reduced by approximately 1%; total cost reduced by 1.7% if past service is included.
- PSPP: future service cost reduced by approximately 1.1%; total cost reduced by 1.6% if past service is included.

Costing 2: Adjust commuted values by the Plan's funding ratio.

- LAPP: future service cost reduced by approximately 0.7%; total cost reduced by 1.2% if past service is included.
- PSPP: future service cost reduced by approximately 0.6%; total cost reduced by 0.9% if past service is included.

Costing 3: Combination of costings 1 and 2.

- LAPP: future service cost reduced by approximately 1.5%; total cost reduced by 2.5% if past service is included.
- PSPP: future service cost reduced by approximately 1.4%; total cost reduced by 2.1% if past service is included.

Costing 4: Reduce pension accrual rate from 1.4% to 0.8% below the YMPE.

- LAPP: future service cost reduced by approximately 3.9%; total cost reduced by 8.3% if past service is included.

- PSPP: future service cost reduced by approximately 4.1%; total cost reduced by 8.8% if past service is included.

The impact on both Plans is significant.

Costing 5: Increase YMPE to \$100,000.

- LAPP: future service cost reduced by approximately 2%; total cost reduced by 4.5% if past service is included.
- PSPP: future service cost reduced by approximately 1.2%; total cost reduced by 2.7% if past service is included.

The impact is larger for LAPP, due to the higher average salaries in LAPP compared to PSPP.

Costing 6: Fresh Start for unfunded liability – 15 years

- LAPP: total cost reduced by 2.1%.
- PSPP: total cost reduced by 2.6%.

Costing 7: Fresh Start for unfunded liability – 20 years

- LAPP: total cost reduced by 3.2%.
- PSPP: total cost reduced by 4.0%.

Costing 8: 6.35% discount rate

- LAPP: future service cost reduced by approximately 1.9%; total cost reduced by 4.7%.

Appendix A: LAPP Summary of Plan Costings

(Changes from Present LAPP are highlighted)

Costing Number		1	2	3	4	5	
Plan Provisions	Present LAPP	LAPP Proposed Changes	CV based on funding discount rate instead of solvency rate	CV adjusted by funding ratio	Combination of Costings 1 and 2	Double CPP	Double YMPE
Pension Formula	1.4% up to YMPE, plus 2.0% over YMPE					0.8% up to YMPE; plus 2% above YMPE	1.4% up to YMPE; plus 2% above YMPE. YMPE set at \$100,000 in 2012
Service Cap	35 years	None					
Average Period	5 years						
Maximum Covered Earnings	\$150,000					\$165,000	\$165,000
Early Retirement - Unreduced - age only - age + service	Age 55 and 85 points	None					
- Reduced - reduction	3% per year early	From 4.5% to 6.0% per year before age 65					
- minimum age	55						

Costing Number			1	2	3	5	6
Plan Provisions	Present LAPP	LAPP Proposed Changes	CV based on funding discount rate instead of solvency rate	CV adjusted by funding ratio	Combination of Costings 1 and 2	Double CPP	Double YMPE
Vesting	2 years of LAPP service	Immediate					
Normal form of pension	Life, guaranteed 5 years						
Death before retirement							
- no spouse	Commuted value of accrued pension						
- with spouse	Spouse pension as if member had retired immediately and chosen a J&S 100% pension						
Indexing	Guaranteed at 60% of AB CPI	Targeted at 50% of AB CPI (no information available on targeting)					

Costing Number			1	2	3	5	6
Plan Provisions	Present LAPP	LAPP Proposed Changes	CV based on funding discount rate instead of solvency rate	CV adjusted by funding ratio	Combination of Costings 1 and 2	Double CPP	Double YMPE
Termination of service:							
- non vested	Member contributions with interest						
- vested	Deferred pension from age 55 or commuted value; plus 50% rule contributions		Commutated value based on funding discount rate (5.75%)	Commutated value adjusted by funding ratio (80%)	Commutated value based on funding discount rate and adjusted by funding ratio		

Appendix B: PSPP Summary of Plan Costings

(Changes from Present PSPP are highlighted)

Costing Number			1	2	3	4	5
Plan Provisions	Present PSPP	PSPP Proposed Changes	CV based on funding discount rate instead of solvency rate	CV adjusted by funding ratio	Combination of Costings 1 and 2	Double CPP	Double YMPE
Pension Formula	1.4% up to YMPE, plus 2.0% over YMPE					0.8% up to YMPE; plus 2% above YMPE	1.4% up to YMPE; plus 2% above YMPE. YMPE set at \$100,000 in 2012
Service Cap	35 years	None					
Average Period	5 years						
Maximum Covered Earnings	\$150,000					\$165,000	\$165,000
Early Retirement - Unreduced - age only - age + service	Age 55 and 85 points	None					
- Reduced - reduction	3% per year early	From 4.5% to 6.0% per year before age 65					
- minimum age	55						

Costing Number			1	2	3	5	6
Plan Provisions	Present PSPP	PSPP Proposed Changes	CV based on funding discount rate instead of solvency rate	CV adjusted by funding ratio	Combination of Costings 1 and 2	Double CPP	Double YMPE
Vesting	2 years of PSPP service	Immediate					
Normal form of pension	Life, guaranteed 5 years						
Death before retirement - non vested - vested	Return of member contributions with interest Spouse pension as if member had retired immediately and chosen a J&S 100% pension						
Indexing	Guaranteed at 60% of AB CPI	Targeted at 50% of AB CPI (no information available on targeting)					

Costing Number			1	2	3	5	6
Plan Provisions	Present PSPP	PSPP Proposed Changes	CV based on funding discount rate instead of solvency rate	CV adjusted by funding ratio	Combination of Costings 1 and 2	Double CPP	Double YMPE
Termination of service:							
- non vested	Member contributions with interest						
- vested	Deferred pension from age 55 or commuted value; plus 50% rule contributions		Committed value based on funding discount rate (6.35%)	Committed value adjusted by funding ratio (77%)	Committed value based on funding discount rate and adjusted by funding ratio		

Appendix C: Summary of Assumptions

Summary		
Actuarial Assumptions	LAPP December 31, 2011	PSPP December 31, 2011
Discount rate:	5.75%	6.35%
Earnings Increases:	LAPP SMP scale plus general increases of: 3.25% in 2012 grading to 3.75% in 2019 and after	PSPP SMP scale plus general increases of: 3% for 3 years; 3.75% thereafter
Indexing:	1.5%	1.5%
YMPE Increases:	2.875% in 2012, grading to 3.75% in 2019	3.75%
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%	Commutated value based on solvency interest rate of 4.1% and indexing rate of 1.5%

Appendix D: LAPP Data as at December 31, 2011

Active Members	
Number:	140,417
Expected average annualized pay for following year:	\$69,110
Average years of pensionable service:	8.8 years
Average age:	45.3 years
Average employee contributions with interest:	\$36,953

Deferred Pensioners	
Number:	17,116
Average annual deferred pension at normal retirement, with COLA to January 1 of following year:	\$6,081
Average age:	47.3 years

Hold-on-Deposits	
Number:	8,776
Average contributions with interest:	\$2,607
Average age:	46.1 years

Pensioners and Survivors	
Number:	46,256
Average annual pension at January 1 of following year:	\$14,456
Average age:	70.8 years

Appendix E: PSPP Data as at December 31, 2011

Active Members	
Number:	
Male	12,803
Female	<u>27,457</u>
Total	40,260
Average Age:	
Male	44.1
Female	<u>44.1</u>
Total	44.1
Average PSPP Service:	
Male	10.6
Female	<u>10.1</u>
Total	10.2
Average 2011 Annualized Earnings:	
Male	\$69,097
Female	<u>\$57,900</u>
Total	\$61,461

CPS Suspended Member Data:	
Number:	
Male	1,409
Female	<u>1,527</u>
Total	2,936
Average Age:	
Male	48.2
Female	<u>47.3</u>
Total	47.7
Average PSPP Service:	
Male	10.3
Female	<u>10.5</u>
Total	10.4
Average CPS:	
Male	17.3
Female	<u>16.5</u>
Total	16.9
Average 2011 Annualized Earnings:	
Male	\$103,563
Female	<u>\$96,952</u>
Total	\$100,125
Deferred and Hold-on-Deposit Member Data	
Number:	
Male	4,029
Female	<u>8,171</u>
Total	12,200
Average Age:	
Male	48.5
Female	<u>46.8</u>
Total	47.3
Average Deferred Pension:	
Male	\$7,429
Female	<u>\$5,601</u>
Total	\$6,212

Pensioner/Beneficiary Data	
Number:	
Male	8,436
Female	<u>12,745</u>
Total	21,181
Average Age:	
Male	72.1
Female	<u>72.1</u>
Total	72.1
Average Current Pension: <i>(including any coordination)</i>	
Male	\$15,379
Female	<u>\$10,979</u>
Total	\$12,732

Appendix F: Reproduction of December 31, 2011 Valuation Results for LAPP and PSPP

	LAPP Results (\$M)	G&B (\$M)	% Difference
LAPP Going Concern Liabilities for Active Members:	\$16,670	\$16,100	-3%
LAPP Normal Cost	\$1,373	\$1,496	9%
LAPP Normal Cost (% of Plan Earnings)	16.76%	18.27%	9%

	PSPP Results (\$M)	G&B (\$M)	% Difference
PSPP Going Concern Liabilities for Active Members:	\$4,408	\$4,303	-2%
PSPP Normal Cost	\$364	\$319	-12%
PSPP Normal Cost (% of Plan Earnings)	16.27%	14.32%	-12%

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. Our results are based on the data summaries in the LAPP and PSPP valuation reports.