

Technical Annex

to the *Economic Note* on the expansion of public pension plans
published by the Montreal Economic Institute on February 27, 2014

In the *Economic Note* entitled “Do Public Pension Plans Need to Be Expanded?” different proposals for expanding these public plans are discussed. Between the guarantee to pay out benefits equivalent to 50% of pensionable earnings, the establishment of a longevity pension as proposed by the D’Amours report and the Sheridan proposal raising the maximum admissible salary, it is this last proposal that is the most targeted and the least expensive. It would still increase payroll taxes by between \$9.8 billion and \$12.3 billion a year, however, reducing by that same amount households’ disposable income.

How this additional tax burden is calculated is the subject of this technical annex.

The Sheridan proposal

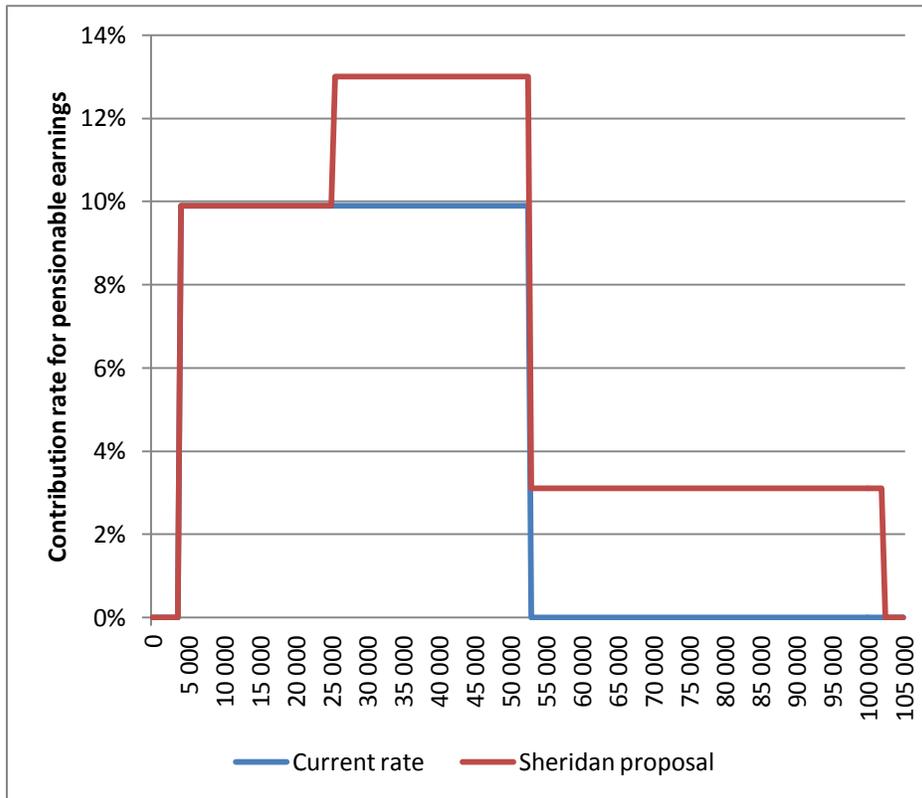
Currently, the 9.9% contribution rate for the Canada Pension Plan (CPP) is applied to pensionable earnings, namely to the portion of annual salary above \$3,500 and below \$52,500. The same is true for the Quebec Pension Plan (QPP), whose contribution rate is 10.35%. The proposal of Prince Edward Island’s Finance Minister, Wes Sheridan, would raise the contribution rate 3.1 percentage points and broaden pensionable earnings by doubling the maximum. Specifically, this extra contribution would be calculated on the portion of salaries between \$25,000 and \$102,000.

Figure 1 illustrates the current CPP contribution rates and those proposed by Wes Sheridan. The same logic would apply to the QPP, except that contribution rates between \$3,500 and \$52,500 would be 0.45 percentage points higher.

The contribution rate is divided between the employer and the employee. The self-employed pay the entire contribution. From an economic point of view, however, what is called the economic incidence of the tax is essentially borne by employees since employers transfer this tax burden onto them via lower total remuneration (salaries, working time and social benefits).

In other words, pensionable earnings between \$25,000 and \$102,000 would be subject to an extra 3.1% tax.

Figure 1: Current and proposed contribution rates



Sources: RPC, RRQ and Bill Curry, "Proposed changes to CPP spur momentum for pension reform," *The Globe and Mail*, October 3, 2013.

First calculation: Statistics Canada data

It is possible to calculate the total amount of extra contributions proposed by using data on the incomes earned by Canadian taxpayers. Statistics Canada presents the share of all income earned by each household income quintile, which is to say by 20% population brackets, as illustrated in Figure 2.

Figure 2: Income quintiles and share of total income, 2011

	Limits of income quintiles (\$)	Share of total income (percentage)
Bottom quintile	Less than 25,900	4.1
Second quintile	From 25,900 to 46,100	9.6
Third quintile	From 46,100 to 70,800	15.3
Fourth quintile	From 70,800 to 111,500	23.8
Top quintile	111,500 and more	47.2

Sources: Statistics Canada, Table 202-0405 - Upper income limits and income shares of total income quintiles, by economic family type, 2011.

These data are for households, not individuals, whereas it is individuals who contribute to the CPP and the QPP. To use these data, they must be treated, hypothetically, as individual income data. For single-adult households, as well as for two-adult households with single wage earners, the data would be the same, but this is not the case for households with two incomes. This hypothesis therefore clearly overestimates the cost of the Sheridan proposal and must serve only as an upper bound to the range of estimates.

Since the limits of the income quintiles are not too far from the income levels where contribution rates would change in the Sheridan proposal, we can use them to obtain an approximation of the extra contributions collected.

Canadians in the bottom quintile (less than \$25,000) would not pay any additional contributions compared to the current situation. Those in the top quintile would pay the maximum extra contribution of \$2,387, calculated as being 3.1% of income between \$102,000 and \$25,000.

The three other quintiles would see their contributions raised on all income above \$25,000. Together, these three quintiles represent 60% of the population and 48.7% of income. According to the calculation of GDP in terms of income for 2012, which is found in the economics accounts, salaries and wages amounted to \$801.343 billion. The number of Canadians employed in 2012 was 15,487,000.

Figure 3: Calculation of additional contributions for the Sheridan proposal

A.	Income of the three middle quintiles	$48.7\% \times \$801.343 \text{ billion} =$	\$390.254 billion
	LESS		
B.	Income exempted from additional contribution	$60\% \times 15,487,000 \times \$25,000 =$	\$232.305 billion
C.	Income admissible to the extra contribution	$A - B =$	\$157.949 billion
D.	Additional contributions of the middle quintiles	$3.1\% \times C =$	\$4.896 billion
	PLUS		
E.	Additional contributions of the top quintile	$20\% \times 15,487,000 \times \$2,387 =$	\$7.393 billion
	TOTAL	$D + E =$	\$12.289 billion

Second calculation: Canada Revenue Agency data

The incomes of different population brackets are also compiled by the Canada Revenue Agency in the document entitled “Income Statistics 2013 (2011 tax year).” These data are more precise than those of Statistics Canada but are subject to all sorts of accounting manipulations and to individuals’ declarations of their incomes. In total, declared employment income and net

professional income amount to \$680.492 billion, or 84.9% of the \$801.343 billion in salaries and wages compiled in the GDP figure.

Figure 4 shows the main fiscal data used.

Figure 4: Fiscal data by income bracket and calculations of additional contributions

Income brackets	Number of taxable declarations	Employment income (thousands of \$)	Net professional income (thousands of \$)	Additional contributions (thousands of \$)
25,000-29,999	944,970	21,452,945	161,958	39,844
30,000-34,999	1,005,400	27,538,663	166,928	79,688
35,000-39,999	1,024,380	33,049,782	172,990	236,011
40,000-44,999	970,570	35,486,229	187,113	353,682
45,000-49,999	861,980	35,693,260	184,109	444,164
50,000-54,999	766,120	35,290,393	190,802	506,174
55,000-59,999	670,240	33,891,199	194,283	537,214
60,000-69,999	1,108,060	63,554,228	404,550	1,123,976
70,000-79,999	884,730	59,333,200	401,969	1,166,124
80,000-89,999	659,360	50,216,960	420,739	1,058,765
90,000-99,999	492,490	41,938,547	409,504	931,110
100,000-149,999	927,870	95,106,086	1,997,150	2,214,826
150,000-249,999	326,260	47,167,355	3,550,177	778,783
250,000 and more	154,460	54,278,356	9,144,308	368,696
ALL TAXPAYERS	12,647,060	662,437,990	18,054,302	9,839,057

Source: Canada Revenue Agency, Income Statistics 2013 (2011 tax year).

Canadians declaring less than \$25,000 are not considered here. For income brackets above \$100,000, we assume that everyone pays the maximum contribution of \$2,387. Their additional contributions are therefore the product of the maximum contribution by the number of taxable declarations. For the other income brackets, the calculation of the additional contributions is carried out according to the following formula (presented with the example of the \$70,000 to \$79,999 bracket):

Figure 5: Calculation of additional contributions for each income bracket

A. Incomes	LESS: B. Exemption	(A – B) TIMES: C. Contribution rate	EQUALS: Additional contributions
Employment income PLUS Net professional income	\$25,000 TIMES Number of taxable declarations	3.1%	
\$59,333,200,000 + \$401,969,000 = \$59,735,169,000	\$25,000 x 884,730 = \$22,118,250,000	\$37,616,919,000 x 3.1% =	\$1,166,124,490

The only exception is for the \$25,000 to \$29,999 income bracket, for which a negative result is obtained in step B when the \$25,000 exemption is subtracted. Although certain Canadians in this bracket do not contribute, others certainly do. It therefore seemed illogical to leave a negative number or even to indicate no contribution at all. The additional contributions indicated in Figure 4 are half of those for the \$30,000 to \$34,999 bracket. But even with no contributions for this income bracket, the final result varies little.

The total of additional contributions from all income brackets is \$9.8 billion.

Conclusion

Based on two different data sources, it is likely that the Sheridan proposal would entail additional contributions to the CPP and QPP of between \$9.8 billion and \$12.3 billion.

This is, however, a static analysis that does not take into account the harmful effects of this new tax burden on the economy, employment and business competitiveness.