C A N A D A   P E N S I O N   P L A N

S T A T U T O R Y   A C T U A R I A L   R E P O R T   N O. 7

Department of Insurance
Ottawa, Canada
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CANADA PENSION PLAN

STATUTORY ACTUARIAL REPORT NO. 7

I. INTRODUCTION

This report has been prepared in compliance with subsection 116(2) of the Canada Pension Plan which provides that, whenever any Bill is introduced in or presented to the House of Commons to amend the Act, a report shall be prepared indicating the extent to which such Bill would, if enacted by Parliament, affect any of the estimates contained in the most recent report made pursuant to subsection 116(1) before the introduction or presentation of such Bill. The most recent such report made pursuant to subsection 116(1) was Statutory Actuarial Report No. 6, as at December 31, 1977, which was tabled in the House of Commons on December 18, 1978.

A report pursuant to subsection 116(2) is required because Clause 123 of Bill C-54 (an Act to amend statute law relating to income tax) which was given first reading in the House of Commons on January 13, 1981, modifies somewhat the definition of pensionable employment under the Canada Pension Plan.

II. AMENDMENT PROPOSED

Clause 123 of Bill C-54 provides that paragraph 6(2)(d) of the Canada Pension Plan be amended to the effect that employment of a person by his or her spouse would not be considered as "excepted employment" for Canada Pension Plan purposes after 1979, provided that the remuneration paid to that person may be deducted under the Income Tax Act in computing the income of the spouse.

This amendment will primarily affect the pensionable and contributory earnings of self-employed couples. Hitherto, for example, any remuneration received by the spouse of a farmer or a retail store owner, for assisting in the operation of the farm or business, would be deemed not to have been received by such spouse for Canada Pension Plan (or Income Tax Act) purposes. The amendment if passed will make such remuneration subject to the Canada Pension Plan effective January 1, 1980.

This could result in increased pensionable and contributory earnings for the employed spouse but, since the remuneration is deductible from the income of the employing spouse, it could also result in a decrease in the pensionable and contributory earnings of the latter. Whether there results a net increase or decrease in pensionable or contributory earnings of the two spouses combined depends upon the particular financial circumstances of the couple. However, because the couples most likely to make significant use of the provision are those where the employing spouse would have high earnings, perhaps considerably in excess of the maximum pensionable earnings under the Canada Pension Plan, which would permit the payment of a substantial salary to the employed spouse without any reduction in the employing spouse's pensionable or contributory earnings, it is reasonable to assume that in the aggregate there will be a net increase in pensionable and contributory earnings.

III. ESTIMATION PROCEDURES

While the employing spouse may be of either sex, it is likely that the great majority of such spouses would be male. To simplify calculations, it was assumed that the employing spouse would always be male.

The Taxation Statistics for 1977 show tabulations for 23 occupational categories of self-employed persons or proprietors of unincorporated businesses that could be affected by the proposed amendment. These tabulations provided Number of individuals and associated Income subdivided by occupational category and income range. However, for various reasons, many of these individuals cannot be expected to pay salaries to their spouses for Canada Pension Plan purposes and, accordingly, we reduced the sizes of the Number and Income cells to reflect such factors as: (i) the probability of residing in Canada outside of Quebec, (ii) the probability of being married, (iii) the probability that the potentially employable spouse could legitimately be claimed to have worked for the enterprise, (iv) the probability that the payment of a salary would result in an Income Tax advantage to the couple and (v) the probability of making the effort to take advantage of the amendment. We also had to modify the income cells to reduce "incomes" to "earnings". Next, assumptions had to be adopted as to what proportion of earnings would be transferred from one spouse to another, and finally other information available from the Taxation Statistics was used to obtain breakdowns by age group of the employing spouse. Many of the assumptions that had to be made regarding the above factors were necessarily somewhat arbitrary. Calculations based on these assumptions were then made to obtain a rough idea of the magnitude of earnings that might be transferred, subdivided by the income range and age group of the employing spouse.

These results were then used to make much more detailed modifications of the earnings statistics accumulated under the Canada Pension Plan for both Males and Females, which in turn were used to modify the earnings and participation rate assumptions underlying Actuarial Report No. 6. The modified assumptions produced approximately the same effect on contributory and pensionable earnings in the near future as could be expected on the basis of the initial analysis of the Taxation Statistics. However, it was further assumed that the effect would attenuate to a certain extent with the passage of time, because female proportions working are assumed to rise in the future, which will reduce somewhat the probabilities of males paying salaries to their spouses.

IV. ESTIMATES

The table of projections on page 5 compares certain key estimates for sample years taken from Actuarial Report No. 6 with those developed as described above taking the proposed amendment into account.

The projections are shown for Funds A, B and C (the three funding alternatives used in Actuarial Report No. 6) which are briefly defined on the table and described in greater detail in Actuarial Report No. 6. Apart from the assumptions described above that relate to the proposed amendment, the bases underlying the projections are the same as those described for the Main Tables of Financial Projections in Actuarial Report No. 6.

The following comments are based in part on figures in the table, in part on figures for other years not reproduced therein.

The full effect of the amendment on contributory earnings and hence contributions should be felt fairly rapidly, say within the next two or three years, but the full effect on benefits will be considerably delayed, partly because benefits already in payment will be unaffected by the amendments, partly because newly emerging benefits for many years in the future will depend to a large extent on pensionable earnings prior to the amendment and therefore unaffected by it. The effect of this is illustrated by the Fund B contribution rate column in the table. These contribution rates express Benefits and Expenses as a percentage of contributory earnings and are otherwise known as pay-as-you-go contribution rates. As can be seen, the proposed amendment is estimated to reduce these rates by 0.02% of contributory earnings for each of the years 1985, 1990, and 2000, but the rate is unaffected for the year 2025 and is increased by 0.01% of contributory earnings for the year 2050. This means that contributory earnings are increased proportionately more than benefits and expenses until some time in the next century, but

PROJECTIONS

(Contribution rate as percent of contributory earnings, fund in $ billions, other figures in $ millions)

FUND A

Calendar Year	EXISTING PLAN Benefits & Expenses	Contri- butions	Cash Flow	Fund Dec. 31	PROPOSED PLAN Benefits & Expenses	Contri- butions	Cash Flow	Fund Dec 31
1980	2152	2674	522	17.9	2152	2678	526	18.0
1985	4415	4372	-43	27.5	4416	4393	-23	27.6
1990	7794	6142	-1652	34.2	7801	6170	-1631	34.4
2000	18416	11997	-6418	14.5	18452	12053	-6399	15.3
2025	135629				136238			
2050	636210	—— see note (1) ——			639481	—— see note (1) ——		

FUND B

Calendar Year	EXISTING PLAN Contribu- tion Rate	Contri- butions	Cash Flow	Fund Dec. 31	PROPOSED PLAN Contribu- tion Rate	Contri- butions	Cash Flow	Fund Dec. 31
1980	3.60	2674	522	17.9	3.60	2678	526	18.0
1985	3.64	4415	0	27.6	3.62	4416	0	27.7
1990	4.57	7794	0	39.5	4.55	7801	0	39.6
2000	5.53	18416	0	76.7	5.51	18452	0	76.9
2025	8.62	135629	0	370.5	8.62	136238	0	371.3
2050	8.76	636210	0	1788.5	8.77	639481	0	1792.6

FUND C

Calendar Year	EXISTING PLAN Contribu- tion Rate	Contri- butions	Cash Flow	Fund Dec. 31	PROPOSED PLAN Contribu- tion Rate	Contri- butions	Cash Flow	Fund Dec. 31
1980	3.60	2674	522	17.9	3.60	2678	526	18.0
1985	3.60	4372	-43	27.5	3.60	4393	-23	27.6
1990	3.60	6142	-1652	34.2	3.60	6170	-1631	34.4
2000	4.84	16146	-2270	34.7	4.83	16162	-2290	35.0
2025	8.48	133374	-2255	34.7	8.47	133963	-2275	35.0
2050	8.73	633955	-2255	34.7	8.74	637205	-2276	35.0

Notes:
(1) Fund A: 3.6% contribution rate. Under both existing and proposed plans, the fund would become exhausted in 2003, and the contribution rate would have to rise to "Fund B" level or new sources of funds would have to be introduced.
(2) Fund B: Cash flow to provinces decreases until it becomes zero. Benefits and expenses same as under Fund A.
(3) Fund C: Cash flow to provinces decreases until it becomes negative and equal to the interest on the fund. Benefits and expenses same as under Fund A.

Major assumptions as for Main Tables of Financial Projections in Statutory Actuarial Report No. 6.

that this relationship is reversed thereafter. However, the net effects at any time are clearly marginal on a relative basis.

The funds that will accumulate are expected to be somewhat larger if the proposed amendment is adopted than under the existing plan, again because of the delayed effect on benefits. For example, the projected maximum for the Fund A alternative (fixed 3.6% contribution rate) would be increased from $34.7 billion to $35.0 billion. If the contribution rate remained at 3.6%, which is unlikely, the proposed amendment would not affect the projected year the net provincial cash flow becomes negative (1985), the projected year Fund A reaches its maximum (1992), or the projected year Fund A disappears (2003). For the Fund B alternative (contribution rate raised as required to avoid negative net cash flow to the provinces) an additional $4.1 billion might accumulate by 2050 but this is only one-fifth of one per cent of the total projected fund.

V. SUMMARY

Contributory earnings and, hence, contributions as well as benefits and expenses are expected to be increased slightly if the proposed amendment is adopted. For several decades the increase in contributory earnings would be proportionately more pronounced than the increase in benefits and expenses, but this relationship would eventually be reversed. In any event, all of the effects are expected to be very marginal when compared to the total cost implications of the Canada Pension Plan.

Respectfully submitted,

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