C.D. Howe Institute
Institut C.D. Howe

Celebrating/Nous célébrons 50 years/ans

e-brief

September 30, 2010

FISCAL POLICY

The Glacier Grinds Closer:
How Demographics Will Change Canada's Fiscal Landscape

By

William B.P. Robson

INDEPENDENT • REASONED • RELEVANT

- The impacts of demographic change on Canada's fiscal landscape will be profound, and as we enter the second decade of the 21st century, they are no longer far away. If current patterns of spending in age-sensitive public programs – healthcare, education, elderly and children's benefits – persist as the population evolves, Canadians will divert more of their incomes from other public and private purposes to fund them.

- Discounted over 50 years, that increase amounts to an implicit liability of $2.8 trillion for governments, with essentially all the burden falling on the provinces and territories rather than on Ottawa.

- Potential policy solutions include prefunding of certain programs, such as drug subsidies for elderly patients, spending restraint and longer-run reforms in financing and cost control.

Demographic change affects government budgets only gradually. In the mid-1990s, some advocates of a relaxed attitude toward aging-related increases in Canadian healthcare costs compared them, not to an avalanche, but to a glacier (Barer et al. 1995). Intended to be soothing, the image is apt in a way those authors did not intend. Even at a glacial pace, such a mass of ice grinds with tremendous force. The impacts of demographic change on Canada's fiscal landscape will be profound, and as we enter the second decade of the 21st century, they are no longer far away.

The net public debts of Canadian governments get keen attention. Figures on the unfunded obligations of the Canada and Quebec Pension Plans (CPP/QPP) are available for those who want to look. The implicit liabilities governments face in their demographically sensitive programs – future services and transfers that Canadians appear to expect, but have made no provision for – are less well known, but much larger.

If current patterns of spending in age-sensitive public programs – healthcare, education, elderly and children's benefits – persist as the population evolves, Canadians will divert more of their incomes from other public and private purposes to fund them. Discounted over 50 years, that increase amounts to an implicit liability of $2.8 trillion for governments, with essentially all of the burden falling on the provinces and territories rather than on Ottawa. Spreading this cost evenly over the period with CPP-style level funding would

require immediate annual levies ranging from 2.9 percent of GDP – $1,800 per person – in Saskatchewan to 7.7 percent of GDP – about $2,700 per person – in Nova Scotia and New Brunswick, and more than 10 percent of GDP – $5,700 per person – in Yukon. These figures underline the need for rapid budget balancing, with measures to contain costs and fund these programs from sources that will support, not slow, future income growth.

Mapping Today's Spending onto Tomorrow's Population

Calculating the interaction of current spending patterns with demographic change is conceptually straightforward. The population projections here are deliberately middle-of-the-road: each jurisdiction's fertility rate continues at its 2007 level; longevity rises similarly to Statistics Canada's "medium" improvement; net inter-provincial migration falls to zero over 10 years, and net international migration for each jurisdiction continues at its 2003-2007 average.

Multiplying each jurisdiction's working-age population (aged 18 to 64 years) by its real output per potential worker – which grows everywhere at 1.75 percent annually, the rate the equivalent national measure did from 1994 to 2008 – yields real projections of real gross domestic product (GDP). Nominal GDP is real GDP times 2 percent inflation.

Program costs are projected for each jurisdiction in four main areas:

- *Healthcare:* Service costs for eight age-groups of each sex[1] are projected assuming that service intensity – a measure of real services provided per person – rises with output per potential worker; i.e., 1.75 percent annually.[2] Costs rise at the pace recorded by the deflator for government consumption from 1994 to 2008; i.e., 2.3 percent annually.

- *Education:* Provincial populations aged 4 to 17 and 18 to 24 drive provincial spending on elementary and secondary students, respectively.[3] As with healthcare, service intensity per potential student and costs rise 1.75 and 2.3 percent annually. The population under 17 drives the Canada Education Saving Grant, while the population aged 18 to 24 and service intensity drive federal grants to postsecondary students.

- *Elderly benefits:* Federal spending is the product of the population aged 65 and up and inflation-adjusted benefits per person; provincial payments assume the same time-path of service or transfer intensity for their elderly populations.[4]

- *Child/family benefits:* Spending on the federal Universal Child Care Benefit varies with the national population of children to age 5; spending on other child-related benefits varies with relevant populations up to age 17.[5]

The Colossal Implicit Liability of Today's Healthcare Deal

Summing projected program costs across the country shows that, if existing age-related spending patterns stay the same, demographic change will raise their total claim on GDP from less than 17 percent this year to more than 24 percent in 2059 (Figure 1). Because most public discussion anticipates neither cuts in these programs nor increases in tax rates, they create implicit assets and liabilities on government balance sheets.[6]

---

1   I pro-rate age/sex breakdowns from CIHI (2009) to match 2009 totals.

2   Linking volumes of services provided per person to economy-wide output per person is arbitrary. It reflects the fact that measures of output in health, and in education, tend to be driven by measures of inputs, mainly labour – and wages will tend to rise with economy-wide productivity.

3   Base-year provincial/local spending on elementary and secondary education is from Statistics Canada (CANSIM, table 385-0001).

4   The federal benefit index is derived from projections from the Office of the Chief Actuary (2008). Base-year provincial is from Statistics Canada's Social Policy Simulation Database and Model (SPSD/M), Release 18 (responsibility for use and interpretation rests with the author).

5   Federal family benefits delivered through the tax system, while indexed to inflation, are income-tested, so real income growth erodes their real value. SPSD/M simulations suggest that in the scenarios modeled here, these offsetting characteristics leave average nominal spending per child unchanged – an assumption that has also been made for (generally much smaller) provincial programs.

6   Delivering the implicit promise without raising taxes would result in higher market debt.

Figure 1: Major Demographically Driven Programs as Share of GDP: National Total
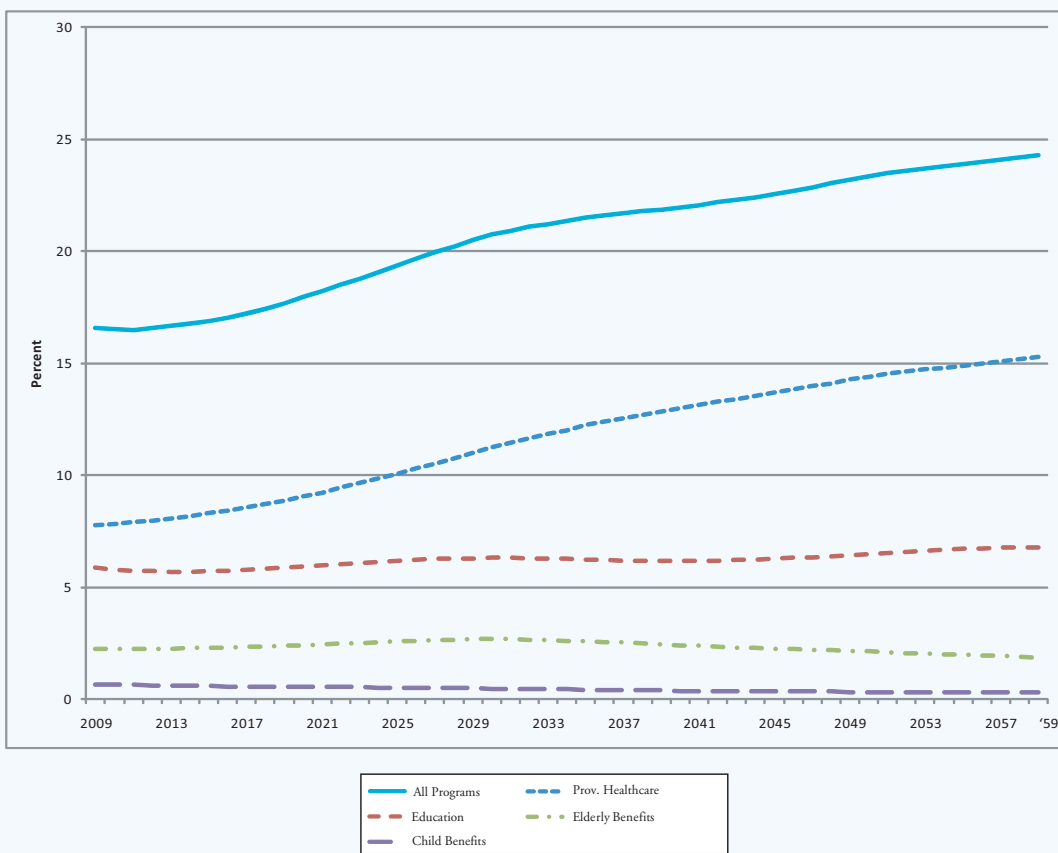
Source: Author's calculations as described in text.

One way to quantify those is to calculate the present value of changes in these programs' claims on GDP over the next half-century. Programs whose claim on income will fall create implicit assets: governments could carry equivalent additional debt and still meet their other obligations without raising tax rates. Programs whose claims on income will rise create implicit liabilities: governments would need equivalent income-earning assets to meet their other obligations without raising tax rates. The national net liability of these programs – $2.8 trillion when discounted at 4.5 percent[7] – measures the gap between the expected benefits of public programs to recipients and their apparent cost to taxpayers from now through the approximate life expectancy of the average Canadian.

This fiscal glacier will grind unevenly across Canada. Table 1 shows the implicit assets (positive numbers) and liabilities (negative numbers) created by each program category in each jurisdiction. The only programs creating implicit assets are child and family benefits – and, except for Ottawa, their relatively small size limits the fiscal benefit. Elderly benefits are a liability, but are also relatively small, since the interaction of growing real incomes and clawbacks will contain their rise. Rising servicing intensity and cost makes education spending a modest liability for the provinces and

---

7   The yield on a long-term government of Ontario bond in September 2010.

Table 1: Demographically Driven Implicit Assets and Liabilities ($billion except as noted)

	Health	Education	Elderly Benefits	Child/ Family Benefits	All Programs	All Programs as % of 2007 GDP	Level Funding % of GDP	Level Funding $ per person
Newfoundland	-58.9	-2.1	-0.2	0.2	-61.0	-199	6.7	4,100
PEI	-10.9	-0.6	–	–	-11.5	-251	7.7	2,500
Nova Scotia	-77.3	-5.2	–	0.1	-82.4	-244	7.7	2,800
New Brunswick	-58.4	-2.5	-0.1	0.1	-60.8	-225	7.2	2,600
Quebec	-592.0	-83.5	–	–	-675.4	-224	6.2	2,400
Ontario	-1,006.9	-53.4	-1.1	13.1	-1,048.3	-178	4.5	2,000
Manitoba	-68.6	-17.0	0.0	0.1	-85.4	-168	4.1	1,700
Saskatchewan	-53.4	-15.7	0.0	–	-69.1	-109	2.9	1,800
Alberta	-372.4	-50.2	-1.1	1.4	-422.3	-144	3.7	2,900
BC	-332.7	-27.6	0.0	0.2	-360.1	-181	4.7	2,100
Yukon	-5.8	-0.4	–	–	-6.2	-329	10.1	5,700
NWT & Nunavut	-19.6	-1.2	–	–	-20.8	-309	7.1	6,300
Provincial/ Territorial Total	-2,657.0	-259.5	-2.4	15.2	-2,903.6	-181	4.8	2,300
Federal	–	14.2	-69.9	198.8	143.2	9	–	–
Canada Total	-2,657.0	-245.2	-72.3	214.1	-2,760.5	-172	4.5	2,100

Sources: Author's calculations as described in text.

territories. Healthcare dominates the numbers: a $2.8 trillion liability for the provinces and territories in aggregate, with tallies in some eastern provinces and in the territories equal to more than double estimated 2010 GDP.[8]

The Cost of "Steady-state" Funding

The mid-1990s reforms to the CPP and QPP aimed to protect future contributors from the mounting cost of benefits to retired babyboomers with a one-time hike in contributions that, by partially prefunding the plans, would make further hikes unnecessary. That example suggests another way to quantify the demographic glacier's effects: the immediate tax hike needed to preclude future ones.

Using the same criterion for sustainability that underlay the CPP reform package – a target investment fund equal to five

---

8   The $2.8 trillion national total exceeds the $1.5 trillion calculated in Robson (2009) by a large margin. Interactions between the model's elements prevent a detailed additive breakdown, but a few changes account for essentially all the increase. Lower assumed productivity growth (1.75 percent rather than 2.0 percent) reduces growth in incomes and servicing intensity in health and education: the net impact accounts for almost one-eighth of the increase in the liability. New population projections account for about one-eighth of it – partly because recent increases in birthrates have reduced anticipated savings in family benefits and education. The lower yield on the provincial bond used as a discount factor (4.5 instead of 5.2 in the previous study) accounts for almost three-eighths. The single biggest factor increasing the liability is simply the passage of time: in the two years that have elapsed since the previous evaluation, more of the potential savings from declining younger populations have moved into the past, while the glacier of the aging babyboom's pressure on healthcare has come closer.

times annual expenditures – Table 1 also shows the tax hike, expressed as a share of GDP and in dollars per person in 2010, that (if it had been in place from 2009) would yield funds equal to five times the additional cost of these programs by the end of the projection. Even in the provinces from Ontario west, the levy would be large: averaging 4 percent of GDP, or about $2,100 per person. In the eastern provinces and territories, it would be huge: at least 6 percent of GDP, and typically about $3,000 per person. Only the federal government faces no demographically driven tax increase.

Summary and Implications

While prefunding the entirety of these demographically sensitive programs combined is not practical or desirable, some programs with predictable cost increases – such as drug subsidies for elderly patients – might lend themselves to this approach.[9] Short-run spending restraint and longer-run reforms, both in financing and in cost control, are needed to deal with a challenge on this scale. Ultimately, provinces will levy higher consumption taxes – perhaps even death taxes – as they seek revenue sources that will support, rather than hold back, the income growth that will let Canadians pay their demographic bills.

The most important message from this calculation, however, may simply be that those who advocated a relaxed attitude toward the interaction of demography and public programs lulled too many Canadians into a false sense of security. The fiscal glacier that was once decades away is almost upon us. The time is now for fiscal and service delivery reforms that make these services sustainable at tolerable cost.

---

9   See Robson (2002) for some examples; Stabile and Greenblatt (2010) elaborate this idea in the context of the Ontario Drug Benefit.

References

Barer M.L., R.G. Evans and C. Hertzman. 1995. "Avalanche or glacier? Health care and the demographic rhetoric." *Canadian Journal on Aging* 14(2): 193-224.

Canadian Institute for Health Information (CIHI). 2009. *National Health Expenditure Trends,* 1975-2009. Ottawa.

Office of the Chief Actuary. 2008. *Actuarial Report (8th) on the Old Age Security Program, as at 31 December 2006.* Ottawa: Office of the Superintendent of Financial Institutions.

Receiver General for Canada. 2009. *Public Accounts of Canada, Volumes 1 and 2.* Ottawa: Minister of Public Works and Government Services Canada.

Robson, William. 2002. "Saving for Health: Pre-Funding Health Care for an Older Canada." C.D. Howe Institute Commentary 170. Toronto. October.

Robson, William. 2007. "Time and Money: The Challenge of Demographic Change and Government Finances in Canada." C.D. Howe Institute Backgrounder 109. Toronto: December.

Robson, William. 2009. "Boomer Bulge: Dealing with the Stress of Demographic Change on Government Budgets in Canada." C.D. Howe Institute ebrief. Toronto: January.

Stabile, Mark and Jacqueline Greenblatt. 2010. "Providing Pharmacare for an Aging Population: Is Prefunding the Solution?" IRPP Study 2. Montreal: February.