

How Big Should Government Be?

(chapter for festschrift in honour of Ian Stewart)

Abstract

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Over the last two decades, Canada has dramatically reduced the relative size of the public sector. While there remain inefficient programs to curtail or scrap, it is very doubtful we can sustain a good set of social programs without an increase in aggregate taxing effort and accommodation of some expansion of relative size of government. There are three interrelated policy recommendations to this essay: increase taxing effort to pre-fund a portion of incremental health costs arising from the baby boom cohorts; use a nationally imposed carbon tax as means to do so; and increase public funding of early childhood to grade 12 (pre-K–12) public education funding. It is an understatement to add that, in the short run, this is not an electorally saleable agenda.

At first viewing, Canada's fiscal position post-2008 resembles that of the early 1990s. In both cases, a recession induced the eleven senior governments (Ottawa plus provinces) to incur multi-year deficits or dramatically increase inherited deficits. But on second viewing, there are important differences.

By the early 1990s, Canada had experienced nearly two decades of continuous public sector deficit and the aggregate federal-plus-provincial public sector debt / GDP ratio was among the highest of OECD member countries. There was discussion at the time of bankruptcy among the most indebted provinces and of a sell-off of Canadian sovereign debt analogous to that experienced by Mexico in 1994. Starting with Saskatchewan in 1992 – at the time the most indebted of the 11 senior governments, whose senior officials and cabinet were fearful of financial markets refusing to buy additional bonds – followed closely by Alberta in 1993, by Ottawa and Ontario in 1995, and finally by the remaining provinces, Canadian politicians undertook controversial exercises in fiscal redress. Over the 1990s, Canada realized one of the more impressive exercises in fiscal redress in OECD history. And over the 2000s, Canada remained for most years in fiscal surplus until 2009. With much-reduced debt / GDP ratios in Ottawa and in most provincial capitals, there has been no analogous talk post-2008 of markets refusing to finance the debts of senior governments.

A second difference is the relative size of the public sector. In the early 1990s, the Canadian public spending / GDP ratio was above 50 percent and close to the top quartile for OECD member countries; at the start of the current recession in 2008, Canada's ratio was below 40 percent and at the bottom quartile. (See figures 1 and 2.) Along with other OECD countries, Canada increased public spending in the last several years, but has continued to track the bottom quartile. The OECD is projecting that it continue to do so into 2012.

During the second half of the 20th century, most OECD countries – including Canada obviously – greatly expanded their portfolio of social programs. The Americans deviated from this trend: US social program spending expansion was relatively modest; increases in military spending were not modest. In aggregate, US public spending remained below the bottom quartile. The severity of the post-2008 recession in the US has induced a larger increase in US public spending relative to GDP than in Canada, and since 2008 the two countries' spending / GDP ratios have differed by less than 2 percentage points.

A third difference is a decline of the tax gap with the US (defined here as the difference in percentage points between the Canadian and US revenue / GDP ratios). Ever since Canadians decided in the 1960s to adopt a set of social programs of comparable generosity to those in Europe, a gap has existed. At the height of Canada's fiscal crisis in the early 1990s, that gap exceeded 11 percentage points. During the 1990s it declined slowly as Canada maintained its high taxing effort and the US increased somewhat its own tax / GDP ratio. During the 2000s the US changed directions and, over the two terms of George Bush's presidency, reduced its taxing effort. However, Canada reduced its effort more aggressively; hence the gap continued to decline. By 2012, the OECD projects it will have declined by half relative to the early 1990s.

Arguments for – somewhat – higher taxes

David Brooks (2011), New York Times columnist, was right when, in January 2011, he predicted that the combination of a Democrat in the White House (who has dramatically expanded government-financed health insurance) and a Congress dominated post midterm elections by Republicans (many of whom embrace a small government libertarian agenda) will spark an intense debate over the appropriate size of the US government and appropriate taxing effort to undertake. The US debate is more acerbic than the Canadian, but here too the subject is controversial. The March 2011 federal budget champions the Conservative "low tax advantage" theme; their opponents, at both the federal and provincial level, advocate strenuously for increased spending on a range of programs.

Raising the public sector's taxing effort by, say, four percentage points relative to its 39 percent average since 2009 would return the Canadian taxing effort to levels prevailing in early years of the previous decade and place it close to the projected OECD median for 2012. I discuss later the rationale for the target. But first why undertake any increase?

Stay in step with the others

One line of argument is an appeal to the central tendency among OECD countries. If the typical OECD member state has been unable to finance its programs with as low a taxing effort as Canada, maybe we are unduly squeezing program spending.

Voter preferences offer little support for this argument. Since 2006 Canadians have given a plurality of votes in two – probably three – successive federal elections to a "low tax" party that, since 2006, has governed the country: lower Canadian taxing and spending post-2000 correspond to median voter preferences.

The World Values Survey (2011) affords evidence to the effect that Canadians are among the more adamant of citizens in OECD member states in not wanting government to “do more” than at present. In its 2005-08 round, respondents were asked to indicate their extent of agreement or disagreement with each of the following propositions: “People should take more responsibility to provide for themselves vs. the government should take more responsibility to ensure that everyone is provided for.” Respondents could express complete agreement with the statement that people should take more responsibility (scored at 10), complete agreement with the contrary position (scored at 1) or degrees of (dis)agreement with each statement by choosing a number between 1 and 10. Figure 3 plots the average national scores among 17 OECD member countries against the average taxing effort in the country over the decade 1999-2008.

Several observations are worth making:

- There is an obvious shift toward “people should take more responsibility to provide for themselves” as the taxing effort rises and, *mutatis mutandis*, a shift toward the opposite position as taxing effort falls.
- The Anglo-Saxon countries (US, Britain, Australia, New Zealand, Canada) are outliers. At any given taxing effort, these countries are more inclined to conclude that people should be taking more personal responsibility.
- If we allow Switzerland as an honorary Anglo-Saxon country and regress the average national response on taxing effort and an index variable indicating an Anglo-Saxon country, a 10-point increase in taxing effort induces a 0.8-point shift in a country’s score towards more personal responsibility.¹
- The 17 country scores range from 3.5 to 6.4. Arguably, the direction of causation can in the medium term (extending over decades) be inverted: public opinion on this dimension imposes a floor and ceiling on the ability of democratically elected governments to tax or not.
- Canada’s average score is 6.0, a value well above the average. Based on these results, undertaking an increase of, say, 4.0 points in taxing effort would raise the Canadian score above 6.3, placing it second only to Sweden in terms of people expecting people to take more personal responsibility, government to do less.

Pre-fund baby boomers’ “frail elderly” health care costs

If voters’ attitudes act as an ill-defined, soft constraint on size of government, a better-defined, harder constraint is financial market expectations of the willingness among citizens of a jurisdiction to redeem outstanding sovereign debt. In the 1990s, market scepticism played a powerful role in persuading Canadian politicians to undertake fiscal redress.

The roots of Canada’s 1990s’ fiscal crisis lay in political decisions of the 1960s and 1970s, when Canadians opted for social programs of European generosity without, simultaneously, accepting

¹ The OLS results are as follows: $y = 1.32 + 1.66x_1 + 0.08x_2$, where y is the predicted national score, x_1 is a dummy taking the value 1 for Anglo-Saxon countries (plus Switzerland) and 0 elsewhere, x_2 is average revenue / GDP over the decade 1999-2008. The adjusted R^2 is 0.77; both regressors are significant at 0.001.

the taxing implications. Distracted by two prolonged and complex constitutional conflicts – which order of government had the better claim to resource rents, whether Quebec would stay within the federation – both orders of government long resisted redesign of their respective social programs and the increased taxing effort required to assure fiscal credibility. Instead, each blamed the other for its respective fiscal difficulties. Ottawa accused the provinces of moral hazard in design of provincial programs to maximize federal social program liabilities – under unemployment insurance and Canada Assistance Plan in particular. The provinces blamed Ottawa for unilateral imposition of constraints on federal social programs and on intergovernmental transfers, the effect of which was to exacerbate provincial deficits.

Both orders of government did finally undertake program redesign and increased taxing effort in the 1990s. Among the principal federal initiatives was a near-doubling of CPP premiums, which restored actuarial credibility to the program's defined pension benefits. The initial CPP payroll tax design of the 1960s envisaged a modest reserve fund and primarily pay-as-you-go payroll tax funding. The actuarial modeling extrapolated post-WWII fertility rates, contemporary life expectancy after age 60 and average labour productivity increases. Hence, the program did not incorporate the fact that the cohort born in the two decades post-WWII would be proportionately large and, once retired, would pose exceptional pension costs on the working-age population. The present partially pre-funded CPP strategy entails two central features, a payroll tax rate sufficiently high such that it can be constant over the next 75 years, and a reserve fund target. The payroll tax rate has been set – at 9.9 percent, compared to 6.0 percent in mid-1990s – at a level so as to permit the reserve fund to stabilize at approximately five times annual expenditures over the next 75 years.²

Extrapolation of pre-reform tax rates implied exhaustion of the reserve fund within two decades, and thereafter complete reliance on a rising pay-as-you-go payroll tax. The reform improved intergenerational equity and economic efficiency: it required baby boomers in the labour force to pay a higher share of their expected benefits and lowered required payroll tax rates in future decades.

Bill Robson's (2010) monograph is a good introduction to a much larger loss of actuarial credibility looming over provincial insurance of health care. In it he undertook an exercise in projecting core social program costs (health, education, elderly transfers and child/family benefits) over the next half century, using "middle-of-the-road" assumptions: constant fertility rate, employment rate at pre-recession levels, an annual increase in labour productivity of 1.75 percent, life expectancy rising according to Statistics Canada's "medium" case, and extrapolation of present per student labour inputs for education costs and of present per capita labour inputs for eight age- and sex-specific groups in the case of provincial health costs. Under these assumptions, the total cost of these four services rises from under 16.5 percent of 2011 GDP to 20.9 percent of 2031 GDP, and 23.5 percent of 2051 GDP.

Virtually all of this increase is due to provincial government expenditure on health care. Underlying the health care estimate are several factors:

² See Canada (2007) for a summary of the actuarial exercise underlying mid-1990s CPP reform.

- the age distribution of average per capita health costs – they are heavily skewed toward the “frail elderly” over age 75;
- innovation in medical technologies and public expectation of their incorporation into the meaning of “comprehensive” “universal” publicly funded health insurance;
- increase in post-65 life expectancy; and
- the exceptionally high proportion of the population over age 65 for the next three decades. In turn, the post-65 bulge reflects high fertility in the two post-WWII decades, healthier lifestyles of a more prosperous population, the success of new medical technologies, and a more equitable access to health services due to universal government-financed health care for “medically necessary.”

The efficiency and equity arguments for pre-funding a portion of future CPP benefits apply equally to health care. Applying the CPP partial pre-funding precedent, Robson calculates the increase in taxing effort required to honour the implicit social contract of present age-specific health care intensity levels indefinitely. The once-and-for-all increase in taxing effort amounts to 4.5 percent of GDP.

Don't let the health minister eat everyone else's lunch

Robson assumes Canadian senior governments undertake no further increases in service intensity in health care or education; nor do governments increase real per capita elderly and child benefits. However, arguably there should be some discretionary increases in service intensity in one or more of the core social programs. Here I make the case for expansion of pre-K–12 education.

This third line of argument is implied by the comments of a senior administrator – he would probably prefer not to be cited – who has summarized his observations of cabinet budget deliberations at the provincial level as follows: “when ministers gather to allocate incremental revenues for new programs, the health minister eats everyone else's lunch.”

An illustration of the appetite of health ministers is the 2011/12 British Columbia (2011,17) budget. It estimated a 2010/11 – 2011/12 increase in consolidated revenue fund spending of nearly \$1.1 billion. The estimated increase in health spending exceeds \$900 million, leaving approximately \$150 million for all other agencies. The current BC budget is a typical outcome of provincial cabinet deliberations, one that has been repeated across the country since the end of the 1990s' fiscal crisis.

That health care is absorbing the great majority of incremental provincial spending does not prove that other spending envelopes should be funded more generously. However, it is evidence of politicians' acute sensitivity to spending priorities of the baby boom generation – and probably insufficient sensitivity to the case for public spending elsewhere. The cohort born between 1945 and 1965 now straddles the conventional retirement age of 65. Its members have less immediate concern with productivity-enhancing public expenditures. On the other hand, they have an intense concern with relaxing the administrative constraints that define public health expenditures: use of waiting lists for elective surgery and access to expensive diagnostic services; imposition of co-payments on pharmaceutical drug reimbursement, and so on. Their

above-average propensity to vote, relative to younger generations, augments the political salience of spending on health care.

There is a case for resolving the health-financing dilemma by relaxing the ill-defined constraints of the Canada Health Act and enabling additional private funding. However, private spending is not a panacea. It is worth stating briefly the fundamental equity and efficiency arguments for a single-payer insurance system continuing to dominate the health market. The equity argument in terms of access is straightforward. The efficiency argument depends on two effects. The first: improved population health improves labour force productivity. The second effect is that single payer systems potentially avoid significant information asymmetry problems. Realizing the second rests ultimately on the quality of public management: the ability to apply reasonable cost/utility criteria in making major decisions and in design of “internal markets” (such as laws and regulations defining the market for physician-provided ambulatory care). If public management is of reasonable quality, OECD experience is that rent-seeking and moral hazard can be sufficiently contained so as not to overwhelm the substantial efficiency and equity gains.

Having restated the case for single-payer health insurance, let me restate the case that well managed publicly funded education, particularly pre-K–12, is probably the pre-eminent social program, both in terms of enhancing economic productivity and equity relative to private market outcomes (Hanushek 2007).

By the time students complete secondary studies, they and their families are usually in a position to judge the costs and returns from investment in further education. At that stage it is far from clear that student costs – out-of-pocket and opportunity cost of foregone income – are in Canada the major impediment to students engaging in further studies (Finnie et al. 2011). There is a case for encouraging higher PSE participation via implementation of contingency loan schemes, in effect agreement by students to an income tax surcharge. However, the case for new initiatives to lower student out-of-pocket costs is not strong. Among particular groups with low PSE participation, the key usually lies in frustrated expectations and disappointing outcomes at earlier education stages.

The appendix makes the case for additional spending on pre-K–12. Here I conclude simply that a well managed targeted increase of, say, 0.5 percent of GDP (about \$8 billion nationally) might generate significant benefits, both in terms of equalizing earnings distributions among the next generation and enhancing aggregate productivity. Currently, public plus private spending in Canada on pre-K–12, expressed as share of GDP, is slightly less than the OECD average (3.5 percent compared to 3.6 percent). The correlation between amount spent and outcomes is weak but most countries besting Canada spend somewhat more.³

Implementing a substantial carbon tax

³ Two of those besting Canada in terms of the 2009 PISA round are Finland (spending 3.6 percent) and Korea (4.0 percent) (OECD 2010b, Chart B2.2).

Since collapse of many derivatives markets in 2008, scepticism has grown as to the potential for changing business and consumer behaviour via emissions trading schemes (NRTEE 2009, Olewiler 2009). Under political pressure from adversely affected sectors, governments issue too many permits, and the large reductions in total permits required to meet emissions reduction targets are scheduled too far in advance to be credible in the short run to either firms or consumers. Among those advocating the pricing of greenhouse gas (GHG) emissions, there has emerged a trend toward the tactic of a carbon tax, thereby cutting the Gordian knot of the logically equivalent but far more complex instrument of emissions trading. Which leads to a fourth argument.

The government of Canada's current targets for GHG emissions are that they fall 20 percent below 2005 levels by 2020, and 65 percent below 2005 levels by 2050. To realize these targets, the latest report of the National Roundtable on the Environment and the Economy (NRTEE 2009) envisions a carbon price of \$100 / tonne of CO₂ equivalent by 2020, rising to \$200 / tonne by 2025, combined with some international purchase of carbon offsets. To realize the targets domestically, without international trading, would require a \$300 / tonne price.

Based on 2008 Canadian GHG emissions and a tax levied on major emitters responsible for 50 percent of total emissions, a \$100 / tonne tax would raise approximately 2.2 percent of 2011 GDP; \$210 / tonne would raise 4.5 percent, enough to pre-fund baby boomers' "frail elderly" health care; \$230 / tonne would raise 5.0 percent, leaving 0.5 percent for pre-K–12 education.

Options, recommendations and qualifications

In moving from a hypothetical discussion of the magnitude of taxes and expenditures to a discussion of institutional arrangements consistent with Canadian history, two policy options deserve consideration: expand equalization and transfer a slice of the health cost pie from provincial to federal management and financing.

There are limits to the CPP precedent. While politicians may precipitate a further crisis by enlarging benefits without corresponding tax adjustments, well defined benefit regulations provide reasonable credibility to the program's financial viability. No such regulations exist to constrain health care benefits. At present, the financial credibility of public health insurance programs rests on public willingness to pay the required pay-as-you-go taxes, as interpreted by provincial and – to the extent Ottawa is prepared to share costs – federal politicians.

There is a transparent Pigovian argument for pricing emissions. To do so would be controversial but a political party could potentially win an election on the promise. One criticism – among many – of the Liberals' "green shift" carbon tax campaign in the 2008 election was that too much of the incremental revenue was to be dissipated over an ad hoc assortment of special interests. It was intellectually and politically indefensible. Pre-funding incremental health care is a far more transparent and defensible use of funds.

Expand equalization

Management of an earmarked tax – a carbon tax or some other – could follow the CPP precedent of management by an arm’s length appointed board. Payments to provinces would be governed by demographically driven formulae. Provinces might be expected to demonstrate incremental “elderly” care costs in order to receive funds. Nothing in this arrangement would prevent provinces from financing more generous care, provided they were prepared to raise the necessary own-source revenue. Were the Canada Health Act relaxed, baby boomers could buy additional care privately. The effect of all this would be to add a needs component to equalization.

In the words of the Constitution Act (s.36 (2)), “Parliament and the government of Canada are committed to the principle of making equalization payments to ensure that provincial governments have sufficient revenues to provide reasonably comparable levels of public services at reasonably comparable levels of taxation.” Equalization is a valuable institution inasmuch as it enables reconciliation of Canadians’ expectations of comparable services across the country with the benefits of decentralized management. If provincial governments are to realize reasonable standards of efficiency in program spending, provincial political debates must internalize both the costs and benefits of incremental public spending. Tax-spending coincidence is a valuable means for encouraging such a political culture. As a fixed annual transfer independent, in principle, from short-run political moral hazards, equalization enforces, at the margin, tax-spending coincidence on the provinces. If a province intends to spend an additional \$x million on a program, provincial residents must be prepared to bear \$x million in additional taxes.

To date, the rationale for equalization has been per capita provincial fiscal capacity arising from a defined representative tax system. The most recent major assessment of the program (Canada 2006) opposed expansion of the rationale to include fiscal needs, for fear of adding to acrimonious debates over definition of fiscal capacity a second dimension of intense regionally based conflict. The case against adding a needs dimension is a powerful one. On the other hand, there are no easy ways to finance and manage the looming incremental cost of health care. And given differences across provinces in age distributions, incremental costs will differ across provinces on a per capita basis. Whatever their inadequacies, in the Canadian context the provinces have historically been the locus of most significant allocative decisions with respect to health care. Ottawa has provided statements of principle (vis. The Canada Health Act) and some cash; it has not undertaken much health management.

Most Ottawa social policy spending is in the form of cash transfers, either to individuals or to provinces; most provincial social policy spending is in the form of labour-intensive services. In addition to the historical and cultural reasons for organizing Canada as a federation with a constitutionally specified allocation of spending and taxing jurisdictions, the 20th century provided managerial reasons for doing so. Scale economies exist in managing cash transfers to individuals, and most cash-based social programs are under Ottawa’s mandate. However, in managing the labour-intensive services of health and education, there may be scale economies lost in the case of the six small provinces, but there would almost certainly arise major diseconomies of scale were, hypothetically, the federal health ministry to assume responsibility for provincial health programming.

Transfer a component of health care programming to Ottawa

The present agreement governing Ottawa's share of provincial health care budgets was negotiated in 2004 for a period of ten years. At the time of negotiation, the provinces proposed that Ottawa assume responsibility for pharmacare, with the hope that Ottawa organize a national formulary, undertake bulk purchasing of generic drugs, and standardize pharmaceutical insurance on a national basis.⁴ Pharmaceuticals, the most rapidly growing major component of health spending, now comprise about a sixth of provincial health costs, about 1.5 percent of GDP. Ottawa refused the provincial offer, preferring to transfer cash instead.

The provincial offer of 2004 still makes sense. Of all major health care components, pharmaceuticals are the most likely to demonstrate scale economies – in cost/utility evaluations necessary for formulary design, potential to exercise market power in bulk purchasing, and so on. On the assumption that pre-funding of incremental health care is undertaken via a federally imposed tax, federal assumption of managerial and financial responsibility for pharmaceutical programming would increase tax-spending coincidence, which might enhance overall health care management. It would lower the magnitude of any needs-based component to equalization.

Conclusion

The above entails projections based on highly simplified assumptions, and an abundance of speculation. Nonetheless, such speculation has its role. At a minimum, the exercise illustrates the fiscal implications of three major policy problems: application of the CPP precedent to pre-funding health care for the boomer cohort; imposition of an effective carbon tax, which implies a similar increase in taxing effort / GDP to that required for pre-funding health care; and provision of tax room for some incremental programming in pre-K–12 education.

⁴ Greg Marchildon (primary author of the Romanow Inquiry report of 2002) was among the advocates at the time of a transfer of pharmacare to Ottawa. His article (Marchildon 2006) is probably the best argued rationale for doing so.

Appendix

The Potential for Better Outcomes in Pre-K – 12 education in Canada

The necessary preamble to this discussion is that educational performance depends on many things. In addition to the quality of a student's school (including peer effects among students in the school), the education, income, and cultural expectations of academic success in the student's family matter a great deal.

Much is right with Canada's K-12 education system: dropout rates have fallen by nearly half over the last two decades, and Canada's average student performance in the 2009 PISA round is respectable (Canada 2010). Canada ranked 6th of 63 countries in the combined reading score, 10th in mathematics, 8th in science.⁵ Disaggregating the data reveals however grounds for improvement.

Start with the issue of school dropouts. Poor performance on standardized tests is a powerful indicator of a student subsequently dropping out and almost certainly failing to pursue training beyond the secondary level. Between 2000, the year of the first PISA round, and 2009, the performance of academically weak Canadian students (students at the 10th percentile) declined in reading and math; they remained unchanged in science. In some provinces and some subjects, 10th percentile scores rose over the last decade; in most provinces and most subjects, they fell. Large declines (over 20 points) exist for reading in three provinces (SA, MB, PEI), for mathematics in four (AB, SA, MB, PEI), for science in two (MB, PEI). Increases (10 points and over) exist for reading in three provinces (ON, NB, NS) and for science in two (ON, NS).⁶

Another measure of Canadian school systems is our international ranking among academically weak students (those at either the 10th or 25th percentile of the respective jurisdiction's distribution) and those who are academically strong (at the jurisdiction's 75th or 90th percentile). (See figures A1 and A2.) Correlation between the two rankings is high: systems in which weak students score well are systems in which stronger students also tend to do well. In ranking countries and provinces at the jurisdiction's 25th percentile, in aggregate and in five provinces, Canadian results are at or above the top quartile; two provinces are in the second quarter. However, one is in the third (NB) and two (MB and PEI) are at or below the bottom quartile. In ranking at the 75th percentile, aggregate Canadian results and those of four provinces are at or above the top quartile; three provinces are in the second quarter. The same three provinces are below the median: two in the third quarter (MB and NB), and one in the bottom (PEI).

Three groups in particular – children in some immigrant communities, those living in rural areas, and Aboriginals – exhibit a worrisome lack of educational attainment compared with the Canadian average.⁷ Canada's most serious education gap is that between the 1.2 million who

⁵ The major component of this round was reading; the minor components were mathematics and science.

⁶ See Richards (2011) for elaboration.

⁷ For a short survey of geographic and ethnic aspects of school dropout rates in Canada see Richards (2011).

identified as Aboriginal in the 2006 census and other Canadians. As with national PISA statistics, it is important to disaggregate. Among Métis, who comprise one-third of the Aboriginal total, there is relatively good news. From older to younger cohorts (those ages 45 and over, ages 35-44, and ages 25-34) there is a continuous decline in high school dropout rate. Among those who identified as North American Indian/First Nation, the dropout rate is lower among those ages 35-44 relative to those ages 45 and older but has stabilized at high rates. Predictably, the dropout rate is much lower among those choosing to live off-reserve and to participate actively in the mainstream economy, but for both on- and off-reserve Indian/First Nation people, the ages 25-34 dropout rate is slightly higher than for those ages 35-44. (See figure A3.) Not illustrated is a similar pattern at the level of post-secondary education. There is progress between the cohorts over age 45 and those ages 35-44. However, there is no further improvement when assessing the ages 25-34 cohorts. Among Métis, there is at best stagnation in the share with post-secondary training; among the Indian/First Nation population, there is a clear decline.

Figure A4 illustrates reading performance by grade in 73 on-reserve schools in BC in the 2009/10 school year: 18 pre-K nurseries and 55 K-12 schools. (The pre-K and K-12 data are not readily comparable: the former refer to the pre-K nurseries; the latter include the minority who attended nurseries and the majority who did not.) The figure displays a typical pattern among children whose culture affords a limited value to formal education. A bare majority are “at or above grade” in kindergarten and grade one. In successive grades the share performing “at or above grade” falls, until dropouts become significant in secondary grades; thereafter, the “at or above” share rises somewhat among the smaller cohorts still attending school.

Whether young children growing up in stable, middle-class, two-parent families realize cognitive benefits from early childhood programs is doubtful. There is no evidence, for example, that Quebec’s universal childcare program has generated cognitive benefits for Quebec children relative to children elsewhere in Canada or Quebec children prior to implementation of the program (Lefebvre et al. 2010). Which implies spending annually \$12 billion (0.7 percent of GDP) on a universal national pre-K child care program is probably an inefficient allocation of funds. However, good quality early childhood education undoubtedly generates positive results in early primary grades for children from “at risk” families where the probability of children dropping out is high.⁸ Early childhood programs are not a panacea: unless supplemented with other programs, the benefits tend to fade in upper primary and secondary school.

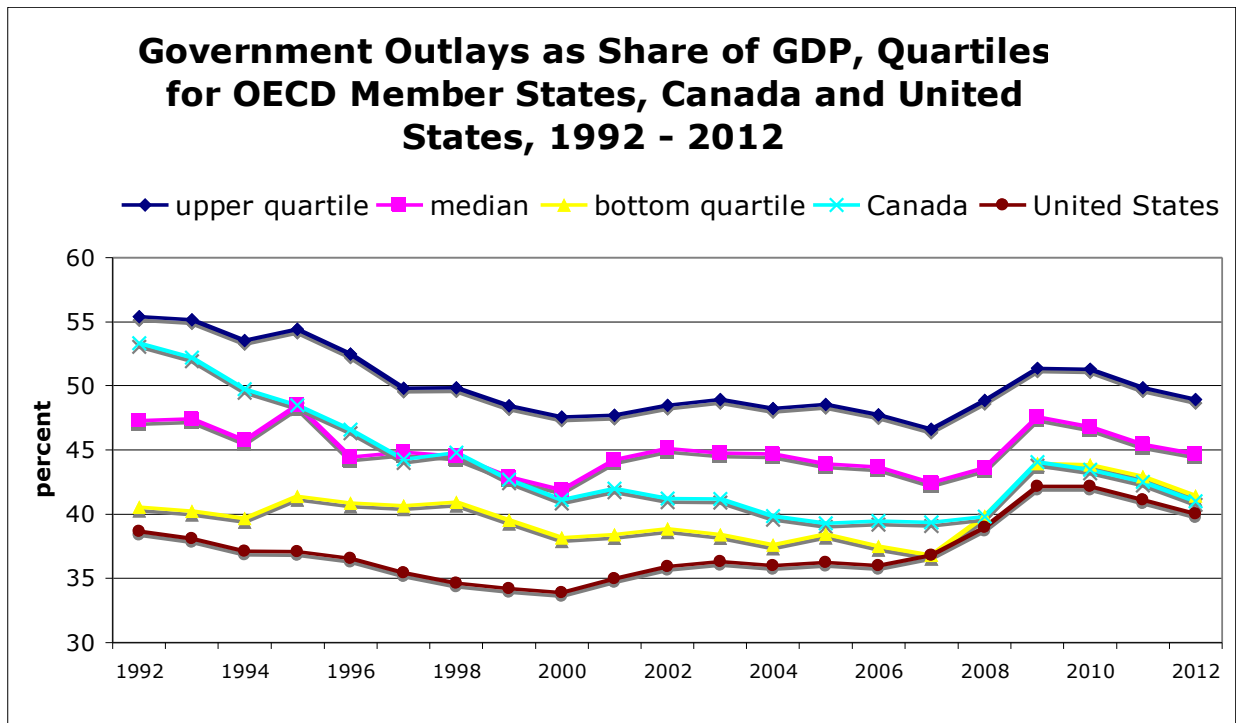
The Centre for Study of Living Studies has published numerous reports in recent years documenting that education gaps are by far the most important single factor in explaining Aboriginal / non-Aboriginal earnings gaps, and estimating the productivity gains if the education gap is reduced or, even better, eliminated.⁹ The OECD has recently undertaken analogous exercises, estimating the public and private returns to completion of upper level secondary studies (relative to not doing so) in OECD member countries (OECD 2010b). For Canada, the

⁸ See Richards & Brzozowski (2006) for a review of the evidence.

⁹ See Sharpe et al. (2009) for a representative study in this series.

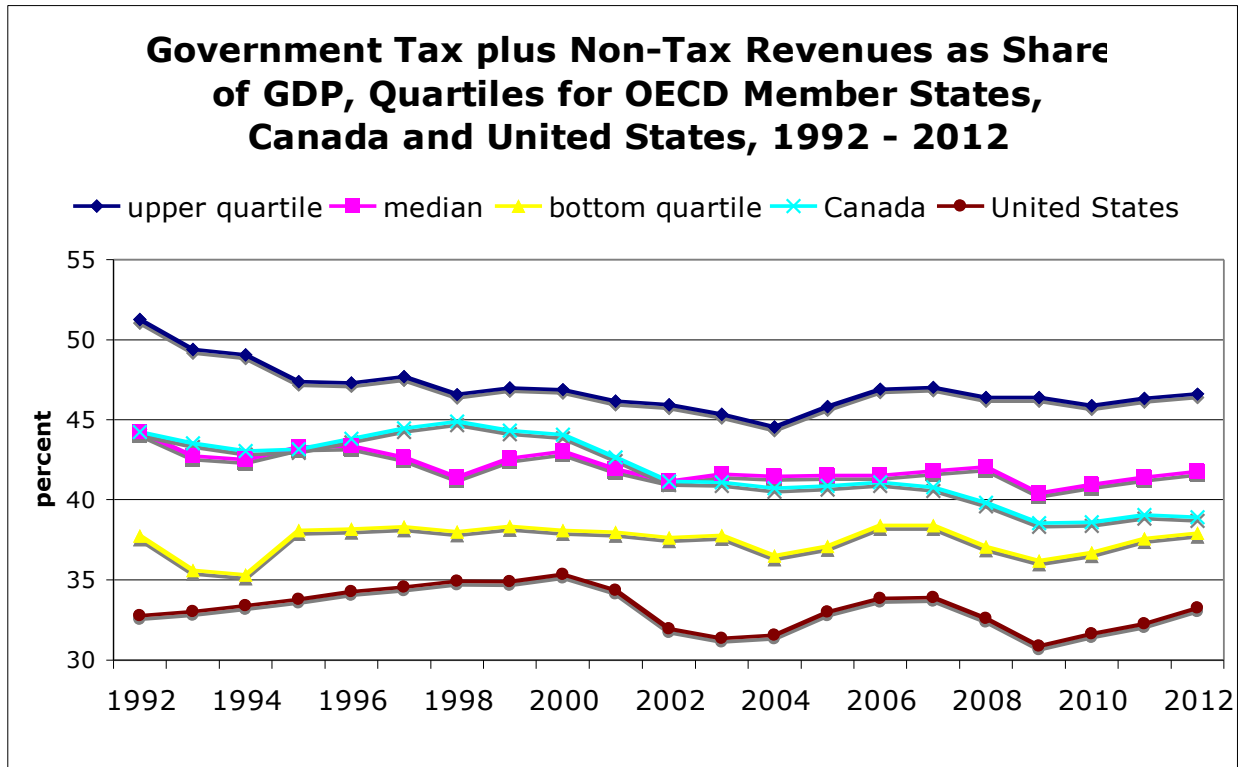
estimated private rate of return to a student from completion is about 13 percent, and the public return about 7 percent. The private and public returns on further lowering of the high school dropout rate are no doubt lower than the average estimate, but the net present value of public cost increases plus public benefit declines per student would have to exceed \$30,000 before the public rate of return fell below 3 percent, the discount rate assumed in the OECD exercise. Similarly, the net present value of private benefits less private costs would have to decline by \$100,000 for private net benefits to turn negative at a 3 percent discount rate.

Figure 1



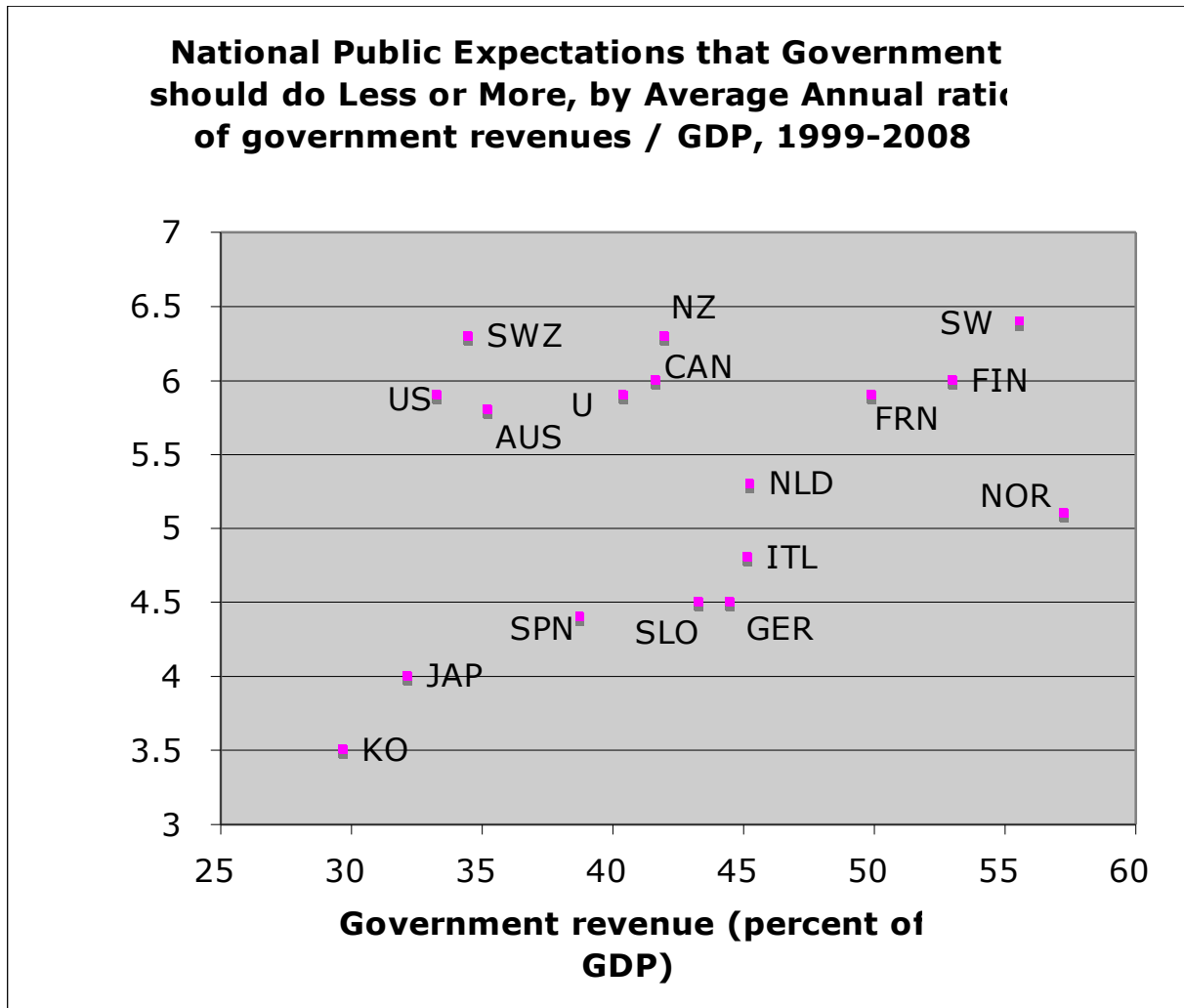
Source: OECD (2010a)

Figure 2



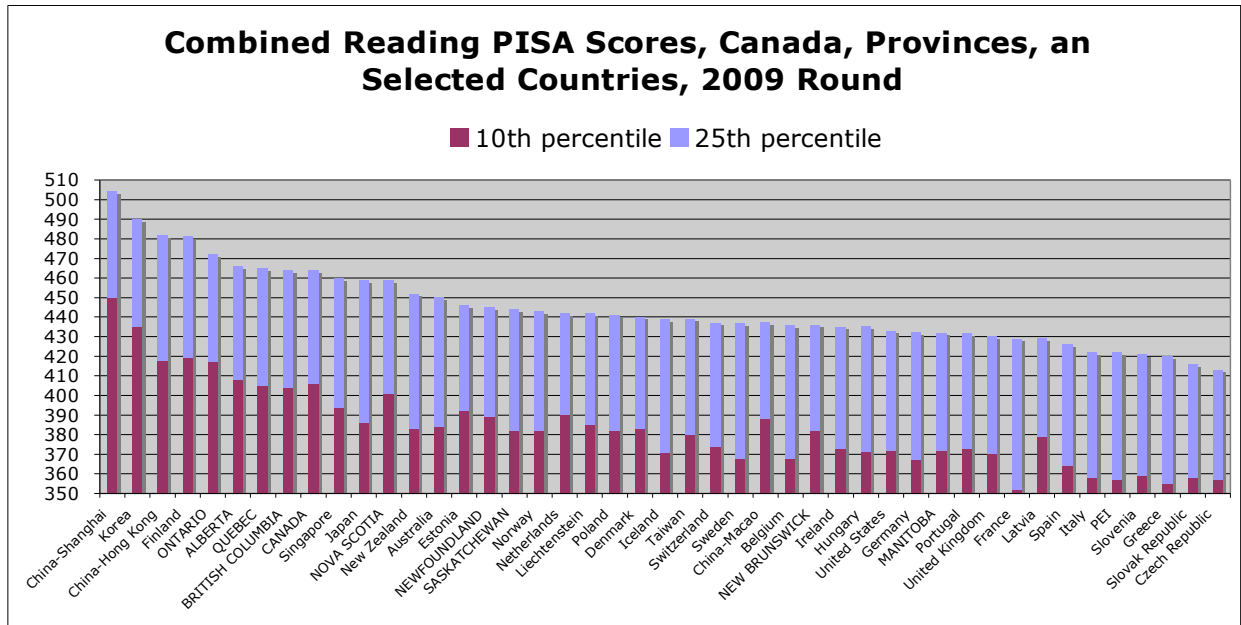
Source: OECD (2010a)

Figure 3



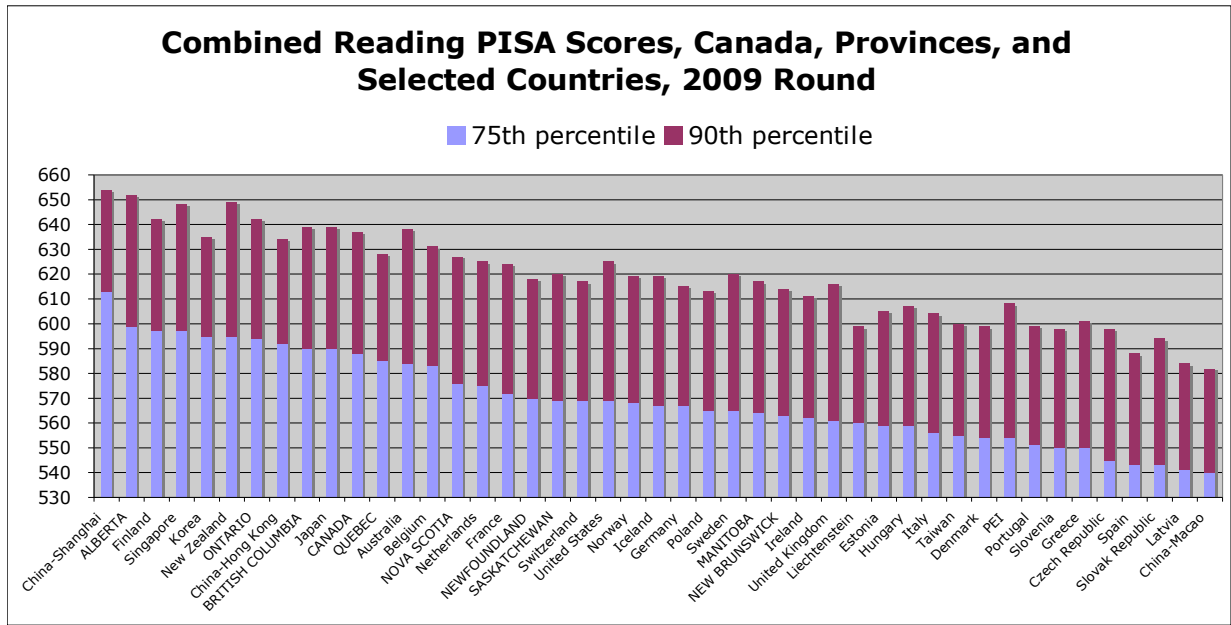
Source: author's calculations from OECD (2010a) and World Values Survey (2011)

Figure A1



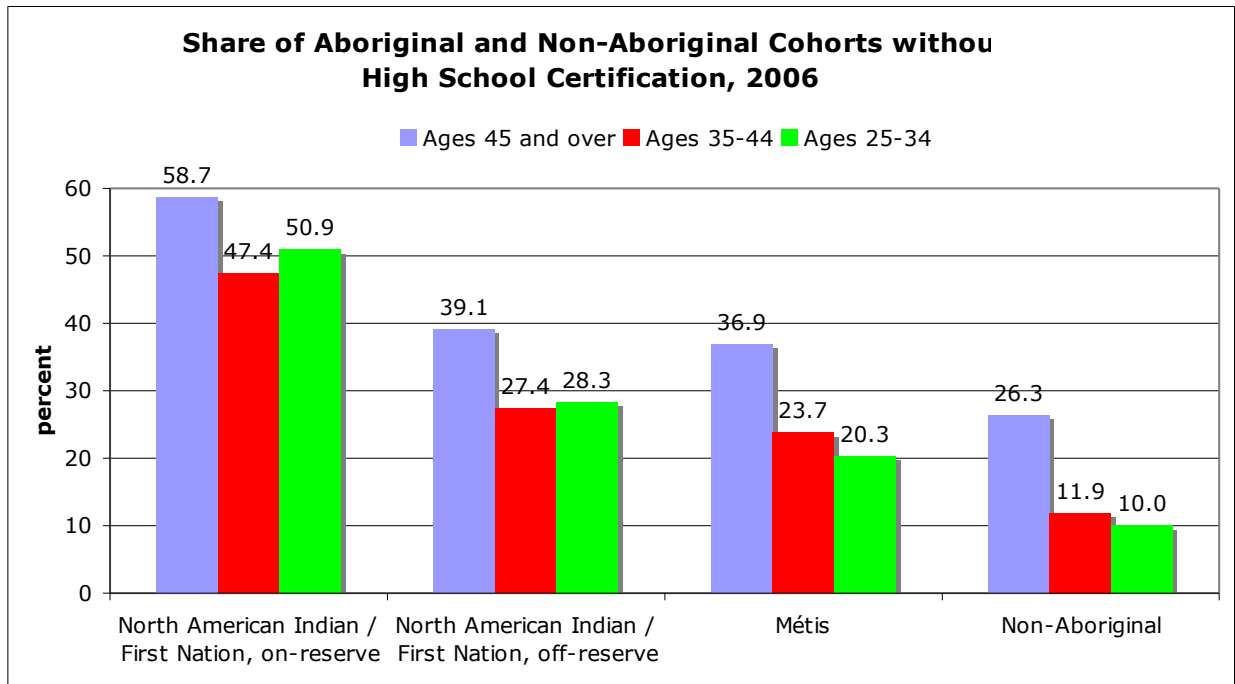
Source: Canada (2010)

Figure A2



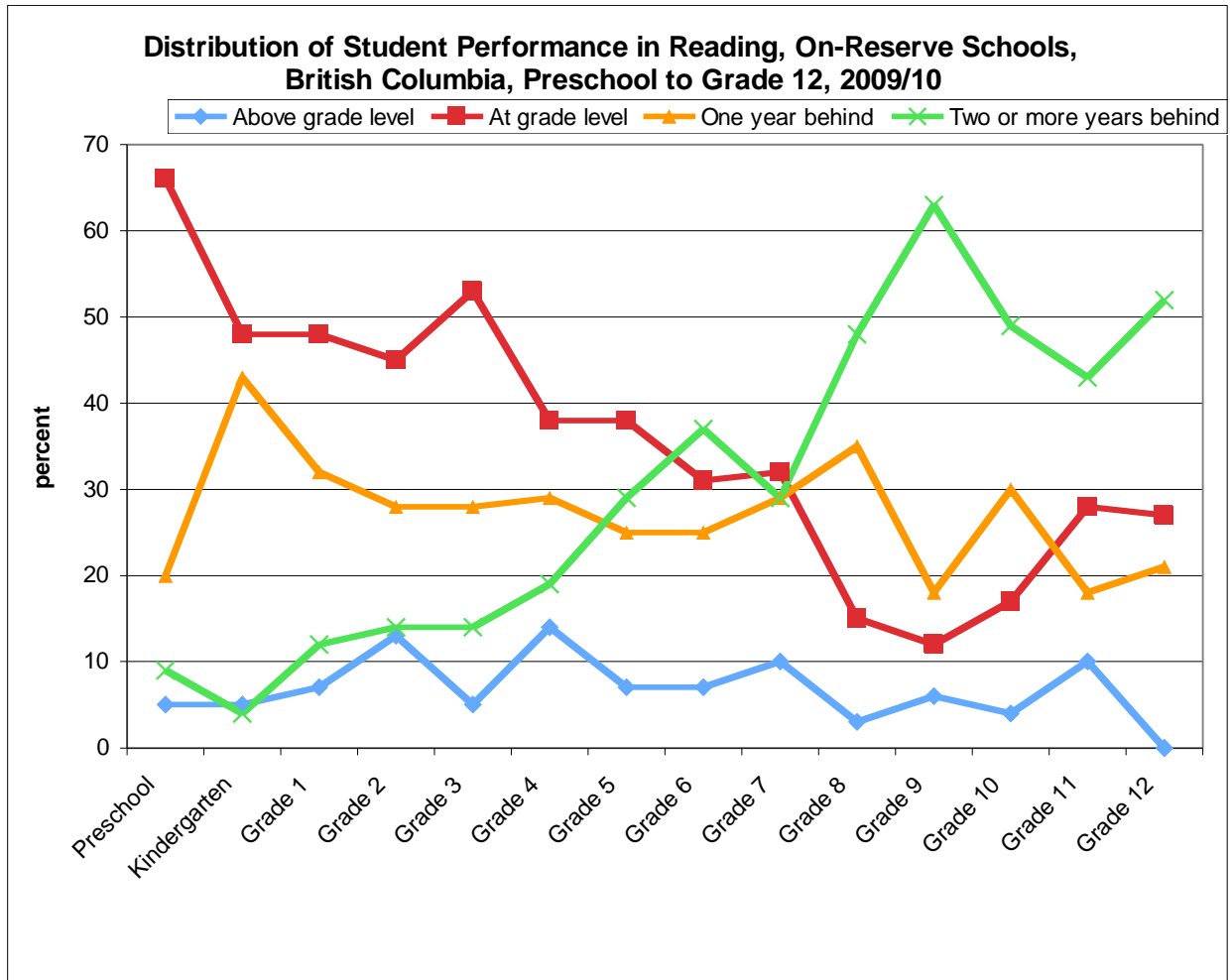
Source: Canada (2010)

Figure A3



Source: author's calculations from 2006 census data (Richards & Scott 2009)

Figure A4



Source: Tindall (2010)

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