GENERATION squeeze

Measuring the Age Gap in Canadian Social Spending

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Generation Squeeze is a national campaign to build A Canada that Works for All Generations.

The campaign is co-hosted by the Association for Generational Equity (AGE) and the Human Early Learning Partnership in the University of BC School of Population and Public Health, Vancouver, BC.

HUMAN EARLY LEARNING PARTNERSHIP

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Authorship: As first author, Paul Kershaw is responsible for all elements of the analysis, and wrote the paper. All errors and omissions are his. Lynell Anderson contributed to the design of the study's methodology, and prepared much of the data reported in Tables 1 and 2.

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Abstract

This paper documents a method to measure total Canadian social spending per capita for the aging population (age 65+) and younger generations. The results show that Canadian governments combine to spend between $33,321 and $40,152 per person age 65+, $13,635 and $14,800 per person age 45 to 64, and $10,406 and $11,614 per person under 45. Measuring the age distribution in social spending is necessary to evaluate Canadian commitments to intergenerational equity, as well as policy adaptations to the evolving socioeconomic, demographic and environmental trends facing older and younger Canadians.

Keywords: generational equity; intergenerational justice; government budgets; age

Measuring the Age Gap in Canadian Social Spending

Canadian Premiers announced a new Task Force on Aging in 2014. They intend the Task Force to "raise awareness on the changing social and economic needs associated with an aging population and highlight work that provinces and territories are undertaking to address these issues"(Council of the Federation 2014). Their joint press release repeats the now common concern that Canada's population over age 64 will rise from 15 per cent of the national population to 23 per cent over the next two decades.

Canada is not alone in adapting to an aging population. Lee and Mason (2011, p. 3) report that the share of the working age population is in decline in East Asia, Latin America and OECD countries as the share of the elderly population grows. They note that "many concerns have been raised: bankruptcy for publicly funded health care and pension systems, slower economic growth and possibly decline, unfair treatment of children vis-à-vis the elderly, the collapse of financial markets, and the burdening of future generations."

In order to review the merit of such concerns, the literature identifies the need for objective, empirical data about the age distribution of government spending. Several researchers have produced international comparisons of OECD countries in the last decade (eg. Bradshaw and Holmes 2013;Tepe and Vanhuysse 2010;Vanhuysse 2013). Generally, even the strongest comparative studies omit government spending on medical care, tax expenditures, and sometimes even education. There are reasons to question the utility of such omissions, because most medical care spending is consumed in later life, while education spending is disproportionately consumed earlier. Simultaneously, the omission of tax expenditures means that one country's baby bonus or retirement income subsidy will be counted as a traditional demogrant when another country's child tax credit or retirement savings tax deduction will not, although the two are functionally equivalent. Some comparative scholars, like Lynch (2006), compensate by producing additional comparisons of health spending and tax expenditures; but do so without integrating all spending into a comprehensive analysis.

Given these limitations, more scholars are producing country-specific analyses. Bradshaw and Holmes (2013) develop a UK case study in response to shortcomings in comparative data. Similarly, the anthology by Lee and Mason (2011, p. 30) features over twenty single country studies in recognition that "many important general lessons" can be learned from comparative analysis. However, "designing effective policy... is a complex, detailed, and inherently country-level task that is best carried out one country at a time."

It is timely to examine the age distribution of social spending in Canada given the decision by the Council of the Federation to launch a new Task Force on Aging. This topic has not received much attention domestically since the late 1990s when reorganizing contributions for the Canada and Quebec Public Pensions featured prominently in public dialogue. Several publications then explored the sustainability of Canadian government spending across generations. Much of this work responded to Oreopoulos and Kotlikoff (1996), who found that total government spending in 1995 required taxes of future generations that were twice what current generations were paying. Statistics Canada published an anthology thereafter focusing on government finances and generational equity edited by Corak (1998). This included an updated study by Oreopoloulos and Vaillaincourt (1998), who concluded that government spending cuts, tax increases and revisions to C/QPP announced between 1995 and 1998 set Canada back on path to restore balance in tax collection between contemporary and future generations of citizens.

The generational accounting methodology utilized by Oreoploulos and Kotlikoff focuses primarily on questions of intergenerational justice between future generations and those who live now. Their method did not give much attention to the distribution of spending between contemporary age groups. This distribution is important for the new Task Force on Aging, which must consider issues of intergenerational justice as governments adjust to the growing elderly population; and as they consider how to maximize the human capital and productivity of the proportionately smaller working age population, as well as the children they raise.

Hicks (1998) examined the age distribution of components of Canadian social spending in 1995 using microdata available from Statistics Canada. Her study did not synthesize the separate components to produce an overall estimate of the age distribution in social expenditure. Nor have her analyses been updated. In fact, our literature review shows there has been little study of the age distribution in social spending in Canada until our working paper in 2014 (Kershaw and Anderson 2014). This study did not have access to microdata to guide the age distributions of social spending other than for medical care. Instead, like Vanhuysse (2013), we relied on the purpose of the policy to guide age allocations in order to estimate the relative emphasis of social spending between those age 65+ compared to younger age groups.

In this paper, we refine our study of total social spending in Canada, updating Hick's use of microdata from Statistics Canada to estimate more precisely how the various pieces of Canada's social spending puzzle are distributed to our age cohorts of interest. We produce what we believe is the first comprehensive age analysis of total social spending in Canada, one that addresses limitations in the comparative literature by including spending on medical care, education and tax expenditures. The results are important for a number of reasons. First, they provide the Task Force with information about the full range of policy levers at play in governmental adaptations to the aging population. Second, the results enable Canadians to monitor the age implications of future provincial and federal budgets (and in a separate study we report on 2014 budget decisions by all 10 provinces and the federal government). Third, the results set the stage for retrospective studies that examine how the age distribution of social spending has changed over the last several decades. Fourth, these results can inform future work that integrates the age distribution of spending with the age distribution of tax collection to examine the degree to which different age cohorts (pre)pay for services and income subsidies on which they rely in retirement; and contemplate the normative question of whether Canadians are finding the right balance planning for, and adapting to, socioeconomic and environmental pressures facing young and old alike.

We are guided by Lynch (2006, 20) in selecting age categories. Her book, which has become foundational for more recent studies, analyzed spending on the elderly compared to non-elderly. While she concedes that "these categories are rather ungainly as compared with seniors and children, or labor market participants versus dependents," she emphasizes that "they are useful because public debates so often posit a trade-off between continuing to support the elderly at a high level and devoting resources to other kinds of needs in the non-elderly population." In addition, she adds that the "definition of the relevant age groups is compelled… by the considerable overlap between the well-being of children and non-elderly adults, and the scant similarity between the well-being of seniors and of their children's and grandchildren's age groups."

Adapting Lynch's approach, we identify three age groups of interest, two of which are featured in this paper. Canadians age 0 to 44; age 45 to 64; and 65+. While we combine the first two groups to analyze spending on the non-elderly per Lynch's methodology, we provide particular detail about social spending on citizens under 45 and over 64. The portion allocated to the group age 45 to 64 is the residual, but we omit this information from Tables for the sake of brevity.

We focus on those under age 45 because research shows that these generations face worsening income trends and high housing prices (Kershaw 2015), which increases pressure on governments to adapt policy for their demographic at the same time governments plan for the aging population. The cohort under age 45 is also likely to be caring for young children. Because epidemiology, neuroscience and epigenetics literatures reveal that human beings are especially biologically sensitive to their environments in their earliest years (Boyce 2007;Keating and Hertzman 1999), there are new opportunities for public policy to support the optimization of life long health and productivity by investing in the generation raising young children. By working with large non-elderly cohorts, we generally avoid the methodological challenge of estimating what portion of government investments in child benefits, child care services, and schools are received by children, and what part by parents (see also Hicks 1998). One implication is that our analysis of average social spending for the non-elderly population overestimates the allocation for those who do not have kids.

Acknowledging this caveat, we divide our analysis into four stages. The first summarizes consolidated data about total direct annual government spending. The second describes why and how we integrate non-refundable tax expenditures into the estimate of total spending. In section three, we use data from the Statistics Canada (2013) Longitudinal Administrative Databank (LAD) to assign social spending to age cohorts based on their estimated benefit from each type of expenditure. We then divide the total social spending on each cohort by the total number of Canadians per age group to calculate average per capita social spending.

Consolidated Government Social Spending

Our calculation of total government social spending relies on Statistics Canada's Consolidated Government Expenditures (CANSIM Table 385-0001), which are compiled using methods stipulated in the Financial Management System (FMS) of government statistics. Statistics Canada (2009b, 4) explains that the FMS is presently "the only system which permits inter-provincial or inter-level comparisons on a programmatic basis." Regrettably, the most recent consolidated data that lend themselves to age attribution are 2008/09 estimates. We update this information to 2012 when possible.

The initial column in Table 1 summarizes consolidated funding in 2008/09. Total health care spending was $121.6 billion, and total education spending was $95.7 billion. The very broad category of social services equaled $190.3 billion, while recreation and culture added $16.3 billion; labour, employment and immigration $2.4 billion; and spending on housing $6.1 billion.

Statistics Canada breaks down the large category of social services into sub-functions, some of which are at a level of detail that facilitate our age analysis. However, the largest sub-function, "social assistance", along with the non-descriptive "other social services," include a wide array of expenditures that vary by age, including the key components of Canada's retirement income security programs. Accordingly, we utilize several information sources to estimate the expenditures on major programs in these subcategories, guided by the definitions in Statistics Canada's FMS Operating Manual.

The first is spending on the Canada & Quebec Public Pension (C/QPP) plans, which equaled $38.9 billion in 2008/09 (Statistics Canada 2009a). Government of Canada (2012, Table 10) Fiscal Reference Tables show Old Age Security spending was $33.4 billion, and Employment Insurance (EI) Benefits equaled $16.3 billion, of which $3.1 billion was specifically allocated to maternity and parental leave (Treff and Ort 2012, Table 8.2). Spending on the Universal Child Care Benefit (UCCB), Canada Child Tax Benefit (CCTB), and National Child Benefit Supplement

Table 1: Total Social Spending

	Consolidated Budget 2009	Updated to 2012
Health	**$121,577**	**$144, 638**
Hospital Care	$41,203	
Medical Care	$49,072	
Preventive Care	$5,210	
Other Health Spending	$26.092	
Education	**$95,732**	**$101,732**
Elementary & Secondary	$50,941	
Post Secondary	$39,670	
Special Retraining	$3,615	
Other education	$1,506	
Social Services	**$190,276**	**$204,543**
Social Assistance	$121,813	$136,079
CPP/QPP	$38,866	$44,217
OAS	$33,377	$40,100
Employment Insurance (net of parental leave)	$13,236	$14,428
Employment Insurance (parental leave)	$3,072	$3,072
UCCB	$11,900	$2,747
CCTB/NCBS		$10,153
Working Income Tax Benefit	$1,030	$1,030
GST/HST Rebate	$6,380	$6,380
Other Social Assistance	$13,952	$13,952
Workers Compensation	$7,356	$7,356
Veterans' Benefits	$3,281	$3,281
Motor Vehicle Accident Compensation	$786	$786
Other Social Services	$33,650	
Child care	$3,839	$3,839
Other social services less child care	$29,811	$29,811
Employee Pension Plan Benefits, Changes in Equity	$23,391	$23,391
Recreation and Culture	**$16,306**	**$16,306**
Labour, Employment and Immigration	**$2,395**	**$2,395**
Housing	**$6,120**	**$6,120**
Total Social Spending in Consolidated Budget Tables	**$432,406**	**$475,734**
Add Tax Expenditures Not included in Consolidated Tables (See Table 2)		**$73,415**
Total Social Spending		**$549,149**

Sources: Statisitcs Canada 2009b; Government of Canada 2012; 2013a; 2013b; Canadian Institute for Health Information (CIHI) 2012; Traff and Ort, 2012; Friendly et al. 2013

(NCBS) totaled $11.9 billion (Government of Canada 2012, Table 10). The Working Income Tax Benefit and the GST/HST credits are also large refundable tax expenditures that are counted by Statistics Canada in the consolidated spending, representing $1 billion and $6.4 billion respectively (Government of Canada 2013b).

After subtracting these sub-components from the $121.8 billion total allocation for social assistance, we assume the remaining funds (approximately $14 billion) cover the balance of the programs identified by the FMS Manual for which specific spending amounts are not readily identifiable. This includes "the general welfare payments to disadvantaged individuals," "the rent supplement," "the blind and disabled persons allowances," as well as various smaller refundable tax credits (Statistics Canada 2009b, 43).

We treated the "other social services" subcategory of spending in a similar manner. The FMS manual indicates it includes spending on child care services. This totals $3.8 billion when direct federal funding for programs like Aboriginal Head Start, First Nations and Inuit Child Care, and the Military Family Resource Programs (Government of Canada 2007) are added to provincial and territorial spending (Friendly et al. 2013, Table 11). Unfortunately, no information is readily available to further breakdown the "other social services," so we treat the remaining $29.8 billion as one spending block. This balance includes expenses related to the provision of services to old age (excluding C/QPP, OAS, and GIS), persons with disabilities, those temporarily unable to work due to sickness, households with dependent children, and survivors of a deceased person (spouse, children, etc.). The subcategory also includes expenditures by hospitals, residential care facilities, etc., along with transfers to private organizations, when they provide lodging and board to elderly persons, children and families; or legal aid; home care services; transport services; and rehabilitation services for alcohol, drug, etc. (Statistics Canada 2009b, 44).

The remaining sub-function that requires explanation in Table 1 is "employee pension plan benefits and changes in equity." The FMS manual indicates that these funds represent nuances in the treatment of pension benefits paid to some retired public servants, including in the Public Service Superannuation Plan of Saskatchewan. The decision by Statistics Canada to classify these payments as a social service expenditure has implications for our analysis because it suggests that these costs should be allocated to retirees. Of course, these benefits are only received by a portion of those over 65; but that is also true for other categories of social expenditures (e.g. veteran's benefits). The other option is to allocate this cost across government, pro rating the amounts based on the reported expenditures by spending category. We perform both analyses below.

After utilizing consolidated budget data to identify categories of public spending, we update spending figures in areas that experienced material change since 2008/09. When we conducted the study, 2012 was the most recent year for which budget information was available. These updated numbers are also reported in Table 1. We updated figures with caution, only using more recent data when their sources could be reconciled with the 2008/09 consolidated figures (eg. Government of Canada 2012;Government of Canada 2013a). Our resulting 2012 estimate of total direct social spending is $475.7 billion.

Tax Expenditures

Since 1994, the Government of Canada (2013b) has published annual accounts of spending delivered through the income, corporate and goods and services tax systems via credits, deductions, deferrals and exemptions. Whereas direct government spending depends on a two-step process of first collecting revenue in order to later issue cheques to individuals and organizations, tax expenditures combine these steps into one. Credits, deductions, deferrals and exemptions reduce the taxes otherwise owed by the taxpayer, thereby allocating

government spending back to the individual or organization without first collecting the revenue.

Tax expenditures are common spending mechanisms for federal and provincial governments, making it imperative to add them to any age analysis of total spending. Whereas Statistics Canada's consolidated budget includes expenditures delivered by refundable tax credits which are received by taxpayers regardless of whether they owe any taxes, our analysis also counts the billions in social spending delivered through non-refundable tax expenditures reported by federal or provincial governments.

We rely on Government of Canada (2013b) tax expenditure accounts to identify federal spending via the tax system not included in the consolidated budget. For provincial tax expenditures, we focus on the governments of BC (2013, 122-127), Manitoba (2012, C16-18), Ontario (2012) and Quebec (2011), because only they provide budget documents that include accessible tax expenditure data. Although not as exhaustive as we would like, these four provinces represent the large majority, 78.7 per cent, of the Canadian population (Statistics Canada 2012). We estimate the full provincial/territorial cost of each tax expenditure by grossing up the total reported for the four provinces (100/78.7). This approach underestimates actual tax expenditures for two reasons: (1) some of the other provinces may issue tax expenditures that are not available in these four provinces; and (2) many tax expenditures were not reported by all four provinces even though we know their revenue is affected by federal tax measures.

Table 2 shows that tax expenditures omitted from the consolidated budget represent $73 billion. These dollars are delivered by a range of health, education, retirement, family, income maintenance, employment, and housing expenditures. They raise total social spending to $549.1 billion in 2012.

Analyzing Social Spending by Age

The primary source on which we rely to allocate social spending by age is Statistics Canada's (2013) Longitudinal Administrative Databank (LAD). The LAD is a random, 20 per cent sample of a yearly cross-sectional file of all taxpayers and their families. The databank contains information on demographics, income and other taxation data from 1982-2011, with new years of data added as information becomes available. We supplement the LAD data with other sources discussed below, along with Canadian population data broken down by age. Statistics Canada (2012) estimated the population at 34.9 million as of 2012 with 19,817,606 people under the age of 45 (56.8 per cent); 9,876,063 people 45 to 64 (28.3 per cent); and 5,186,822 (14.9 per cent) age 65+.

We report the results in Table 3, beginning with the age distribution of annual health care spending. Canadian Institute for Health Information (2012, Table E.1.1) data show that provincial and territorial governments combine to spend $9,264 per newborn under age 1; less than $2,000 per person age 1 to 24; and in the low $2,000 range for those age 25-44. Thereafter, annual spending rises, reaching $6,223 per person age 65-69, $15,768 per person age 80-84; and $25,970 per person age 90+. In combination with population age breakdowns, these spending data reveal that 45 percent of the $144.6 billion in consolidated health care spending goes to Canadians age 65+, compared to 30 per cent for the larger cohort under 45. Similarly, LAD data show that 45 per cent of medical care expenses claimed for tax savings are reported by Canadians 65+, and only 19 per cent by those under 45. We use Statistics Canada (2014) data about employment rates for different age groups to calculate that three per cent of employees are age 65 and older, compared to 58 per cent under 45. We attribute spending that results from the non-taxation of business paid health and dental benefits accordingly. Finally, LAD data indicate that 67 per cent of the small Children's Fitness Tax credit is received by Canadians under age 45. We divide total health care spending for those 65+ and under 45 by the number of Canadians in those age groups to generate per capita spending for

Table 2: Tax Expenditures Not Included in Consolidated Budget Tables

	Federal	BC	Manitoba	Ontario	Quebec	PT Total (extrapolated)	FPT Total
Health							**6,346**
Medical Expense, Disability, etc. Tax Expenditures	1,755	64	53	265	512	1,135	2,890
Non-taxation of Business paid Health & Dental benefits	3,155	146				185	3,341
Children's Fitness Tax Credit	115						115
Education							**2,465**
Post-secondary Tax Expenditures, various (mainly for tuition, books, etc.)	1,881	61	56	342		594	2,465
Social Services							**48,797**
Re: Retirement/Seniors							41,229
Age Credit	2,260	56	34	275	174	684	2,944
Pension Income Credit	975	22		115		174	1,149
Pension Income Splitting	925	50	17	250	105	536	1,461
RPPs	15,625	724	90	900	1,684	4,317	19,942
RRSPs	9,910	459	144	2,100	1,879	5,822	15,732
Seniors, other tax expenditures	105		15	30	156	256	361
Re: Families with kids							5,550
Families with kids tax expenditures (eg. Child Tax Credit, Children's Art Credit,etc.)	1,625		62			79	1,704
Eligible Dependent Credit	805		17	85		129	934
Spouse or Equivalent to married Credit	1,400	77	24	205		389	1,789
Child Care Expense Deduction	810	38	13	195		313	1,123
Re: Income Maintenance							2,018
Income Maintenance Tax Expenditures, various (excluding specifically for seniors)	100			45	525	724	824
Non-taxation of social assistance benefits	145			30		38	183
Veterans Disability	175						175
Non-taxation of Workers Compensation	645			150		191	836
Labour, Employment & Immigration							**6,838**
Employment Tax Expenditures, various (eg. union dues, moving, etc.)	2,962		19	820	618	1,851	4,813
Canada Employment Credit	2,025						2,025
Housing							**8,610**
Non-taxation of capital gains on principal residences, etc.	4,235				1,287	1,635	5,870
Property Taxes, various (eg. Homeowners grand under 65, transfer taxes, etc.)		935		1,011		2,473	2,473
Senior Homeowners Grant				210		267	267
TOTAL TAX EXPENDITURES	**51,633**	**2,632**	**542**	**7,028**	**6,940**	**21,783**	**73,416**

Authors calculations. Sources: Government of Canada 2013b; Government of BC 2013; Government of Manitoba 2012; Government of Ontario 2012; and Government of Quebec 2011.

the health category: $12,820 per person age 65+ and $2,341 per person under age 45.

Education is the second category of expenditures in Table 3. Students in school and the parents supporting those students both benefit from the public spending. Since 99.7 per cent of children under age 18 reside with a caregiver under age 65, there are no methodological decisions to be made when estimating the benefit allocation to the non-elderly population. However, when disaggregating spending for the under 45 group from those age 45-65, we make the following assumptions. We divide the spending on elementary and secondary education equally between children and caregivers, attributing half of the $54.4 billion directly to students. For the remaining half, we use LAD data to calculate that 72 per cent of Canadians claiming a child under age 18 on their income taxes are themselves under age 45, with most of the remaining amount going to those age 45 to 64 years. This results in our attributing 86 per cent of grade school spending to the under 45 group, 13.9 per cent to the middle cohort, and just 0.1 per cent to those over 65.

Similarly, we attribute 72 per cent of the $42.1 billion in postsecondary spending to those under 45, almost all of the remaining amount to those 45 to 64, and 0.5 per cent to those age 65 and older. LAD data show that 67 per cent of tuition spending reported for an income tax credit by students is claimed by Canadians under age 45. By contrast, 90 per cent of tuition spending claimed by a parent or other caregiver of a student is done by someone age 45 to 64. Whereas our assumptions about grade school divide the benefit evenly between student and parent, we allocate three-quarters of postsecondary spending to the enrolled student in recognition that the adult chooses to attend regardless of any previous parental plan. We allocate the other quarter to parents/caregivers in recognition that many families save for years for their kids to attend postsecondary.

The final item in Education is for "other" spending, primarily on re-training. We use the rate of unemployment insurance claimed by different age groups as a proxy to attribute this spending, allocating 64 per cent to those under age 45 and 3 per cent to those age 65+. In combination with elementary, secondary and postsecondary spending, we calculate total per capita education expenditures as $4,150 per person under age 45 and $90 per person age 65+.

The third section of Table 3 focuses on social services. Spending related to retirement is by far the largest component of this diverse spending category. LAD data show that 75 per cent of the $44.2 billion spent on C/QPP goes to those 65 and older, and just one per cent goes to those under 45, primarily from the benefits available to spouses or children under 25. Ninety-nine per cent of the $40.1 billion in OAS (including GIS) spending is received by those age 65+, with none going to the under age 45 group. Per capita spending for these budget lines is $6,391 and $7,636 per person 65+ for the C/QPP and OAS respectively.

Other large expenditures on retirement include annual tax expenditures on Registered Pension Plans (RPPs), $19.9 billion, and Registered Retirement Savings Plans (RRSPs), $15.7 billion. We allocate this spending in two different ways. First, in the analysis that we think is most defensible, we allocate these tax expenditures primarily to the population age 65+ in recognition that the purpose of the public expenditure is to increase the private funds available for Canadians to set aside income for their retirement years. Canadians receive a reduction in taxes only if they keep those funds in specially-designated accounts; and they forfeit the tax reductions if they do not save their money with this narrow purpose in mind. Accordingly, we use the share of CPP funding going to the age group 65+ as a proxy for the share of Canadians drawing on retirement income, and allocate 75 per cent of RPP and RRSP tax expenditures to seniors. Under these assumptions, the RPP and RRSP tax expenditures allocate respectively $2,883 and $2,274 per person over age 65.

Table 3: Social Spending by Age Cohort

	Total Spending	% to 65+	$ to 65+ (millions)	Per capita 65+	% to <45	$ to <45 (millions)	Per capita <45	Total Spending Employee Pension Reallocated	% to 65+	$ to 65+ (millions)	Per capita 65+	% to <45	$ to <45 (millions)	Per capita <45
	Primary Analysis							Sensitivity Analysis						
Health Care	**150,983**		**66,495**	**12,820**		**46,384**	**2,341**	**157,701**		**69,454**	**13,390**		**48,447**	**2,445**
Consolidated Spending	144,638	45%	65,087	12,549	30%	43,825	2,211	151,072	45%	67,983	13,107	30%	45,775	2,310
Medical Expense, Disability, etc. tax expenditures	2,890	45%	1,297	250	19%	550	28	3,019	45%	1,354	261	19%	575	29
Non-taxation of business paid health & dental benefits	3,341	3%	112	22	58%	1,931	97	3,489	3%	117	22	58%	2,017	102
Children's Fitness Tax Credit	115	0%	-	-	67%	77	4	120	0%	-	-	67%	80	4
Education	**104,197**		**466**	**90**		**82,235**	**4,150**	**108,832**		**487**	**94**		**85,893**	**4,334**
Elementary & Secondary	54,441	0.1%	73	14	86%	46,855	2,364	56,863	0.1%	77	15	86%	48,939	2,469
Postsecondary	42,170	0.5%	225	43	72%	30,350	1,531	44,046	0.5%	235	45	72%	31,701	1,600
Postsecondary tax expenditures	2,465	0.5%	13	3	72%	1,774	90	2,574	0.5%	14	3	72%	1,853	93
Other education (e.g. retraining)	5,121	3%	155	30	64%	3,256	164	5,349	3%	161	31	64%	3,400	172
Social Services	**253,700**		**135,040**	**26,035**		**58,631**	**2,959**	**240,556**		**96,347**	**18,575**		**75,993**	**3,835**
Social Assistance														
CPP/QPP	44,217	75%	33,151	6,391	1%	598	30	46,184	75%	34,626	6,676	1%	625	32
OAS	40,100	99%	39,607	7,636	0%	-	-	41,884	99%	41,369	7,976	0%	-	-
RPPs*	19,942	75%	14,952	2,883	0%	-	-	20,829	2%	337	65	44%	9,249	467
RRSP*	15,732	75%	11,795	2,274	0%	-	-	16,432	7%	1,216	234	33%	5,505	278
Age credit	2,944	100%	2,944	568	0%	-	-	3,075	100%	3,075	593	0%	-	-
Pension Income Credit	1,149	72%	822	158	1%	6	0	1,200	72%	858	165	1%	6	0
Pension Income Splitting	1,461	67%	976	188	0.2%	3	0	1,526	67%	1,019	196	0.2%	3	0
Seniors, other tax expenditures	361	100%	361	70	0%	-	-	377	100%	377	73	0%	-	-
Employment Insurance (including parental leave)	17,500	3%	528	102	64%	11,125	561	18,279	3%	551	106	64%	11,620	586
CCTB/NCBS	10,153	0.3%	27	5	80%	8,163	412	10,605	0.3%	28	5	80%	8,526	430
UCCB	2,747	0.1%	2	0	96%	2,633	133	2,869	0.1%	2	0	96%	2,750	139
Child Care services	3,839	0%	1	0	94%	3,594	181	4,009	0%	1	0	94%	3,754	189
Child Care Expense Deduction	1,123	0%	0	0	94%	1,051	53	1,173	0%	0	0	94%	1,098	55
Child related tax expenditures, various	1,704	0.3%	5	1	72%	1,229	62	1,779	0.3%	5	1	72%	1,284	65
Spouse or Equivalent to Married Credit	1,789	9%	157	30	45%	808	41	1,868	9%	164	32	45%	844	43
Eligible Dependent Credit	934	1%	6	1	72%	672	34	976	1%	6	1	72%	702	35
GST/HST Rebate	6,380	23%	1,445	279	53%	3,373	170	6,664	23%	1,509	291	53%	3,523	178
Working Income Tax Benefit	1,030	1%	15	3	70%	718	36	1,076	1%	15	3	70%	750	38
Other Social Assistance	13,952	19%	2,588	499	46%	6,436	325	14,573	19%	2,703	521	46%	6,723	339

	Total Spending	% to 65+	$ to 65+ (millions)	Per capita 65+	% to <45	$ to <45 (millions)	Per capita <45	Total Spending Employee Pension Reallocated	% to 65+	$ to 65+ (millions)	Per capita 65+	% to <45	$ to <45 (millions)	Per capita <45
Social Services Cont.														
Other Income Support tax expenditures	2,018	19%	374	72	46%	931	47	2,108	19%	391	75	46%	972	49
Workers Compensation	7,356	20%	1,464	282	23%	1,664	84	7,683	20%	1,529	295	23%	1,738	88
Veteran's Benefits	3,281	19%	609	117	46%	1,514	76	3,427	19%	636	123	46%	1,581	80
Motor Vehicle Accident Compensation	786	19%	146	28	46%	363	18	821	19%	152	29	46%	379	19
Other Social Services: Institutions & Services for Elderly, Disabled, Counselling, etc.	29,811	19%	5,530	1,066	46%	13,752	694	31,138	19%	5,776	1,114	46%	14,364	725
Employee Pension Plan benefits/equity changes*	23,391	75%	17,537	3,381	0%	-	-							
Recreation and Culture	**16,306**	**15%**	**2,425**	**467**	**57%**	**9,264**	**467**	**17,031**	**15%**	**2,533**	**488**	**57%**	**9,677**	**488**
Labour and Immigration	**9,233**		**530**	**102**		**4,980**	**251**	**9,644**		**553**	**107**		**5,202**	**262**
Consolidated Spending	2,395	11%	269	52	50%	1,203	61	2,502	11%	281	54	50%	1,257	63
Employment tax expenditures, various	4,813	4%	179	35	54%	2,615	132	5,027	4%	187	36	54%	2,732	138
Canada Employment Credit	2,025	4%	82	16	57%	1,162	59	2,115	4%	85	16	57%	1,213	61
Housing	**14,730**		**3,308**	**638**		**4,732**	**239**	**15,385**		**3,455**	**666**		**4,943**	**249**
Consolidated Spending	6,120	19%	1,135	219	46%	2,823	142	6,392	19%	1,186	229	46%	2,949	149
Non-Taxation of capital gains on principal residences, etc.	5,870	23%	1,341	259	23%	1,343	68	6,132	23%	1,401	270	23%	1,403	71
Property Tax expenditures	2,473	23%	565	109	23%	566	29	2,583	23%	590	114	23%	591	30
Senior Homeowners grant	267	100%	267	51	0%	-	-	279	100%	279	54	0%	-	-
Total Social Spending	**549,149**		**208,264**	**40,152**		**206,226**	**10,406**	**549,149**		**172,828**	**33,321**		**230,155**	**11,614**

Author's Calculations. Sources for age attributions: Statistics Canada 2009b; 2012; 2013, custom tabulation; 2014; Canadian Institute for Health Information 2012.

However, some may argue that younger Canadians should be allocated a portion of RPP and RRSP expenditures because they are the immediate beneficiaries of reduced taxes. We therefore also measure the impact of allocating these expenditures according to the age at which Canadians claim the tax deductions (see % to 65+ and % to <45 in the Sensitivity Analysis of Table 3). LAD data show that two per cent of RPP deductions are claimed by seniors, as are 7 per cent of RRSP deductions. The corresponding numbers for the under age 45 cohort are 44 per cent, and 33 per cent, signaling that the 45 to 64 age group enjoy the bulk of RPP and RRSP tax savings. Under these assumptions, the RPP and RRSP tax expenditures allocate respectively $467 and $278 per person under age 45.

Other significant tax expenditures for retirement income include the Age credit from which an individual 65+ can claim an exemption if annual income is under approximately $82,000. This tax mechanism spends $2.9 billion annually. The pension income credit and pension income splitting further subsidize income in retirement at total

annual costs of $1.1 billion and $1.5 billion. LAD data show that 72 and 67 per cent of this spending is received by Canadians age 65+, compared to one and zero per cent for those under age 45. Retirement spending is rounded out by smaller tax expenditures on seniors that add to $361 million.

After retirement expenditures, Employment Insurance is the next largest category of social service spending, at $17.5 billion. LAD data indicate that 3 per cent of this spending is received by Canadians age 65+, while 64 per cent goes to those under age 45. This includes spending on maternity and parental leave.

Canada Child Tax Benefit (CCTB) spending of $10.1 billion annually allocates $1,446 per child under age 18, clawing back the benefit for income that exceeds $43,953. The CCTB includes expenditures on the National Child Benefit Supplement which increase the allocation per child in working poor families. LAD data report that 80 per cent of this spending goes to Canadians under age 45, and nearly none to the group age 65+. Similarly, 96 per cent of the $100/month Universal Child Care Benefit payments per child under age 6 is received by the group under age 45. Other child related tax expenditures, including another universal federal credit for kids under age 18 and the children's art tax credit, are received primarily (72 per cent) by younger Canadians. We complete our analysis of expenditures specifically for families with children by allocating 94 per cent of child care service spending to the under age 45 cohort. This attribution follows our method for allocating grade school spending: half of the expenditure is allocated to the children in the program; the other half to their parents/caregivers. LAD data show that 87 per cent of child care service costs are claimed by Canadians under the age of 45.

The spouse and equivalent to married tax expenditure of $1.8 billion annually subsidizes couples in which one partner earns little. Nine per cent of this spending goes to the group age 65+, along with 45 per cent to those under age 45. The related eligible dependent credit, which costs just under a billion dollars annually, subsidizes single individuals caring for a dependent child or parent. One percent of this funding is received directly by a taxfiler age 65 or older, and 72 per cent goes to the under 45 cohort.

The social assistance spending category includes a range of tax expenditures that supplement low-income households. LAD data show that 23 per cent of the $6.4 billion GST/HST rebate is received by those age 65+, compared to 53 per cent for those under age 45. Seventy per cent of the $1 billion spending on the Working Income Tax Benefit goes to the under 45 age group, and nearly none to those over 65. Workers' Compensation benefits cost $7.4 billion annually. LAD data show that 20 per cent are received by those age 65+. Twenty-three per cent are received by those under age 45.

We allocate the remaining $14 billion in the "other social assistance" category based on the proportion of adults eligible to receive funding in each age cohort: 19 per cent are age 65+ and 46 per cent are under age 45. We follow the same assumption for the remaining $2 billion in various income maintenance tax expenditures, as well as spending on veteran's benefits, motor vehicle accident compensation, and "other social services for the elderly, disabled, drug and alcohol counselling, etc." This approach likely underestimates the attribution to seniors.

The last line item in the social service spending category is "Public Employee Pension Plan Benefits and Equity Changes." Readers will recall that we are guided by Statistics Canada to allocate this expenditure as spending on retirement income in our primary analysis. We attribute 75 per cent of this particular retirement spending to our older cohort in recognition that some will claim the benefit before age 65, as is the case with C/QPP spending.

However, since this line item represents atypical social spending, we run a sensitivity analysis that allocates these pension costs as operating expenses incurred in the delivery of goods and services across government

departments. To approximate this allocation, we prorate the expenditures across all social spending categories reported under the Financial Management System (Statistics Canada 2009a). Readers will see this alternate treatment in the Sensitivity Analysis of Table 3. It spreads the $23.4 billion in pension and equity benefits across the other expenditures in proportion to the percentage of total spending represented by each line item in column a. Our sensitivity analysis then allocates these higher total spending costs in each line item according to the same percentage attributed to the age cohorts in our primary analysis (with the exception of RRSP and RPP expenditures as discussed above).

The diverse category of social services represents $253.7 billion in spending. Our primary analysis shows that $135 billion goes to those age 65+, or $26,035 per senior. Canadians under age 45 receive $58.6 billion, or $2,959per person. Our sensitivity analysis calculates social service spending at $240.6 billion, with the other $13 billion now allocated to medical care, education, and other spending categories in keeping with redistributing the select pension and equity benefits across government departments. This change, along with attributing RPP and RRSP tax expenditures primarily to Canadians under age 65, reduces the per capita social service spending to $18,575 per person age 65+, and increases the per capita allocation for each person under age 45 to $3,835.

The final components of social spending are recreation and culture, labour and immigration, as well as housing. We attribute the $16.3 billion in recreation and culture spending on a per capita basis. Labour and employment spending is done primarily through tax expenditures. LAD data show that 4 per cent of total spending on the Canada Employment credit is claimed by Canadians 65+ and 57 per cent is received by Canadians under age 45. LAD data also allow us to calculate a summary attribution for a range of employment tax expenditures that include union dues, moving expenses, and other allowable employment expenses, finding that 4 per cent are received by those over age 64 and 54 per cent by those under age 45. Our age attribution for consolidated labour/employment and immigration spending is weaker than we would like, because there are no age data for immigration spending that we could find. For this purpose, we divided the $2.4 billion figure into two parts, attributing half according to the LAD data about employment expenses, and the other half on a per capita basis to represent immigration spending. Although imprecise, the dollar value is a rounding error in our estimates.

We attribute $6.1 billion in consolidated budget spending on housing in proportion to the share of adults eligible to receive funding in each age cohort. LAD data show that 23 per cent of the expenditure on the non-taxation of capital gains on principal residences is received by Canadians age 65+, and that the same percentage is received by those under age 45. Savings generated by the non-taxation of capital gains provides a useful proxy to estimate the interaction of home ownership and the value of homes as these vary by age, so we attribute the same age percentages to other property tax expenditures. Finally, tax expenditures for senior homeowners are attributed to those age 65+.

In the light of these specific age attributions for each social spending component, we calculate total per capita expenditures for the different age cohorts. We show in Table 3 that total social spending on the 5,186,822 Canadians age 65+ equals $208.3 billion in our primary analysis, which is 38 per cent of overall social spending. Total social spending for the 19,817,606 Canadians under age 45 equals $206.2 billion, also 38 per cent of overall spending. We divide the aggregate spending by the total population for each age cohort to arrive at an annual per capita expenditure of $40,152 per person age 65+ and $10,406 per Canadian under age 45. The corresponding per capita figure for the cohort age 45 to 64 is $13,635. When added to the under 45 group, per capita spending for the non-elderly population age zero to 64 is $11,480.

When we allocate select public pension and equity expenditures as operating expenses across social spending categories in our sensitivity analyses, the per capita expenditure for the group age 65+ falls by $1,788. If RPP and RRSP spending is distributed in proportion to the age at which citizens incur the tax savings, the expenditure per person age 65+ drops by between $4,870 to $5,086 depending on whether the alternate age attribution is made only to RPP and RRSP spending, or made to RPP and RRSP expenditures grossed up by their share of the reallocated select public pension and equity expenditure. The sensitivity analysis in Table 3 presumes the latter in order to produce a low per capita estimate for the 65+ cohort of $33,321; and a high per capita estimate for the under 45 group of $11,614. The corresponding per capita amount for the cohort aged 45 to 64 is $14,800; and $12,673 for the non-elderly population in general.

Discussion

Our study reveals that Canadian governments spend between 2.9 and 3.9 times more per person age 65+ than per person under age 45: $33,321 - $40,152 compared to $10,406 - $11,614. The fact there is a large age gap in social spending in and of itself does not suggest intergenerational unfairness. We would expect spending per person age 65+ to be higher than spending for younger Canadians because it is a biological reality that we are more likely to become sick and require health care in our later decades. In addition, Canadian social norms support significant investments in income security for retirees to minimize the expectation that citizens must continue to commodify their labour throughout old-age.

Since we would not expect the age pattern in spending to be flat, the more important issue is the adequacy of spending for each age cohort relative to existing social, economic and environmental circumstances. One way to consider this issue is to invoke international rankings. These currently position Canada very differently in terms of supporting later life course stages compared to early ones. Groups like Global AgeWatch (2013) rank Canada among the top countries worldwide for aging because of spending on medical care, Old Age Security and the Canada/Quebec Public Pension plan. By contrast, groups like UNICEF rank Canada among the least generous OECD countries for investments in the generation raising young children (UNICEF 2008). Such rankings support Vanhuysse (2013, Figures 13 & 14) who finds that Canada falls among the bottom five to ten OECD countries in his study of intergenerational justice.

However, our study results urge caution when interpreting country-specific spending patterns from international comparisons. For example, when we divide per capita spending for those age 65+ by spending on those under 65, the ratio ranges from 2.6 to 3.5. These findings offer important corrections to the work of Lynch (2006, Tables 2.7-2.8), who reported Canada's ratio at either 14 or 0.7 depending on whether she included education expenses in her calculation. Conversely, our findings align more closely with Vanhuysse (2013, Figure 6) who estimated that the Elderly Bias Indicator of Social Spending (EBiSS) for Canada in 2007/08 was slightly under 4. When we replicated his analysis using our 2012 data, we calculated the EBiSS is 3.5. Although this would seem to support his ranking of Canada, and we are genuinely impressed by Vanhuysse's comparative work, we remain cautious in interpreting any corroboration our analysis lends to the accuracy of his EBiSS calculation for specific countries. Not only does his method exclude medical care, it also excludes tax expenditures which, in the case of Canada, means that the majority of income support for Canadian families with children is ignored. By contrast, many other countries have functionally equivalent spending counted in Vanhaysse's work because the spending is delivered as demogrants. It is therefore not clear whether alignment between our comprehensive

country-specific results and his indicator is other than coincidental.

Beyond international rankings, we can evaluate the adequacy of domestic age allocations of social spending in the light of population outcomes. For example, low-income rates for seniors have dropped from around 29 per cent in 1976 to around five to six per cent today – lower than any other age group in the country. By contrast, measures of early development reveal that between one-quarter and one-third of Canadian children are vulnerable when they start kindergarten (Kershaw et al. 2010). Although low-income children statistically are more likely to be vulnerable, the majority of vulnerable children reside in the country's more populous middle- and upper-income households and neighbourhoods.

These outcomes reflect that the burden of socioeconomic vulnerability has shifted somewhat away from older cohorts toward Canadians under age 45. For example, the median Canadian in prime child rearing years earns approximately $4,500 less for full-time work than in 1976 (after adjusting for inflation), despite being twice as likely to have postsecondary, and higher student debt that results from tuitions which have doubled. S/he then faces average housing prices that are nearly twice as high – $383,000 compared to $203,000 in 1976 – pushing home ownership out of reach or obliging heavy debt loads. By contrast, high housing prices have doubled the housing wealth enjoyed by the average 55+ household compared to the same age group a generation ago, while household income for the median couple heading into retirement is up over 20 per cent compared to 1976 (Kershaw 2015).

Compounding the worsening private sector trends facing younger cohorts, those under age 45 also inherit government debts that are nearly twice as large a share of GDP than in 1976. The opportunity for younger generations to cope with this larger fiscal debt is circumscribed by more pressing environmental debts. Canadian per capita carbon dioxide emissions have stayed relatively static since 1976 despite the growing evidence about the risks and costs of climate change (Kershaw and Anderson 2011). These risks limit the degree to which traditional resource-extraction approaches to economic growth can be used to reduce the size of fiscal debts as a share of our economy, spur job growth or accelerate household earnings.

Given these trends, there is reason to query whether the current age distribution in government spending strikes the right balance for contemporary circumstances. Much of the public discourse about aging presumes the primary question should be how to sustain spending on retirees as their proportion of the population grows? Our estimate that governments spend $33,321 to $40,152 per senior compared to $10,406 to $11,614 per person under 45 anticipates that a second question is equally important: are we spending enough on younger Canadians?

These two questions must be considered together if the Council of the Federation's new Task Force on Aging is to promote, not exacerbate, intergenerational justice. Answering the questions requires a methodology by which Canadian governments, NGOs and citizens can monitor the allocation of government funds between age cohorts now and in future budgets. We have developed such a methodology in this paper, one that reveals the contribution of each social policy area to the total social spending pattern. This detailed breakdown will be important for decision makers who must explore the demographic implications of social spending for which citizens prepay a large component (contribution financed), compared to spending for which the country pays as it goes (general-tax-financed).

For example, at least $26,000 of the total allocation per senior is financed from general tax revenue. Whereas the $6,391-$6,676 allocated on average per senior by the C/QPP is financed somewhat directly by recipients'

contributions, the approximate $13,000 spent on medical care and the nearly $8,000 spent on OAS is not. When paying for these programs out of general revenue, our tax rates over the last two decades reflect what is possible for governments to collect when a relatively small cohort of seniors is supported by a larger working age population. This has generated savings for those who paid taxes at these favourable rates while in their prime earning years. Multiple studies now question whether tax rates can be sustained at current levels as the population over age 65 grows relative to the working age population (Ragan 2012;Robson 2010). To the extent this is the case, we can ask whether today's aging cohorts will pay the full share of the medical care and income security they intend to consume. This question is implicated not only in the discussion of how to preserve public policies that have dramatically reduced economic and health insecurity for seniors today compared to the past, but also to find funds to reduce the squeeze on younger generations who now face lower earnings, higher housing costs, and a deteriorating environment compared to a generation ago. These themes will be important for Canadian governments to examine, including in the work of the new Task Force on Aging.

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