The Financial Circumstances of Elderly Canadians and the Implications for the Design of Canada's Retirement Income System

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Introduction

Canadians have recently been presented with two seemingly conflicting views of the financial circumstances of elderly Canadians. The conflict is captured in the press release that accompanied Statistics Canada's publication of *The Assets and Debts of Canadians: An Overview of the Results of the Survey of Financial Security*.

> Families in which a senior was the major income recipient had the highest net worth of any type of family unit, $202,000. The fact that many seniors live in their own mortgage-free home accounts for this to a large extent. However, this net worth should not be interpreted to mean that all senior families have relatively high net worth, nor relatively high incomes. The median after-tax income of senior families was $32,000, almost $14,000 lower than for younger families.

One can sympathize with Statistics Canada's dilemma. Seniors have high net worths and low incomes, therefore they must be both rich and poor at the same time. Alternatively, and more to the point, comparing the incomes and net worths of seniors to the incomes and net worths of younger Canadians is

a pointless exercise which says next to nothing about whether seniors are rich or poor. The fact that seniors have lower incomes than younger Canadians does not mean that they are poorer than younger Canadians. The fact that seniors have higher net worths than younger Canadians[1] does not mean that they are richer than younger Canadians. It is natural for seniors to have lower incomes and higher net worths than younger Canadians because seniors are at a different stage in their lives.

Few things are more studied than the incomes of Canada's senior citizens. Baldwin and Laliberté (1999), Gower (1998) and Myles (2000) are recent examples. Most studies build upon the work of Statistics Canada which follows a long but unhelpful intellectual tradition of equating economic well-being with annual income. Income is studied by source, by province of residence, by family type, by gender, by age and by year of receipt. It is studied before- and after-tax, with and without transfers. We compare the incomes of young and old, rich and poor, male and female. We compare the incomes of those who live alone to those who live as families.

From this work, sweeping conclusions are drawn about the economic well-being of senior citizens. We celebrate the fact that the incomes of elderly Canadians have grown faster than inflation and faster than the incomes of younger Canadians. We celebrate shrinking Gini coefficients (among senior citizens) as evidence that our world is becoming more fair. We study the incidence, intensity and depth of poverty and/or low income as if these measures said something important about the lives of elderly Canadians. Yet most of these studies leave two important questions unanswered.

- Is income (before- or after-tax) a good measure of the economic well-being of senior citizens?
- What relationship should we expect between the incomes of senior households and the incomes of younger households with similar standards of living?

This paper looks at these questions and concludes first, that income is not a good measure of economic well-being, particularly for seniors, and second, that senior citizens can have significantly lower incomes than younger Canadians and yet enjoy a similar standard of living. As such, it is not clear that the incomes of senior citizens are in any way deficient, nor is it clear that recent increases in their relative incomes are desirable.

[1]The differences will be even more pronounced when pension wealth is added to Statistics Canada's analysis, as has been promised for future releases.

The Limitations of Income as a Measure of Economic Well-Being

The limitations of income as a measure of economic well-being are best illustrated by example. Take the simplest of all worlds; a world without inflation or interest rates or income taxes; a world where equal numbers of people are born each year; where everyone works for 30 years and earns $100 per annum; where people save $50 per annum during their working lives and accumulate $1,500 of capital (30 x $50) by the time they retire; a world where people draw $50 of capital each year during a 30 year retirement and where everyone spends $50 per annum. Let's call this world Egalitaria and its citizens Egalitarians.

In Egalitaria:

- there are equal numbers of working and retired citizens,
- all working people have $100 of income and $50 of expenditures, and
- all retired people have no income and $50 of expenditures.

Statistics Canada, unleashed on such a world, would conclude that retired Egalitarians are impoverished or, more accurately, the victims of low income. The perfect equality of income within the working and retired populations would be lauded, but the ugly gap between the income of work-ing Egalitarians and the income of retired Egalitarians would be deplored. Yet there would be no difference between the standard of living of working Egalitarians and the standard of living of retired Egalitarians because, in Egalitaria, income says nothing about economic well-being. Working Egalitarians spend only 50 per cent of their income because they need to save for retirement. Retired Egalitarians support themselves comfortably without any income because they have large amounts of capital on which to draw.

Now, suppose Egalitaria adopted a more modern social security model for its retirement system. Each working Egalitarian would pay $50 of social security tax instead of saving $50, while each retired Egalitarian would collect $50 of social security benefits which, following the normal conven-tion, would be counted as income. Egalitaria would still have an income equality problem before-tax (working Egalitarians have $100 of income while retired Egalitarians have only $50) but not after-tax (both working and retired Egalitarians have $50 of income, after-tax).

Alternatively, Egalitaria might build its retirement system on RRSPs. Each year, working Egalitarians would contribute $50 to an RRSP and retired Egalitarians would draw $50 from an RRSP. Withdrawals would be considered income, just as RRSP withdrawals in Canada are considered

income. Working Egalitarians would then have $100 of income, before- or after-tax. Retired Egalitarians would have only $50.

Finally, Egalitaria could use occupational pension plans as the vehicle for organizing its retirement income system. Each working Egalitarian would be paid $75 per annum and would contribute $25 to an occupational pension plan. Employers would match these $25 contributions, bringing each employee's total compensation to $100. In retirement, each Egalitarian would receive $50 per annum of pension income. In such a system, working Egalitarians would have $75 of income,[2] before- or after-tax, while retired Egalitarians have only $50.

The four alternatives are summarized in Table 1.

From an Egalitarian's perspective, these four systems are indistinguishable. Each allows an Egalitarian to consume $50 per annum throughout his or her working and retired lives. Yet while there is no difference in the economic well-being of working and retired Egalitarians, there are significant differences in their incomes.

To make Egalitaria more recognizable, assume now that savings earn a 4 per cent *real* rate of return. This does not affect the social security model (since there are no savings to invest), but it significantly lowers (from $50 to $24[3]) the savings required to support the other models while simul-taneously increasing the level of consumption for working and retired

Table 1: Impact of Retirement System Design on Income (Real Interest Rate = 0%)

Type of Retirement System	*Annual Per Capita Consumption for Working and Retired Egalitarians*	*Income of Working Egalitarians*		*Income of Retired Egalitarians*	
		Before-tax	*After-tax*	*Before-tax*	*After-tax*
Normal savings	$50	$100	$100	$0	$0
Social security	$50	$100	$50	$50	$50
RRSPs	$50	$100	$100	$50	$50
Occupational pensions	$50	$75	$75	$50	$50

[2]Employer contributions to pension plans are not usually included in personal income.

[3]$24 is the amount of saving required to balance pre- and post-retirement consumption at $76.

Egalitarians (to $76 per annum). The four alternatives are summarized in Table 2.

The analysis of the "normal savings" system is particularly complicated. Pre-retirement, the incomes of working Egalitarians include the income earned on savings. This income does not increase consumption, as it is simply reinvested. In a system based on RRSPs or occupational pensions, the

Table 2: Impact of Retirement System Design on Income (Real Interest Rate = 4%)

Type of Retirement System	*Annual Per Capita Consumption for Working and Retired Egalitarians*	*Income of Working Egalitarians*		*Income of Retired Egalitarians*	
		Before-tax	*After-tax*	*Before-tax*	*After-tax*
Normal savings					
0% inflation	$76	$122	$122	$32	$32
2% inflation	$76	$132	$132	$47	$47
4% inflation	$76	$143	$143	$63	$63
Social security	$50	$100	$50	$50	$50
RRSPs	$76	$100	$100	$76	$76
Occupational pensions	$76	$88	$88	$76	$76

same investment income is earned and reinvested, but it does not usually appear in studies of personal income. In the absence of income tax, the inflation rate does not affect a worker's savings rate or the level of real consumption (since we are assuming a rate of return 4 per cent higher than the underlying inflation rate, whatever it may be), but incomes will be affected, both pre- and post-retirement, by the level of inflation due to the way income is measured (interest includes the inflation element of nominal interest rates).

All of these examples ignore income taxes, so normal savings plans perform just as well as tax-sheltered plans. The model simply demonstrates that if one defines income in the usual way, the manner in which a retirement system is organized can produce income inequalities where there are, in fact, no differences in economic well-being. Conversely, if the objective is to equalize economic well-being, unequal incomes are an unavoidable consequence of the way income is defined and measured.

The Canadian retirement system is much more complicated than any of the Egalitarian systems. We have progressive income taxes which, by their design, favour the elderly. We have a large number of government programs that provide income and services to elderly Canadians. We have RRSPs and pension plans. We have people who save outside tax shelters, either directly or through inheritance or by accessing home equity in their retirement years. As will be seen later, our senior citizens have income from many sources, suggesting that each of the aforementioned vehicles plays an important role in Canada. To use income as a measure of economic well-being in such an environment is, at best, hazardous.

For example, Baldwin and Laliberté (1999), in comparing the incomes of senior households and prime age households, produced the following numbers (Table 3).

Table 3: Relative Income of Senior and Prime Age Households

	Total Income (1996 $)		*Change (%)*
	1989	1996	
Senior households	$32,667	$31,834	-3
Prime age households	$55,678	$52,214	-6

Baldwin and Laliberté conclude:

> This general pattern of long-term increase (in the income of senior households) peaked around 1989 as the average senior household income decreased to $31,834 in 1996, a decline of about 3 per cent from 1989. However, senior households still improved their relative situation as households headed by Canadians between the age of 25 and 54 saw their income go down even further (6 per cent) during the same period. All told, in 1996 the average senior household stood at 61 per cent of the 25-54 group. (1999, p. 10)

As an arithmetical observation, the statement is accurate. But the inference that readers are invited to draw from it — that seniors were less well off in 1996 than they were in 1989 — is wrong. The decline in the income of senior households between 1989 and 1996 was largely fuelled by a reduction in investment income (from $7,014 in 1989 to $4,113 in 1996) caused by a reduction in interest rates (from 10 per cent in 1988–89 to 6 per cent in 1995–96) and other factors. The reduction in interest rates was

accompanied by a reduction in inflation (from 5.2 per cent in 1989 to 2.2 per cent in 1996). A senior citizen in the 40 per cent tax bracket[4] is better off earning 6 per cent in a year when prices rise by 2.2 per cent than 10 per cent in a year when prices rise by 5.2 per cent, as demonstrated below (Table 4) for an individual with $70,000 invested at the start of the year.

Table 4: Adjusting Investment Income for Taxes and Inflation

	1989	*1996*
1. Opening balance (1996 dollars)	$70,000	$70,000
2. Interest rate	10%	6%
3. Interest income, before-tax ([1] x [2])	$7,000	$4,200
4. Tax on interest income (40% of [3])	$2,800	$1,680
5. Closing balance, after-tax ([1] + [3] - [4])	$74,200	$72,520
6. Inflation rate	5.2%	2.2%
7. Purchasing power of closing balance ([5] ¸ {1 + [6]})	$70,532	$70,959
8. Real income, after-tax ([7] - [1])	$532	$959

Thus, what appears at first to be a sizeable reduction in investment income ($7,000 – $4,200 = $2,800) could more accurately be described as a modest increase in real, after-tax income ($959 – $532 = $427).

Baldwin and Laliberté's conclusion that senior households experienced a 3 per cent reduction in family income between 1989 and 1996 is correct but misleading, because unadjusted investment income says nothing about the economic advantages derived from investing capital in a world with taxes and inflation. Adjusted for this one distortion, the income of senior house-holds actually grew by 6 per cent between 1989 and 1996, while the incomes of prime age households declined by 6 per cent. Using after-tax incomes does not solve the measurement problem, as there is no adjustment for the erosion in the purchasing power of accumulated capital.

As a measure of economic well-being, income may be good enough to permit conclusions to be drawn from comparisons of the after-tax incomes of similar households in a given year. But comparing the incomes of senior households to the incomes of prime age households and comparing the incomes of senior households in one year to the incomes of senior households

[4]Investment income is skewed to higher income households.

in another year with materially different interest and inflation rates should only be done with the greatest of care.

Looking Beyond Income

More generally, there are five reasons why the unadjusted incomes of senior households should not be compared to the unadjusted incomes of younger households.

- Younger households often support children.

- Younger households devote a significant portion of their income to acquiring capital that senior households already possess (a home, one or more cars, furniture, appliances, etc.) and to the related financing costs (mortgages, car loans, etc.).

- Younger households have employment-related expenses (union dues, the cost of travelling to and from work, life and disability insurance, etc.).

- Younger households need to save for retirement and/or contribute to pension plans; senior households have already saved for retirement and some of their dis-saving (i.e., drawing down unsheltered capital accumulations) is not included in their incomes.

- Younger households have significantly higher taxes. They contribute to the Canada Pension Plan (CPP) and Employment Insurance (EI) and are subject to higher effective income tax rates.[5]

Of course, there are other differences between senior and prime age households. Were it not for medicare, provincial drug plans and employer-supported post-retirement medical insurance, senior households would have much larger medical expenses than prime age households. Even with these programs, seniors appear to spend more on health care than younger Canadians, but the differences are relatively small (a few hundred dollars per

[5]Senior households benefit from special age and pension credits and from a progressive tax system that burdens those who have (and need) high incomes much more heavily than those who do not have (or need) high incomes.

household per year). At advanced ages, seniors may need to pay for services that younger Canadians can provide for themselves. On the other hand, seniors have more time to do things for themselves than do younger households where one or both spouses work. Finally, seniors are the beneficiaries of many programs designed to support the elderly or those with low incomes (public housing and nursing homes with rents geared to income; seniors' discounts for services like banking and public transit).

The traditional analysis of family or household income adjusts for relatively few of these differences. Statistics Canada has, until recently, emphasized statistics that adjusted only for the number of people in the household. In comparing elderly couples to younger families, Statistics Canada used scaling factors to take into account expenditures on children, but did not adjust for taxes, capital accumulations, employment expenses or retirement savings. These studies often concluded that seniors had low incomes (which is true but not surprising) and, by inference, that seniors were financially more vulnerable than younger Canadians (which may or may not be true, but which cannot be determined from straightforward comparisons of income).

More recently, Statistics Canada has placed greater emphasis on after-tax income. However, the tax adjustments are incomplete, ignoring CPP and EI contributions, both of which fall predominantly on younger Canadians.

To perform a proper analysis of economic well-being requires more information than would usually be available in a study of income. This is particularly true if the objective is to meaningfully compare groups that are fundamentally different. The remainder of this paper uses the *1997 Survey of Consumer Spending* to construct financial profiles of senior and prime age households, and then to compare the two. Specifically, the following items were extracted from the survey for each household:

- income by source
  - ® employment earnings,
  - ® investment income,
  - ® RRSP withdrawals,
  - ® transfers (CPP/QPP, OAS, EI, GIS, etc.),
  - ® pensions and other;

- taxes (income tax, CPP/QPP and EI contributions);

- mortgage payments (interest and principal);

- savings defined broadly to include RRSP contributions, non-mortgage debt repayments, interest on non-mortgage debt, pension contributions (other than CPP/QPP), additions to non-sheltered savings, insurance premiums, etc.;

- gifts (charitable donations, net gifts to or from family members, etc.);

- union dues, professional dues and day-care costs; and

- descriptive information (household type, age of reference person and spouse; number of person weeks as a member of the household, weeks worked).

These are areas where the behaviour of seniors and the behaviour of prime age households are markedly different. Items have been grouped under a few broad headings to simplify the analysis. For example, "savings" includes interest paid on debt,[6] insurance premiums and the reinvestment of investment income on non-sheltered assets; it excludes (because the survey excludes) employer contributions to pension plans and the reinvestment of investment income from tax-sheltered assets. Taxes include income taxes and employee contributions to the CPP and EI, while excluding employer contributions to CPP and EI (which do not directly consume employee income) and the goods and services tax (GST), sales and property taxes (which consume the incomes of prime age households and senior households alike, and hence do not contribute significantly to differences between the two).

To estimate the amount spent on children,[7] a conventional equivalence factor was used. Specifically, I assumed that if 1.0 represents the cost of providing a particular standard of living to an adult living alone, the marginal cost of providing a similar standard of living to an additional adult in the same household is 0.4 and the marginal cost of providing a similar standard of living

[6]If this were a study of savings behaviour, the inflation element of interest payments should be considered savings while the real element would be considered an expenditure. Since the purpose of this paper is simply to compare the ways in which seniors and prime age households use income, the important thing is that prime age households pay significant amounts of interest on debts incurred to acquire assets that senior households own outright. Whether the interest payments are characterized as savings or expenditures makes no difference to the analysis.

[7]More properly, the marginal cost to the adults in the household of supporting children.

to each child in the household is 0.3. While there are many other equivalence scales in use, most are quite similar and would lead to similar conclusions.

To simplify the comparisons, households with the following features were excluded:

- households with no income;
- households submitting information for less than a full year;
- households other than
  - unattached adults living alone,
  - couples, with or without children, and
  - unattached adults with children;
- one person households with fewer than 52 person weeks;[8] and
- two or more person households with fewer than 104 person weeks.

[8] A household formed during the year in question might have less than 52 weeks of survey participation in its current configuration; households of this kind were excluded.

Profiles from the 1997 Survey of Consumer Spending

Sample Sizes

Table 5 summarizes the data used in the principal comparisons.

Table 5: Summary of Data Extracted from the 1997 Survey of Consumer Spending

	No. of Records	*No. of Represented Households*[a]	*Average Gross Income*	*Average After-tax Income*
Senior couples, reference spouse over 65	1,264	836,000	$39,100	$32,700
Senior couples, both spouses over 65	987	642,000	$38,500	$32,500
Fully retired[b] senior couples, both over 65	849	553,000	$35,600	$30,600
Prime age[c] couples; with children	4,309	2,608,000	$70,500	$51,900
Prime age[c] couples; without children	952	594,000	$66,100	$47,400
Fully retired[b] unattached seniors	1,396	883,000	$19,200	$16,900
Prime age[c] unattached adults				
× With children	907	542,000	$31,600	$26,100
× Without children	1,178	799,000	$35,200	$25,600

Notes: All averages are calculated using the population weights.

[a] The total weight for the selected records.

[b] No income from employment.

[c] Reference spouse between the ages of 30 and 49, inclusive.

A 65 year old adult was not considered "senior" because he or she would have been under 65 at the start of 1997 and would not have qualified for government benefits for the entire year.

While "prime age" usually refers to those between the ages of 25 and 55, in this instance the term applies to households where the reference spouse is between 30 and 49, inclusive.

By ignoring young households (under age 30), households transitioning into retirement (reference spouses between the ages of 50 and 65) and unusual households (seniors with employment income; seniors supporting children; families with dependent parents or unrelated adults in the home) the

comparisons focus on the differences between typical prime age families and typical retired seniors.

For each group, Table 5 gives the sample size, the number of represented households, the average gross income and the average after-tax income. The averages in this and other tables are weighted averages, calculated by applying the population weight to each of the records in the category and rounding the result to the nearest $100. By excluding senior households with one spouse under 65 and senior households with employment income, we obtain a truer picture of the circumstances of the fully retired majority. As Baldwin and Laliberté (1999) point out, working seniors have above average incomes (even ignoring their employment earnings) and the inclusion of this relatively small unrepresentative group increases the average incomes of senior citizens by 5 per cent to 10 per cent.

Sources of Income

Tables 6 and 7 examine the sources of income for senior households (Table 6) and prime age households (Table 7). Transfers account for 54 per cent of the income of fully retired senior couples and 60 per cent of the income of fully retired unattached seniors. For prime age couples and prime age unattached adults, employment earnings account for 92 per cent and 83 per cent of gross income, respectively, while transfers account for only 4 per cent and 11 per cent, respectively.

As can be seen from Table 6, senior households draw income from many sources. RRSP withdrawals are not a significant source of income for this generation of retired Canadians. Senior households have significant amounts of investment income (four times as much as prime age households). Since interest rates were relatively low in the years leading up to 1997, at least as

Table 6: Sources of Income for Fully Retired Senior Households

	Couples			
Type of Income	*Spouse No. 1*	*Spouse No. 2*	*Total*	*Unattached*
Employment	$0	$0	$0	$0
Pension and other	$6,800	$3,200	$10,000	$4,500
RRSP*	N/A	N/A	$1,400	$600
Investment	$2,900	$1,800	$4,700	$2,700
Transfers	$10,900	$8,500	$19,400	$11,500
Total			**$35,600**	**$19,200**

Note: *The 1997 Survey of Consumer Spending did not identify RRSP with-drawals by spouse, hence RRSP income is shown only for the household as a whole.

Table 7: Sources of Income for Prime Age Households

	Couples, With or Without Children			*Single Adults With or Without Children*
Type of Income	*Spouse No. 1*	*Spouse No. 2*	*Total*[b]	
Employment	$33,000	$29,300	$64,300	$27,900
Pension and other	$500	$400	$900	$1,500
RRSP[a]	N/A	N/A	$400	$300
Investment	$700	$400	$1,200	$500
Transfers	$1,600	$1,300	$3,000	$3,600
Total			**$69,700**	**$33,700**

Notes: [a]The 1997 Survey of Consumer Spending did not identify RRSP with-drawals by spouse, hence RRSP income is shown only for the household as a whole.
[b]Total includes any income earned by children.

compared to interest rates in the 1980s and early 1990s, the average senior household must have a significant amount of unsheltered capital on which to encroach, probably more than three times their annual expenditures. As will

be seen later, there is little to suggest that seniors encroach on capital.[9] Many continue to save.

Income Comparisons

Table 8 compares the incomes of senior households to the incomes of prime age households.

Incomes are measured in four different ways:

- unadjusted gross income;
- adjusted gross income (income was adjusted to the equivalent for a couple without children using the equivalency scale described earlier);
- unadjusted after-tax income where after-tax income is gross income less personal income tax and (unlike Statistics Canada's calculation of after-tax income) CPP/QPP and EI contributions; and
- adjusted after-tax income (adjusted to the equivalent for a couple without children).

Table 8: Comparing the Income of Prime Age and Senior Households

	Two Adult Households			*Single Adult Households*		
	Prime Age	*Fully Retired Senior*	*Ratio*	*Prime Age*	*Fully Retired Senior*	*Ratio*
			(%)			(%)
Gross income						
× Unadjusted	$69,700	$35,600	51	$33,700	$19,200	57
× Adjusted*	$52,800	$35,600	67	$41,400	$26,900	65
After-tax income						
× Unadjusted	$51,100	$30,600	60	$25,800	$16,900	66
× Adjusted*	$38,600	$30,600	79	$31,300	$23,700	76

Note: * To the equivalent income for a couple without children.

[9] Other than those with the lowest incomes.

The adjusted gross incomes of fully retired senior households are low — about two-thirds of the adjusted incomes of prime age households. After-tax, senior households have 75 per cent to 80 per cent of the adjusted income of prime age households.[10] On the basis of comparisons such as these, many believe that senior citizens have inadequate incomes. Baldwin and Laliberté (1999), in assessing the extent to which Canada's retirement system has met its objectives, concludes with the following observations.

> The fact that the average income of elderly households has been rising in relation to non-elderly households suggests that the income replacement function is being met more completely. On the other hand, the fact that there is still a significant gap between the average household income of over 65 households versus under 65 households — especially for older households with no employment income, reminds us that old age still tends to be a time of relatively low incomes. The fact that elderly households are over-represented in the first and second quintiles, while being under-represented in the third, fourth and fifth suggests the same point. (1999, p. 54)

Myles concludes his examination of seniors' income by observing that,

> Seniors with low incomes have gained substantially. Conversely, it would be extremely difficult to claim that Canadian seniors have become "too rich". Although mean incomes have risen considerably since the early 1980s, virtually all of the gains have taken place at the lower end of the income distribution. (2000, p. 1)

Both Baldwin and Laliberté (1999) and Myles (2000) cite the fact that seniors are under-represented in the fourth and fifth income quintiles as proof that seniors are not "too rich". Baldwin and Laliberté adjusted for neither taxes nor children. Myles adjusted for both. Neither adjusted for mortgages, employment expenses, CPP and EI contributions, capital accumulations or retirement savings. While both may be correct in concluding that seniors have not grown "too rich", nothing in either paper supports, or is capable of supporting, such a conclusion. The fact that seniors have lower incomes than younger Canadians, even after adjusting for taxes and the cost of raising children, does not mean that they are less well off.

Uses of Income: Fully Retired and Prime Age Households

[10] Statistics Canada's calculation of after-tax income, which ignores CPP/QPP and EI contributions, would put the adjusted incomes of senior house-holds closer to 70–75 per cent of the adjusted incomes of prime age households, after-tax.

Tables 9 (couples) and 10 (unattached adults) compare the uses to which senior and prime age households put their incomes. Senior households headed by someone under 75 are distinguished from senior households headed by someone 75 and over to differentiate the more recently retired from those who have been retired for some time.

Table 9: Uses of Income: Senior vs. Prime Age Couples

	Prime Age Couples			*Fully Retired Senior Couples*		
	With Children	*Without Children*	*All*	*Under 75*	*75 and Over*	*All*
Gross income	$70,500	$66,100	$69,700	$38,000	$32,900	$35,600
Tax	(18,600)	(18,600)	(18,600)	(5,500)	(4,400)	(5,000)
Mortgage	(6,200)	(5,400)	(6,100)	(200)	(200)	(200)
Savings	(5,500)	(9,000)	(6,100)	(4,500)	(2,800)	(3,700)
Gifts	500	900	500	(1,500)	(2,500)	(2,000)
Dues and day-care	(1,200)	(300)	(1,000)	(0)	(0)	(0)
Provision for children	(12,000)	(0)	(9,800)	(0)	(0)	(0)
Adult consumption	$27,500	$33,700	$28,600	$26,300[a]	$23,000[b]	$24,700[c]

Notes: [a] $32,300 ignoring gifts and savings.
[b] $28,300 ignoring gifts and savings.
[c] $30,400 ignoring gifts and savings.

Table 10: Uses of Income: Senior vs. Prime Age Unattached Adults

	Prime Age Unattached Adults			*Fully Retired Unattached Seniors*		
	With Children	*Without Children*	*All*	*Under 75*	*75 and Over*	*All*
Gross income	$31,600	$35,200	$33,700	$21,300	$17,500	$19,200
Tax	(5,500)	(9,600)	(8,000)	(2,600)	(2,000)	(2,300)
Mortgage	(2,100)	(1,900)	(2,000)	(200)	(100)	(100)
Savings	1,300	(2,800)	(1,100)	(1,000)	100	(400)
Gifts	600	(0)	300	(1,100)	(1,600)	(1,400)
Dues and day-care	(600)	(200)	(300)	(0)	(0)	(0)
Provision for children	(8,500)	(0)	(3,500)	(0)	(0)	(0)
Adult consumption	**$16,800**	**$20,700**	**$19,100**	**$16,400**[a]	**$13,900**[b]	**$15,000**[c]

Notes: [a] $18,500 ignoring gifts and savings.
[b] $15,400 ignoring gifts and savings.
[c] $16,800 ignoring gifts and savings.

From these tables, it would appear that:

- senior households consume less than prime age households even after adjusting for the consumption of children,[11]
- older seniors consume less than younger seniors,
- differences between prime age households and senior households are more pronounced for unattached adults than for couples,
- were it not for amounts saved and/or given away, senior couples could support a higher level of consumption than prime age couples, and
- prime age adults without children have a higher level of consumption than the other groups.

[11] Which, of course, says nothing about how their consumption compares to what it was when they were younger.

On the whole, fully retired senior households appear to live slightly more modestly than prime age households, but this is largely a tribute to their frugality, not to financial constraints. Fully retired senior couples save, or give away, almost 20 per cent of their after-tax income. Fully retired unattached seniors save, or give away, more than 10 per cent of their after-tax income. These percentages are comparable to the percentages of after-tax income that prime age households devote to mortgages, savings and debts.

Sources and Uses of Income by Age: Fully Retired Senior Households

Tables 11 (couples) and 12 (unattached adults) look at the impact of age on the sources and uses of income for fully retired seniors. Note that the results for any given five-year age group are subject to potentially large sampling errors, and must be interpreted accordingly.

Table 11: Sources and Uses of Income: Fully Retired Senior Couples, by Age

	Ages					
	65 – 69	*70 – 74*	*75 – 79*	*80 – 84*	*85+*	*All*
Transfers	$19,600	$19,800	$19,800	$19,300	$16,200	$19,400
Investment income	4,200	4,100	4,800	4,700	9,400	4,700
Pension, RRSP and other	13,600	14,300	10,300	5,200	5,700	11,500
Gross	**$37,400**	**$38,200**	**$34,900**	**$29,200**	**$31,300**	**$35,600**
Tax	(4,900)	(5,800)	(5,300)	(2,700)	(3,900)	(5,000)
Mortgage	(300)	(200)	(300)	(0)	(0)	(200)
Gifts	(1,700)	(1,500)	(2,000)	(4,000)	(1,600)	(2,000)
Savings	(2,600)	(5,400)	(3,200)	(800)	(5,300)	(3,700)
Consumption	**$27,900**	**$25,300**	**$24,100**	**$21,700**	**$20,500**	**$24,700**

Table 12: Sources and Uses of Income: Fully Retired Unattached Seniors, by Age

	Ages					
	65 – 69	*70 – 74*	*75 – 79*	*80 – 84*	*85+*	*All*
Transfers	$12,000	$11,700	$11,700	$11,100	$10,100	$11,500
Investment income	2,600	2,900	2,100	2,700	3,700	2,700
Pension, RRSP and other	4,800	8,000	4,600	3,300	2,000	5,000
Gross	**$19,400**	**$22,600**	**$18,400**	**$17,100**	**$15,800**	**$19,200**
Tax	(2,000)	(3,000)	(2,300)	(1,900)	(1,500)	(2,300)
Mortgage	(200)	(200)	(100)	(100)	(200)	(100)
Gifts	(900)	(1,300)	(1,200)	(2,300)	(1,300)	(1,400)
Savings	(0)	(1,600)	(300)	(1,000)	(500)	(400)
Consumption	**$16,300**	**$16,500**	**$14,500**	**$13,800**	**$12,300**	**$15,000**

The patterns in Tables 11 and 12 are generally consistent with a view that seniors, as they age, become less able or less willing to spend their money. Income decreases gradually with advancing age (which may be generational). This, one would think, would lead older seniors to save less in an effort to maintain consumption. Yet saving and gift giving do not seem to decline much with age. Consumption does. This might be explained by a number of factors.

- Older seniors might be particularly frugal, or perhaps this generation of older seniors is particularly frugal.
- Older seniors might be prevented by poor health from spending their money.
- Older seniors might be spending the way they always did; they just do not spend much.
- Seniors might want to leave money to their children to inherit.

- Seniors might be worried about future medical and custodial costs.
- Older seniors might exaggerate their savings and under-estimate their consumption.

Uses of Income by Quintile

Tables 13 (households with two adults) and 14 (households with one adult) examine the uses to which income is put by households in the bottom, middle and top income quintiles.

Table 13: Uses of Income by Quintile: Two-Adult Households

	Prime Age Quintiles			*Fully Retired Senior Quintiles*		
	Bottom	*Middle*	*Top*	*Bottom*	*Middle*	*Top*
Income band						
Bottom	-	$56,000	$92,000	-	$26,000	$46,000
Top	$40,000	$72,000	-	$21,000	$33,000	-
Average No. of children	1.6	1.7	1.7	0	0	0
No. of weeks worked	51	86	101	0	0	0
Gross income	**$27,800**	**$63,400**	**$126,800**	**$17,200**	**$29,000**	**$70,000**
Tax	(3,700)	(15,900)	(39,500)	(300)	(2,500)	(15,800)
Mortgage	(2,500)	(6,400)	(9,300)	(300)	(100)	(200)
Savings	2,100	(4,600)	(20,200)	400	(200)	(15,100)
Gifts	800	1,300	(400)	900	(1,900)	(5,700)
Dues and day-care	(300)	(1,000)	(1,700)	(0)	(0)	(0)
Provision for children	(6,100)	(9,000)	(14,300)	(0)	(0)	(0)
Adult consumption	**$18,100**	**$27,800**	**$41,400**	**$17,900**[a]	**$24,300**[b]	**$33,200**[c]

Notes: [a] $16,600 ignoring gifts and savings.
[b] $26,400 ignoring gifts and savings.
[c] $54,000 ignoring gifts and savings.

Table 14: Uses of Income by Quintile: One-Adult Households

	Prime Age Quintiles			*Fully Retired Senior Quintiles*		
	Bottom	*Middle*	*Top*	*Bottom*	*Middle*	*Top*
Income band						
Bottom	-	$24,000	$49,000	-	$14,000	$24,500
Top	$15,000	$35,000	-	$12,000	$16,000	-
Average No. of children	0.5	0.7	0.6	0	0	0
No. of weeks worked	8	47	55	0	0	0
Gross income	**$9,200**	**$29,300**	**$68,500**	**$10,000**	**$14,300**	**$38,900**
Tax	(400)	(5,800)	(20,900)	(100)	(300)	(8,700)
Mortgage	(300)	(1,300)	(4,700)	(0)	(200)	(300)
Savings	1,800	(300)	(6,800)	200	900	(3,500)
Gifts	1,800	300	(2,100)	(200)	(1,100)	(3,300)
Dues and day-care	(100)	(400)	(800)	(0)	(0)	(0)
Provision for children	(1,600)	(3,400)	(4,400)	(0)	(0)	(0)
Adult consumption	**$10,400**	**$18,400**	**$28,800**	**$9,900**[a]	**$13,600**[b]	**$23,100**[c]

Notes: [a] $9,900 ignoring gifts and savings.
[b] $13,800 ignoring gifts and savings.
[c] $29,900 ignoring gifts and savings.

The quintiles are based on gross income, and are determined separately for senior households and for prime age households. The relevant percentiles are as set out in Table 15.

Table 15: Gross Income Percentiles

	Two-Adult Households		*One-Adult Households*	
Percentile	*Prime Age*	*Fully Retired Senior*	*Prime Age*	*Fully Retired Senior*
20th	$40,000	$21,000	$15,000	$12,000
40th	$56,000	$26,000	$24,000	$14,000
60th	$72,000	$33,000	$35,000	$16,000
80th	$92,000	$46,000	$49,000	$24,500

The ratios of the incomes of, and the amounts consumed by, seniors to the corresponding amounts for prime age households *in the same quintile* are shown in Table 16.

Senior households spend less than prime age households in the corresponding quintile. In some cases (i.e., middle-income unattached adults) this is of necessity. In many instances (high-income households) it is by choice.

Simple replacement ratios, before- or after-tax, say relatively little about the adequacy of retirement income. Fully retired senior couples in the middle quintile have 46 per cent of the gross income and 56 per cent of the after-tax income of the corresponding quintile of prime age couples, yet they are capable of achieving (if they spent their after-tax incomes) 95 per cent of the consumption of prime age couples. Fully retired senior couples in the top quintile have 55 per cent of the income of corresponding prime age couples, but if they spent their after-tax incomes they could achieve 130 per cent of the consumption of prime age couples.

Table 16: Income and Consumption of Fully Retired Senior Households as a Percentage of the Corresponding Amounts for Prime Age Households

	Gross Income (%)	*After-tax Income* (%)	*Adult Consumption** (%)
Two-adult households			
Bottom quintile	62	70	92
Middle quintile	46	56	95
Top quintile	55	62	130
One-adult households			
Bottom quintile	109	113	95
Middle quintile	49	60	75
Top quintile	57	63	104

Note: *including, in the case of senior households, gifts and savings.

Fully retired single seniors in the middle quintile have 49 per cent of the gross income of corresponding one-adult, prime age households, but if they spent their money, they could achieve 75 per cent of the consumption of prime age households. Thus, for some households (middle-quintile couples) a 50 per cent gross replacement ratio is about right. For others (top-quintile couples) it is too high. For others (middle-quintile, single adults) it is too low.

Tables 13 and 14 also demonstrate the limitations of Gini coefficients as a measure of economic equality. Many authors (Baldwin and Laliberté; and Myles among them) use lower Gini coefficients for senior incomes to demonstrate that inequality is less pervasive or less severe for older Canadians. Gower (Table 17) found that low-income, working Canadians replaced a much higher percentage of their employment income when they retired than did Canadians with higher incomes. This table is generally consistent with the view that the range of income outcomes for senior citizens is narrower than for prime age Canadians.

Table 17: Gross Replacement Ratios upon Retirement

Pre-Retirement Income (1992)	*Percentage of Income Replaced upon Retirement*
	(%)
less than – $10,000	147
$10,000 – $19,999	69
$20,000 – $29,999	62
$30,000 – $39,999	60
$40,000 – $49,999	59
$50,000 – $69,999	56
over $70,000	45

Source: Gower (1998).

Table 18 shows that the ratios of top-quintile average incomes and adult consumption to the corresponding averages in the bottom quintile is consistently higher for prime age couples than for fully retired senior couples. On the surface, this suggests that there is less inequality among seniors, but the conclusion rests on the assumption that the ratios for prime age couples are directly comparable to the corresponding ratios for senior couples, and this may not be the case. For example, the consumption ratio for senior couples (1.85) is lower than the ratio for prime age couples (2.29) because senior couples in the top quintile save or give away 38 per cent of their after-tax income rather than consuming it. Prime age couples devote about 34 per cent of their after-tax income to mortgages and savings.

It is clear why prime age couples devote a high percentage of their incomes to mortgages and savings; they need to eliminate debts and to accumulate retirement savings if they are to enjoy a comparable standard of living when they retire. It is not clear why top-quintile seniors, who already have mortgage-free houses and comfortable retirement incomes, need to continue to save almost 30 per cent of their after-tax income. Arguably, the most relevant measure of inequality in Table 18 is, for prime age couples, the consumption ratio (2.29) and, for retired couples, the after-tax income ratio

(3.21). If so, then inequality is more pronounced among senior couples than prime age couples.

Transitions from Young to Old

Table 19 boks at the transition from a young adult to prime age adult to senior citizen.

Table 18: Ratios of Top to Bottom Quintile Averages

	Prime Age Couples	*Fully Retired Senior Couples*
Gross income	4.56	4.07
After-tax income	3.62	3.21
Adult consumption	2.29	1.85

Unlike the other tables, Table 19 includes adults under 30 and between the ages of 50 and 65. Seniors with employment income and seniors with non-senior spouses are included in the sample.

As can be seen from the table:

- gross income and weeks worked increase significantly between the ages of 20 and 50, and then decrease significantly between the ages of 50 and 70;

- prior to age 70, adult consumption changes very little. As incomes rise, so do taxes, mortgage payments and the cost of supporting children. As incomes decline, so do these expenses, or alternatively, as these expenses decline so does the need for income and the number of weeks worked; and

- after age 70 there is a notable decline in consumption that appears to be largely voluntary, as savings and gifts continue at a relatively high level.

Implications for the Design of Canada's Retirement System

Much of Canada's retirement system, both public and private, has been built on a faulty assumption — that seniors need to replace 70 per cent of their employment income to maintain their standard of living. Most of the evidence suggests that the required ratio is 30 per cent to 70 per cent depending on an individual's circumstances, with the average closer to 50 per cent than 70 per cent. The fact that today's seniors have roughly half of the income of prime age families, but can afford a similar standard of living, supports this conclusion.

If seniors can live comfortably on half the income of working Canadians, the implications are as follows.

Government transfers will continue to dominate the income of senior citizens. Transfer payments replace about 40 per cent of the income of the typical retiring Canadian. If 50 per cent will suffice, the average Canadian needs little in the way of occupational pensions or retirement savings to live comfortably after 65.

Canada should expect to have a relatively low savings rate. Most Canadians can retire in comfort if they do two things: eliminate their debts and save a modest amount to supplement government pensions.

Those who save heavily, either because they participate in expensive pension plans (as are common in the public sector) or because they adhere to a strict savings regime, will typically find that they can retire in their 50s and live comfortably on 50 per cent of their employment income. If they keep working until they achieve the conventional 70 per cent target, they may have trouble spending their retirement income, particularly as they push into their late 70s. The recent experience of public sector plans suggests that many Canadians are prepared to retire in their 50s with pensions that are at the low end of the range that has traditionally been considered adequate.

If seniors have difficulty spending their money as they age, one must question the wisdom of deferring large amounts of income until late in life. Seniors might be better off with larger partially indexed pensions than smaller, fully indexed pensions.

While Canadians appear to abhor two-tiered systems, our current retirement system appears to be cut from this cloth. Canadians with below-average incomes will rely almost entirely on government programs. They will do so for three reasons: (i) government pensions provide most of what they need to maintain their modest standard of living[12] when they retire, (ii) taxes, mortgages and the cost of raising children make it difficult for them to save, and (iii) income taxes, clawbacks (GIS, refundable tax credits), geared-to-income programs and services make savings relatively pointless, as little of the income generated by these savings produces a benefit for the saver.

Canadians with above-average incomes will need to save reasonably heavily and/or to participate in occupational pension plans to maintain their higher standards of living. Since government programs will be relatively unimportant to those with good incomes while retirement savings plans will be relatively unimportant to those with below-average incomes, we can expect continuing disagreements about government priorities. Many will want retirement savings plans cut back to generate additional tax revenues to shore up public pensions. Others will want government pensions cut back and a greater emphasis placed on retirement savings.

[12]Indeed, many will find that their standard of living improves after age 65 even if they have no savings and no occupational pensions.

While much is written about employment becoming the fourth leg of the retirement income stool[13] and about the presumed need for the next generation of Canadians to continue working after age 65, these views are often premised on the assumption that Canadians need to replace 70 per cent of their retirement income and that many will need to support parents with inadequate incomes. While some Canadians will want to replace 70 per cent of their employment income and while some will need to support parents, most can get by comfortably with less than 70 per cent and many will inherit significant amounts from frugal parents who save heavily even in their 70s and 80s. For many, inheritance, not employment, will be the fourth leg of the retirement stool.

The reluctance of many seniors to encroach on capital is understandable, but unwise. In the 1970s and 1980s when inflation was high, seniors encroached on their "real" capital without knowing it, that is, they spent their interest, much of which was simply compensation for the inflation-induced erosion in the purchasing power of their capital. When inflation and interest rates declined in the 1990s, seniors had lower incomes, but they were better off because the purchasing power of their capital eroded more slowly. However, if seniors are unprepared to encroach on capital, their cash flow is adversely affected by declining interest and inflation rates and their heirs, not the seniors themselves, become the beneficiaries of lower inflation.

References

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Gower, D. (1998), "Income Transition Upon Retirement", *Perspectives* (Ottawa: Statistics Canada), Winter.

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[13]Government pensions, occupational savings and personal savings being the first three.

Table 19: Income and Consumption by Age and Household Type

	Two-Adult Households					*One-Adult Households*				
Age	*Weeks Worked*	*Gross Income*	*After-tax Income*	*Adult Consumption*	*Gifts, Mortgage & Savings*	*Weeks Worked*	*Gross Income*	*After-tax Income*	*Adult Consumption*	*Gifts, Mortgage & Savings*
		($)	($)	($)	($)		($)	($)	($)	($)
Under 25	63	35,300	28,800	24,100	(100)	25	17,100	14,400	15,600	(3,000)
25 – 29	71	46,800	36,300	27,300	3,900	33	26,800	21,200	18,000	1,300
30 – 34	73	54,800	42,000	24,300	8,700	34	31,200	23,000	19,500	900
35 – 39	76	60,200	45,500	23,900	10,500	37	32,600	25,600	18,200	3,400
40 – 44	81	65,200	48,500	27,500	9,600	40	34,200	26,300	18,800	3,200
45 – 49	86	66,800	50,000	31,400	8,800	44	36,600	27,700	20,300	3,300
50 – 54	77	63,100	47,600	31,000	10,800	38	34,400	26,500	20,500	3,000
55 – 59	61	60,500	45,600	31,500	11,300	28	31,500	24,400	19,200	3,400
60 – 64	33	50,800	37,500	30,200	5,900	15	24,500	19,200	17,900	600
65 – 69	18	46,600	37,300	28,100	8,100	6	25,200	21,300	17,600	2,900
70 – 74	10	45,100	38,000	24,800	12,500	2	23,600	20,400	17,000	3,000
75 – 79	8	36,300	31,800	23,700	7,700	2	20,800	17,700	15,100	2,000
80 – 84	2	32,000	28,200	22,800	5,000	2	19,000	16,500	14,800	1,200
over 84	7	32,600	29,200	20,100	8,700	1	17,700	15,700	12,800	2,500