Income transition upon retirement

Dave Gower

With the aging of the population, the number of Canadians who have retired from work and are receiving pensions is rising steadily. Recipients of Canada and Quebec Pension Plan (C/QPP) benefits alone rose from 3.0 million in 1990 to 3.9 million in 1995 (Revenue Canada, 1997).

Finance Canada has stated that "between 60% and 70% of pre-retirement earnings is generally considered to be sufficient to avoid serious disruption of living standards," although the figure need not be as great for those with higher incomes (Department of Finance, 1995).[1]

This article examines the situation of people who retired in the first half of the 1990s to see how well their retirement income has replaced their former income.[2]

An elusive concept

Not every worker experiences a straightforward transition from work to leisurely retirement. For example, one person might retire and draw a pension, then supplement that source with earnings from a part-time job. Another might become increasingly unable to meet the physical demands of a job and gradually reduce activity without ever officially retiring. Someone else might lose a long-term position before pensionable age and begin searching for another. Given the variety of possible scenarios, any study of retirement will necessarily reflect the focus and scope of its data source – in this case, Statistics Canada's Longitudinal Administrative Databank (see *Data source and concepts*).

Dave Gower was with the Labour and Household Surveys Analysis Division. He can be reached at (613) 489-3614 or davegow@magma.ca.

Slightly under 200,000 retirees met the criteria to be included in this study. About one-third declared $40,000 or more in 1992 (their "pre-retirement income"), and one-quarter under $20,000. Since earnings typically peak during the latter part of one's career (Saint-Pierre, 1996), it is not surprising that retirees are better off than taxfilers as a whole, only 18% of whom declared total 1992 income of $40,000 or more (Revenue Canada, 1994).

Men outnumbered women (113,000 versus 81,000). This reflects men's more frequent involvement in the labour force prior to the 1990s.

Low pre-retirement incomes were much more common among women than men (Table 1). In fact, 41% reported less than $20,000 in 1992, two-and-a-half times the proportion for men (16%). The majority of retirees in this category had from $10,000 to $19,999 per year.

At the other end of the scale, almost half the men in the study reported an income of $40,000 or more in 1992, compared with 16% of women. Some 9% of men and 2% of women had $70,000 or more.

Income drops at retirement

Overall, the adjusted[5] 1995 income of retirees was 58% of their pre-retirement income (Table 2). Retirees with low 1992 incomes (under $20,000) did proportionately better – with a replacement ratio of 81% – than those whose pre-retirement incomes were $20,000 to $39,999 or $40,000 and over (61% and 54%, respectively). However, in spite of the higher ratios, people with low pre-retirement incomes were still considerably worse off after retirement, with an average 1995 income of just $9,400 (compared with $18,100 and $32,300) (Table 3).

Table 1
Retirees by sex and 1992 (pre-retirement) income

	Both sexes	Men	Women	Both sexes	Men	Women
		'000			%	
Total	**194**	**113**	**81**	**100**	**100**	**100**
Under $20,000*	**51**	**18**	**33**	**26**	**16**	**41**
Under $10,000*	18	7	12	9	6	14
$10,000 to $19,999	33	12	22	17	10	27
$20,000 to $39,999	**78**	**44**	**35**	**40**	**39**	**43**
$20,000 to $29,999	39	20	20	20	17	25
$30,000 to $39,999	39	24	15	20	22	18
$40,000 and over	**64**	**51**	**13**	**33**	**45**	**16**
$40,000 to $49,999	26	19	7	13	17	8
$50,000 to $69,999	26	21	6	14	19	7
$70,000 and over	12	11	1	6	9	2

Source: Longitudinal Administrative Databank, 1992 and 1995
* Includes loss.

Table 2
Average pre-retirement income and percentage of income after retirement in 1995, by sex and 1992 income

	Pre-retirement income			Income replacement ratio		
	Both sexes	Men	Women	Both sexes	Men	Women
	$			%		
Total	**35,100**	**41,500**	**26,100**	**58**	**57**	**61**
Under $20,000*	**11,600**	**11,300**	**11,800**	**81**	**96**	**74**
Under $10,000*	5,200	4,400	5,700	147	217	115
$10,000 to $19,999	15,100	15,300	15,000	69	75	65
$20,000 to $39,999	**29,900**	**30,600**	**28,900**	**61**	**61**	**60**
$20,000 to $29,999	25,100	25,200	24,900	62	64	59
$30,000 to $39,999	34,700	34,800	34,500	60	60	60
$40,000 and over	**60,200**	**61,800**	**54,200**	**54**	**53**	**56**
$40,000 to $49,999	44,700	44,700	44,500	59	59	58
$50,000 to $69,999	58,200	58,100	57,400	56	56	56
$70,000 and over	98,900	99,200	88,700	45	44	48

Source: Longitudinal Administrative Databank, 1992 and 1995
* *Includes loss.*

Workers with pre-retirement incomes under $10,000 tended to gain financially when they retired. This is partly because Old Age Security (OAS) is payable regardless of previous employment; another reason may be that some people may experience a sharp drop-off in earnings just prior to retirement. This may lower the pre-retirement earnings recorded in this study, without proportionately reducing the pension entitlement (see *Income stream*).

Conversely, replacement ratios for those with $70,000 and over in 1992 averaged less than 50%. However, their post-retirement incomes were still well above those of workers with less generous incomes prior to retirement.

Slightly over one-quarter of retirees had replacement ratios of 75% or more (Table 4). Not surprisingly, such high ratios were concentrated among those with low pre-retirement incomes (under $20,000). Only one in six retirees with a pre-retirement income of $40,000 or more had a replacement ratio of 75% or more.

About one-third of retirees in each income group had replacement ratios of less than 50%. Indeed, many retirees' ratios were well below 50%: for them, the average ratio was 35%.

Of particular concern are the one-third of retirees with pre-retirement incomes below $20,000 who failed to maintain half after retirement. This subset, accounting for just under 10% of retirees, recorded an average 1995 income of only $4,100.[7] Many of them will see a marked improvement after they begin receiving OAS benefits (at age 65).

Age of retirement makes some difference

Retirees aged 60 or over had slightly higher replacement ratios than those under 60 (60% versus 57%). This global figure, however, hides substantial differences among the various subgroups examined. For example, younger retirees at the low end of the income scale received only 69% of their pre-retirement income, in contrast to the older group's 90% (Table 5).

On the other hand, retirees with incomes of $40,000 or over were actually a little better off retiring younger (replacing 55% of their income, compared with 53% for those older). As

Table 3
Average post-retirement income in 1995 (1992 dollars) by sex and 1992 income

	Both sexes	Men	Women
		$	
Pre-retirement income			
Total	**20,500**	**23,800**	**15,900**
Under $20,000*	**9,400**	**10,800**	**8,700**
Under $10,000*	7,700	9,500	6,600
$10,000 to $19,999	10,400	11,500	9,800
$20,000 to $39,999	**18,100**	**18,700**	**17,300**
$20,000 to $29,999	15,500	16,100	14,800
$30,000 to $39,999	20,700	20,800	20,700
$40,000 and over	**32,300**	**32,800**	**30,200**
$40,000 to $49,999	26,300	26,400	26,000
$50,000 to $69,999	32,800	32,800	32,300
$70,000 and over	44,300	44,100	42,800

Source: Longitudinal Administrative Databank, 1992 and 1995
* *Includes loss.*

Table 4
Distribution of retirees by sex, 1992 income and income replacement ratio in 1995

		Income replacement ratio			
	Retirees	Total	<50%	50%-74.9%	75%+
	’000	%			
Pre-retirement income					
Both sexes	**194**	**100**	**35**	**38**	**26**
Under $20,000*	51	100	33	22	45
$20,000 to $39,999	78	100	35	42	23
$40,000 and over	64	100	38	47	15
Men	**113**	**100**	**34**	**41**	**25**
Under $20,000*	18	100	27	18	55
$20,000 to $39,999	44	100	33	43	24
$40,000 and over	51	100	38	47	14
Women	**81**	**100**	**36**	**35**	**28**
Under $20,000*	33	100	36	24	40
$20,000 to $39,999	35	100	37	41	22
$40,000 and over	13	100	36	49	15

Source: Longitudinal Administrative Databank, 1992 and 1995
* Includes loss.

Table 5
Age of retirement and income replacement ratio in 1995, by sex and 1992 income

	Retirees			Income replacement ratio		
	Total	Under age 60	60 and over	Total	Under age 60	60 and over
	’000			%		
Pre-retirement income						
Both sexes	**194**	**80**	**113**	**58**	**57**	**60**
Under $20,000*	51	23	28	81	69	90
$20,000 to $39,999	78	29	49	61	57	62
$40,000 and over	64	28	36	54	55	53
Men	**113**	**44**	**69**	**57**	**57**	**58**
Under $20,000*	18	7	11	96	84	102
$20,000 to $39,999	44	15	29	61	59	62
$40,000 and over	51	22	29	53	55	52
Women	**81**	**37**	**44**	**61**	**56**	**64**
Under $20,000*	33	16	17	74	63	83
$20,000 to $39,999	35	15	20	60	55	63
$40,000 and over	13	6	7	56	54	57

Source: Longitudinal Administrative Databank, 1992 and 1995
* Includes loss.

noted elsewhere (Gower, 1997), retirement before age 60 tends to be much more common in certain industries (utilities and government services, for example).[8] Many employers in these industries provide relatively high salaries as well as an opportunity to retire early with reasonable pension benefits.

Women’s retirement income reflects career patterns

Overall, women’s retirement income replacement ratio was slightly higher than men’s (61% versus 57%; Table 2). This does not mean that women were better off after retirement. On the contrary, they were much more likely to be in the lower income groups, which had higher replacement ratios.

The situation is more complex if considered by income group. Women with less than $20,000 in 1992 had average income replacement ratios much lower than men in that category. Those with less than $10,000 revealed the greatest difference: 115%, compared with 217% for men (Table 2). Perhaps this is because more men perform sometimes dangerous blue-collar work, incurring higher injury rates. This may in turn have reduced their measured pre-retirement earnings relative to income after retirement.

Women in the intermediate and higher ranges had average replacement ratios similar to men’s, a finding somewhat surprising in light of the career interruptions experienced by many with children. Such a reduction in lifetime employment history would be expected to reduce pension entitlements, since benefit levels in many plans (including C/QPP) are determined by lifetime contribution history, rather than earnings immediately before retirement. One compensating factor may be that women tend to be concentrated in such fields as health, education and government services, which offer relatively generous pension benefits.

Data source and concepts

This study uses data from the Small Area and Administrative Data Division's Longitudinal Administrative Databank (LAD), a random sample of 10% of all taxfilers in Revenue Canada's records. The LAD contains longitudinal information on income from various sources, but does not measure work activity directly. Therefore, the definition of retirement is based on the type of income reported by taxfilers.

The data set covers persons who filed tax returns from 1992 to 1995.[3] Although the data cannot answer a number of questions about future pension receipts, they do provide a starting point for future data series. Most people who filed in 1992 can be followed over the next several years, regardless of their financial circumstances. (After 1990, the GST rebate encouraged people to file even if their income was minimal.)

In order to be included in this study, taxfilers had to be at least 55 in 1992, and at least half of their 1992 income had to be from employment (Figure). (In fact, an average 85% came from employment.) Their pre-retirement income is measured as of 1992.

The study population has been divided into two age groups: those born before 1933 (who were at least age 62 by 1995), and those born between 1933 and 1937 (who were no younger than 55 in 1992). This split approximates the average age of retirement derived from the Labour Force Survey, which was 62.4 for men and 61.8 for women (Gower, 1997).

Taxfilers must also have had some employment income in 1993. This should exclude people who retired during 1992 (and hence would have received pay for only part of the year) and keep any departure pay (for example, severance benefits) from being included in the 1992 income.

Since the Revenue Canada tax file contains no information on work activities, it is not known when each person last worked. By definition, those in the study population will have some employment income in 1993 but none in 1995. From this, it follows that they last worked in either 1993 or 1994. People born in 1933 who last worked in 1993 would be age 60 at retirement; if they left work in 1994, they would be 61.

Finally, by 1995 retirees' employment income had to be zero.[4] This removes from the study persons who enter partial retirement, that is, continue to work part time or intermittently. Among other differences, such people tend to be younger than those who retire fully.

Study population

	1992	1993	1994	1995
Taxfiler	Yes	Yes	Yes	Yes
Earnings	At least 50% of total	Not zero*	...	Zero
Age	At least 55			

* *Could be negative.*

Because of the restrictions imposed on the study population, the number of retirees measured should not be taken as a measure of the number of people retiring between 1992 and 1995. For an estimate of this, see Gower (1997).

Tax data impose limitations

Revenue Canada categorizes various income sources according to legal requirements, which are not always optimum for statistical purposes. For example, RRSP cash-ins are included in income, even though they are a combination of accumulated interest plus liquidation of principal. Liquidation of other assets (for example, proceeds from the sale of the primary residence), is not included in the measure because it is not taxable.

Persons with total 1995 (that is, post-retirement) income exceeding $100,000 were excluded from the study. Even though they numbered only a few hundred, their incomes are large enough to distort averages.

Another necessary limitation of the data source is its lack of family income information. If retirees have other family members with income (for example, working spouses), their economic circumstances after retirement may well be better than their personal income statistics indicate.

Women without a spouse present[9] had higher pre-retirement incomes and higher income replacement ratios than women who were living with a spouse. For example, almost one-quarter had pre-retirement incomes of $40,000 and over, almost twice the percentage of other women (Table 6). Furthermore, their average income replacement ratio was between 6 and 12 percentage points higher, depending on income group. Survivor's benefits and late husbands' estates may increase incomes and/or replacement ratios for widows. Information on source of income would be needed to separate this.[10]

Provincial patterns

Because people sometimes move after retirement, their province of residence in 1995 may not be the same as in 1992, when they earned their final pre-retirement income. In fact, relatively few people in this study (6%) lived in a different province after their retirement. On average, their pre-retirement income was slightly higher than that of people who stayed put ($39,800 versus $34,800), and their income replacement ratio a little lower (52% versus 59%). As a result, their post-retirement income was about the same as that of retirees who did not change province ($20,800, compared with $20,500).

Table 6
Pre-retirement income and income replacement ratio in 1995, by presence of spouse

		Women	
	Men	With spouse	Without spouse
		'000	
Total	**113**	**55**	**26**
		%	
Pre-retirement income			
Total	**100**	**100**	**100**
Under $20,000*	16	47	28
$20,000 to $39,999	39	40	48
$40,000 and over	45	13	23
Average replacement ratio			
Total	**57**	**59**	**65**
Under $20,000*	96	71	83
$20,000 to $39,999	61	57	65
$40,000 and over	53	53	59

Source: Longitudinal Administrative Databank, 1992 and 1995
* Includes loss.

replacement ratios (more than 100%, in some cases). Second, most retirees observed in this study are too young to qualify for Old Age Security. Once this source is added to their income, their situation can be expected to improve.

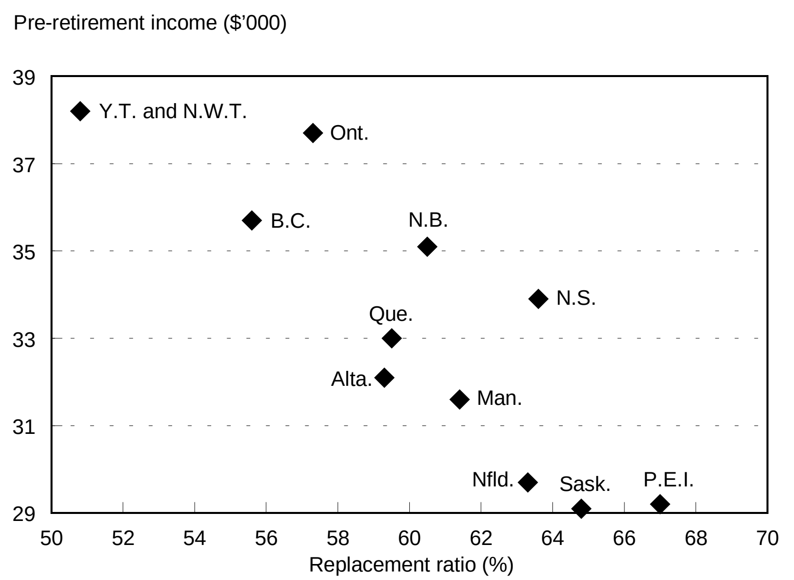
Many others are not well off, especially in the first couple of years of retirement. Those with low pre-retirement incomes may experience difficulty before they begin collecting OAS cheques. Some have replacement ratios well below the average; in fact, one-third with pre-retirement incomes under $20,000 have replacement ratios under 50%. Such people may need to rely on savings or the support of family members in the interim. □

As noted earlier, retirees' income replacement ratio varied with pre-retirement income. The more income before retirement, the lower the percentage kept after. This relationship also held across provinces and territories. Average pre-retirement income was lowest in regions with the highest income replacement ratios. Average replacement ratios varied from just over 50% in the Territories and 55% in British Columbia to 65% in Saskatchewan and 67% in Prince Edward Island (Chart).

Summary

Finance Canada has proposed the 60%-to-70% range as a goal of income replacement after retirement. This study shows that, on average, retirees fall moderately short of that (58%). This finding has two mitigating factors, however. First, people with low incomes immediately prior to retirement have much higher percentage

Chart
Income replacement ratios tend to be inversely related to pre-retirement income.



Source: Longitudinal Administrative Databank, 1992 and 1995

Income stream

This study uses 1992 to measure pre-retirement income. As with any year selected for study, it may or may not represent a "typical" earnings year for a "typical" retiree. For example, because of poor health or few prospects in their field, some workers may have been forced to reduce their hours or to move to a lower-paying job as they approached retirement.

Measuring post-retirement income is an even more complex problem, because people retire from age 55 (the minimum in this study) to 70 and beyond. The Canada and Quebec Pension Plans (C/QPP) do not pay benefits (except disability and survivor's) before age 60, and impose a reduction on claims made before age 65. Even full benefits vary widely, depending on the person's employment and contribution history. Maximum benefits in 1995 were about $8,000 per year.

Old Age Security (OAS), available to most Canadians aged 65 and over regardless of employment history, provided about $400 a month in 1995.[6] Because some retirees in the study had not yet begun to receive C/QPP benefits and were not old enough to receive OAS, their 1995 income does not necessarily represent their expected income stream for the balance of their lives. However, in order to study persons who have retired relatively recently, the analysis must rely on information available now. Any longitudinal tracing of retirees must come later.

If a retiree is not currently receiving C/QPP and/or OAS, one possible approach would be to add the expected future amounts to their present income. Undoubtedly, this is what some retirees with low post-retirement income in this study will experience eventually. Some people, however, may "front-end load" their income in anticipation of future public pensions; therefore, it is not known to what extent these other income sources may drop with the arrival of these pensions.

Additional information source

The Survey of Labour and Income Dynamics (SLID) has now accumulated three years of longitudinal data, and will soon be adding more. Although the sample is much smaller than the LAD file, SLID will have many advantages. In particular, it will provide a direct measure of work at the end of a person's career, which will help to address such questions as partial retirement, the precise date of retirement, and the nature and duration of work prior to retirement.

■ *Notes*

1 Although the Finance Canada definition mentions pre-retirement earnings, the focus of this study is on income from all sources before and after retirement. This is partly because of the limitations of the tax file, but also because income from all sources is a more meaningful measure. Future work would be needed to identify the type of income sources before and after retirement.

2 This study makes no attempt to describe the full economic picture of seniors (that is, their total assets, including income from other family members, mortgage-free homes and so on). Obviously, such matters as not needing to make mortgage or rent payments will affect one's approach to retirement.

3 To ensure confidentiality, names, addresses and other personal information are removed from the data, which are then combined with other observations into estimates prior to release.

4 Because of this requirement, relatively few self-employed are included in the analysis. Self-employed people appear to "wind down" their work rather than stop abruptly. A substantial proportion of older taxfilers reporting self-employment income claimed losses.

5 Income is adjusted for inflation between 1992 and 1995 (4.2%).

6 For more information on income security programs for seniors, see Statistics Canada (1996).

7 Social assistance, Unemployment Insurance and Worker's Compensation are all included in the post-retirement income measure.

8 The LAD file does not include data on the industry and occupation of the job held prior to retirement. The Survey of Labour and Income Dynamics should eventually be able to fill this gap.

9 This group comprises the never-married, widowed, divorced and separated.

10 Survivor's benefits are not easily separated from other retirement income in the tax file.

■ *References*

Department of Finance. "Background on Tax Assistance for Retirement Saving." Prepared for the Public Accounts Committee of the House of Commons. Ottawa, 1995.

Gower, D. "Measuring the age of retirement." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 9, no. 2 (Summer 1997):11-17.

Revenue Canada. *Taxation Statistics, 1997 Edition*. Analyzing 1995 Individual Tax Returns and Miscellaneous Statistics. Ottawa: Supply and Services, 1997.

---. *Taxation Statistics, 1994 Edition.* Analyzing 1992 Individual Tax Returns and Miscellaneous Statistics. Ottawa: Supply and Services, 1994.

Saint-Pierre, Y. "Do earnings rise until retirement?" *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 8, no. 2 (Summer 1996): 32-36.

Statistics Canada. *Canada's Retirement Income Programs: A Statistical Overview.* Catalogue no. 74-507-XPB. Ottawa, 1996.