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E-BRIEF

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PENSION POLICY

Outliving Our Savings: Registered Retirement Income Funds Rules Need a Big Update

by
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- The rules requiring mandatory minimum withdrawals from registered retirement income funds (RRIFs) and similar accounts have not kept pace with the increased life expectancies of Canadians – a problem for retired Canadians trying to balance their need for current income against the risk of outliving their savings.
- Since 1992, the *Income Tax Act* has obliged holders of RRIFs and similar accounts to withdraw annual amounts, dictated by an age-related formula, that rise until holders must withdraw 20 percent each year. But in 1992, the federal government was deficit-ridden and hungry for cash. Now it is close to surplus, and the timing of receipt of those taxes matters less to the government.
- To the RRIF holder, however, the minimums pose a threat. They oblige the holder to run tax-deferred assets down rapidly. Today, people can expect to live much longer after retirement, and real returns on investments that provide secure incomes are much lower. RRIF holders now face serious erosion in the purchasing power of tax-deferred savings in their later years. The minimum drawdowns from RRIFs and similar vehicles should start later and be smaller, or even disappear entirely.

Most Canadians will finance a substantial share of their post-retirement living expenses from their savings. Life annuities are one option – but have limitations and are not typically a way to deploy

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all relevant wealth.[1] The majority will end up trying to balance their need for current income against the risk of outliving their savings.

That challenge would be serious enough if they only needed to forecast their needs and how long they will live. Among the many additional complications, however, are the different forms of savings they hold. Some of their post-retirement income will come from assets, such as shares and bonds, purchased with post-tax income and taxed when drawn down. Some will come from assets, such as principal residences and Tax Free Saving Accounts (TFSAs), purchased with post-tax income and not taxed when drawn down. And some will come from assets in capital accumulation plans (CAPs), such as Registered Retirement Saving Plans (RRSPs) and balances in defined-contribution pension plans, purchased with pre-tax income and taxed when drawn down.

Mandatory Drawdowns from RRIFs

This third category, assets in CAPs, poses a unique problem, which will affect some DC plan members at retirement, and all CAP savers no later than the end of the year they reach age 71. Federal tax rules oblige people with tax-deferred savings to either buy annuities, or transfer their assets into registered retirement income funds (RRIFs) or similar vehicles.[2] The assets they transfer to such vehicles must then be drawn down at prescribed minimum rates, whether or not doing so makes sense for them. Since 1992, the *Income Tax Act* has obliged holders of RRIFs and similar accounts to withdraw annual amounts, dictated by an age-related formula, that rise until, from 94 onward, holders must withdraw 20 percent each year (CRA 2002). The first column of Table 1 shows the annual minimums that apply from age 71 upwards.

By forcing the drawdown of assets that have received tax-deferred treatment, these provisions accelerate or otherwise ensure steady receipt of government tax revenue that would otherwise only occur on the death of the account holder or his/her spouse, partner or beneficiary.[3] In 1992, the federal government was deficit-ridden and hungry for cash. Now it is close to surplus, and the timing of receipt of those taxes matters less to the government (see Box 1 for more discussion of the significance, or not, of timing).

To the RRIF holder, however, the minimums pose a threat. They oblige the holder to run tax-deferred assets down rapidly. When the existing rules were established in 1992, this threat affected relatively few people. Nowadays, however, people can expect to live considerably longer after retirement, and real returns on investments that provide secure incomes are much lower. Most RRIF holders now face serious erosion in the purchasing power of tax-deferred savings in their later years.

1 The best protection against longevity risk is to convert savings into guaranteed life annuity payments offered by life insurance companies – in effect replicating the longevity protection offered by DB plans, seniors' benefits such as Old Age Security and the Guaranteed Income Supplement, and the Canada and Quebec Pension Plans. The loss of liquidity for unforeseen expenses as well as the perceived high cost of these products, however, have typically rendered the purchase of private annuities unattractive to Canadian retirees (Nielson 2013).

2 Life Income Funds (LIFs) and Locked-in Retirement Income Funds (LRIFs). Tax regulations also allow DC plan members to receive "variable benefits" from their accumulated funds; the same minimums that apply to RRIFs, LIFs and LRIFs also apply to them.

3 As then Minister of Finance John Manley wrote to Loyola Ream, M.P: "The main purpose of the RRIF minimum withdrawal rates is to ensure that a minimum amount of tax is paid on funds which have benefited from a deferral of tax over a considerable period of time." Accessed July 2008 at www.carp.ca/article_display.cfm?documentid=1159.

Box 1: Deferred Taxes on Retirement Savings as a Government Asset

It might seem contradictory to argue that the timing of taxes paid on tax-deferred retirement saving matters to retirees but not to governments. The key difference is that retirees are mortal, but governments are not. For an individual, including seniors drawing down their savings, it is better to pay taxes later than earlier. By contrast, from a present-value perspective over the infinite time horizon more apt in thinking about governments, whether taxes are paid sooner or later may matter less, or not at all.

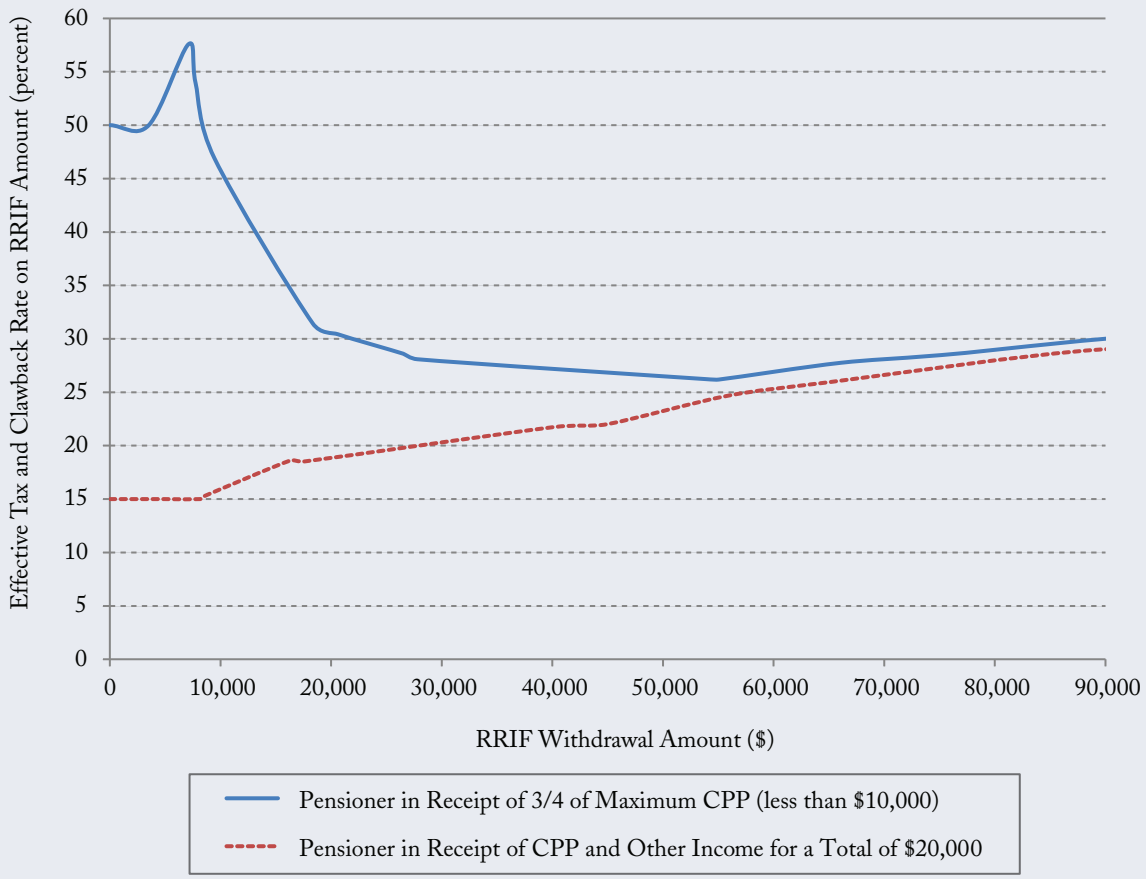
Assets in a tax-deferred account will grow in value – even if at only modest rates – before being taxed. Especially in the case of a portfolio of federal government bonds, it is reasonable to use a discount rate in valuing future tax payments that is the same as the interest rate on the bonds. Unless the applicable tax rate differs, a discount rate equal to returns inside the portfolio makes the present value of taxes paid on withdrawals equal no matter when the payments happen.[a] (If, as some would argue, the average return on portfolios of individual savers exceeds the government bond rate, the present value of taxes paid later may even exceed that of taxes paid sooner.)

What about possible differences in effective tax rates on withdrawals at different times? Because GIS payments fall by 50 cents per dollar of the first $16,500 of a senior's non-OAS income – and some provinces also provide income-tested benefits in this range, the all-inclusive effective tax rate on RRIF withdrawals will typically be very high on the first dollars taken out. For seniors in that range, the effective tax rate on withdrawals will decline as withdrawals get larger, and tax minimization strategies on RRIF assets would likely imply withdrawals larger than the prescribed minimums (see figure below).

For seniors whose income from other sources is enough to put them beyond the GIS clawback range, the effective tax rate on RRIF withdrawals will typically rise for larger withdrawals. And at the time of death of the account holder or her/his spouse or partner, any impact of bringing the remaining value into income all at once on the effective tax rate would likely be positive (also shown in the figure). So it is not clear why the smoothing effect of mandatory minimum withdrawals on RRIF income would have any systematic effect on tax from tax-deferred investments.

a Notwithstanding the fact that Finance Canada includes tax foregone on contributions to, and investments in, tax-deferred savings in its Tax Expenditure Accounts, present-value calculations would show the future taxes the holders of these accounts or their beneficiaries will pay as a government asset (Robbins and Veall 2002) equal to the liability created by foregoing the revenue.

Box 1 cont'd:
All-In Federal Average Tax Rate on RRIF Withdrawals for a Single Senior: 2014



Note: The figure shows the impact of federal government's income tax and benefit programs. The effective tax and clawback rate consists of the total of taxes paid and benefit reductions (mainly the GIS and GST tax credit) as a fraction of the entire RRIF withdrawal amount.

Source: Authors' calculations using Statistics Canada's SPSM, version 21.0.

The Impact of Mandatory Drawdowns, Then and Now

The dramatic combined impact of longer life expectancy and lower investment returns since 1992 emerges readily from a simple comparison. We consider here the situation of a man and a woman reaching the point of mandatory conversion at age 71, with typical life expectancies at that age. They hold their tax-deferred assets in a low-risk, income-oriented portfolio that pays in Canadian dollars – that is, government of Canada bonds. We ask what the chances are that these people will live past the point at which the real value of their RRIF nest-egg will drop below thresholds they might find uncomfortably low – 50 percent, 25 percent, and 10 percent. In 1992, few people would have faced such situations, but now RRIF holders can expect dramatic erosion in the purchasing power of tax-deferred savings during their lifetimes.

1992: An Outdated Scenario

Taking life expectancy first: the life tables current in 1992 – from the years 1985-1987 (Statistics Canada 1989) – showed that the average 71-year-old man could expect to live 11.2 more years, while the average 71-year-old woman could expect to live 14.6 more years.

As for investment returns, the average yield on long-term government of Canada bonds (over 10 years) stood at 8.5 percent at the end of 1992, while the yield on medium-term bonds (3 to 5 years) was 7.4 percent, and the yield on short-term bonds (1 to 3 years) was 7.2 percent. The Bank of Canada's inflation targets – which were then inflation-reduction targets, with the Bank not having settled on 2 percent indefinitely – anticipated consumer price index (CPI) increases of 2.8, 2.5 and 2.2 percent for 1993, 1994 and 1995, and 2 percent thereafter.

Imagine that our 71-year-old man or woman in 1992 had a $100,000 nest-egg of bonds with maturities roughly matching expected drawdowns.[4] (To simplify the example, we assume that birthdays, retirements, and RRIF distributions all occur at year-end.) The expected compound real (after inflation) return on this person's bond portfolio over 30 years was some 5.7 percent annually. Drawing down the minimum mandatory amount annually, this retiree could anticipate his or her nest-egg's real value to drop below $50,000 by the end of 2010 when s/he reached age 89, below $25,000 by 2016 when s/he reached age 95, and below $10,000 by 2022 when s/he reached age 101.

What were the odds this person would outlive these thresholds? At age 71, the life tables of 1992 gave a man about a 1-in-6 chance, and a woman about a 1-in-3 chance, of surviving to age 89, the year the RRIF balance's real value would have fallen by half (see the top panel of Table 2; Figure 1a shows year-by-year probabilities of survival and fund balances). Since life expectancy for either sex at age 89 was then calculated at 4 to 5 years, the 50 percent real threshold would not have been alarming even for someone who did reach age 89. As for reaching age 95 – the year the RRIF's real value would have fallen by three-quarters – the odds were 1 in 25 for a man, and 1 in 8 for a woman. At that point, either sex could expect to live almost three more years. The odds of reaching age 101 – the year the RRIF's real value would have fallen by 90 percent – were minuscule in 1992.

With 1992's life expectancies and real yields on high-quality debt, the required RRIF drawdowns would have seemed tolerable even to risk-averse retirees. Most retirees probably found these forced distributions no serious threat to sufficient tax-deferred funds in old age, which evidently made them acceptable at the time.

2014: An Updated Scenario

In 2014, however, rules that appear to have satisfied both policymakers and retirees back in the early 1990s have quite different consequences. The most recent 2009-2011 life tables (Statistics Canada 2013) put the average life expectancy of a 71-year-old man at 14.4 years, and of a 71-year-old woman at 16.9 years. The change in yields on high-quality bonds has been even more dramatic. At the beginning of 2014, long-term government of Canada bonds were yielding 3.1 percent, medium-term bonds 1.7 percent, and shorter-term bonds 1.1 percent. With the

4 For simplicity, we assume a portfolio composed 50 percent of federal marketable bonds with maturities evenly spread over 10 years, 25 percent of bonds with maturities of 3 to 5 years, and 25 percent of bonds with maturities of 1 to 3 years. This portfolio has a very low risk profile, consistent with the risk tolerance of many seniors once they have reached the decumulation phase of their retirement funds. With the benefit of hindsight, the assumption of persistent high nominal yields despite successful inflation control might seem unrealistic, but these were the yields to maturity available at the time.

Table 1: RRIF's Prescribed Minimum Drawdown Schedule		
Age at Start of Year	**Current RRIF Prescribed Minimum Withdrawal**	**RRIF Minimum Withdrawals to Replicate 1992 Account-Depletion Probabilities**
	percent	
71	7.38	2.68
72	7.48	2.72
73	7.59	2.76
74	7.71	2.80
75	7.85	2.85
76	7.99	2.91
77	8.15	2.96
78	8.33	3.03
79	8.53	3.10
80	8.75	3.18
81	8.99	3.27
82	9.27	3.37
83	9.58	3.48
84	9.93	3.61
85	10.33	3.76
86	10.79	3.92
87	11.33	4.12
88	11.96	4.35
89	12.71	4.62
90	13.62	4.95
91	14.73	5.36
92	16.12	9.48
93	17.92	10.54
94+	20.00	11.76

Source: Authors' calculations.

Table 2: Real Value of RRIF Balance, Survival Probabilities, and Life Expectancies at Various Ages (at Beginning of Year), 1992 Scenario vs 2014 Scenario

	Age	Real Value of RRIF (*dollars*)	Probability, at 71, of Surviving to a Given Age (*percent*)		Life Expectancy at a Given Age (*number of years*)	
			Male	Female	Male	Female
1992 Scenario	71	100,000	100	100	11.2	14.6
	89	Less than 50,000	18	35	4.0	4.8
	95	Less than 25,000	4	13	2.6	2.9
	101	Less than 10,000	0.1	0.5	0.6	0.6
2014 Scenario	71	100,000	100	100	14.4	16.9
	80	Less than 50,000	73	82	8.9	10.6
	87	Less than 25,000	43	56	5.7	6.7
	94	Less than 10,000	14	24	3.5	4.0

Sources and methods: Cumulative survival probabilities calculated by authors based on the 1985-1987 life tables (Statistics Canada 1989) and the 2009-2011 life tables (Statistics Canada 2013). Life expectancy figures are from the aforementioned life tables. Real values of RRIF savings calculated by authors using prescribed minimum drawdown schedule and real returns on a portfolio of federal bonds as described in the text.

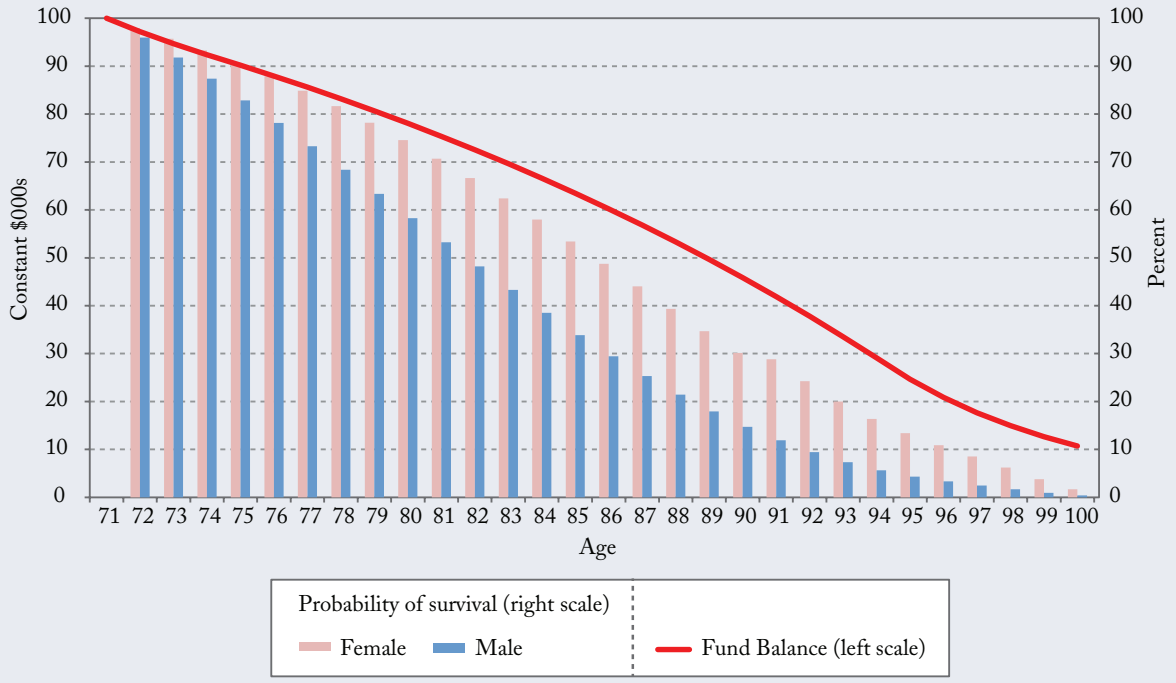
Bank of Canada targeting 2 percent CPI inflation indefinitely, the expected compound annual real return on the bond portfolio of various maturities described above is a mere 0.25 percent.

As before, we consider a person age 71 with $100,000 in a RRIF, invested in government of Canada bonds with maturities roughly matching expected drawdowns.[5] If s/he withdraws each year the minimum mandatory amounts from his or her RRIF, the projected real value of this retiree's tax-deferred nest egg will drop below $50,000 by the end of 2023, when s/he turns 80. By the end of 2030, at age 87, this retiree's RRIF balance will drop below $25,000, and by 2037, when the retiree is 94 years old, the RRIF balance will drop below $10,000 – a 90-percent depletion of its real value.

What odds do today's life tables give a 71-year-old of outliving these thresholds? They give this person very good odds of reaching age 80, the point when the RRIF's real value would have dropped by half: about 3 in 4 for a man, and better than 4 in 5 for a woman (see the bottom panel of Table 2; Figure 1b shows probabilities

5 See footnote 4.

Figure 1a: Projected RRIF Balances and Survival Probabilities for 71-Year-Old in 1992



Sources and methods: Cumulative survival probabilities calculated by authors based on the 1985-1987 life tables (Statistics Canada 1989) and the 2009-2011 life tables (Statistics Canada 2013). Real values of RRIF balances calculated by authors using prescribed minimum drawdown schedule and real returns on a portfolio of federal bonds as described in the text.

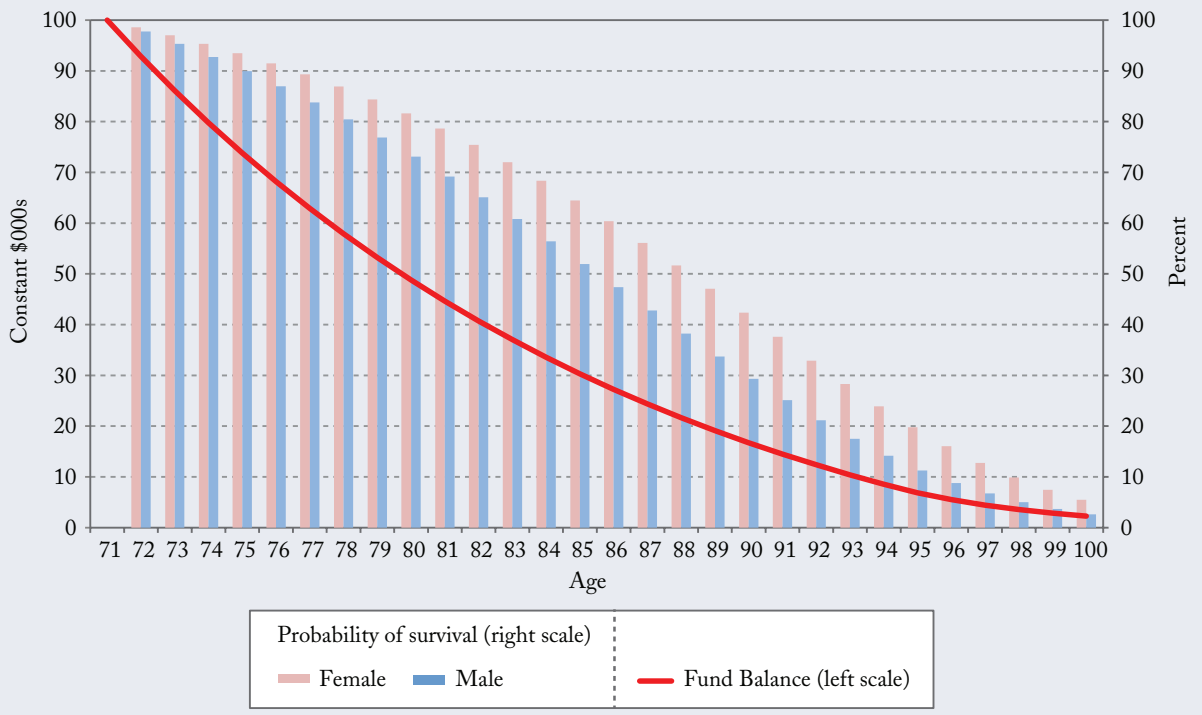
of survival and account balances year by year). Moreover, current estimates of mortality say a man who reaches 80 can expect to live, on average, 9 more years, while a woman who reaches 80 can expect to live, on average, 11 more years. As for reaching age 87 – the year the RRIF's real value would have fallen by three-quarters – a man now has a better than 2-in-5 chance, and a woman closer to 3 in 5. And at that age, the man or woman can expect to live another 6 or 7 years. The odds of reaching age 94 – the year the RRIF's real value would have fallen by 90 percent – are far from negligible: about 1 in 7 for a man, and 1 in 4 for a woman. For those who do get that far, moreover, average life expectancy would still be about 4 years.

Severe Pressure on Tax-Deferred Savings

Longer lives are a good thing. Lower yields on high-quality debt may or may not be good, but they are a reality. Good or bad, when combined with out-dated drawdown rules, modern longevity and investment returns spell trouble for holders of RRIFs and similar accounts.

Back in 1992, a 71-year-old man who withdrew the annual mandatory minimum from his RRIF could expect to deplete 25 percent of his initial balance's real value upon reaching his life expectancy, and had virtually no chance of seeing its real value drop more than 90 percent. Now, he can expect to live to see his initial balance drop about 70 percent, and faces a 1-in-7 chance of seeing its real value drop more than 90 percent. Back in 1992, a 71-year-old woman making minimum RRIF withdrawals could expect to deplete about 40 percent of her

Figure 1b: Projected RRIF Balances and Survival Probabilities for 71-Year-Old in 2014



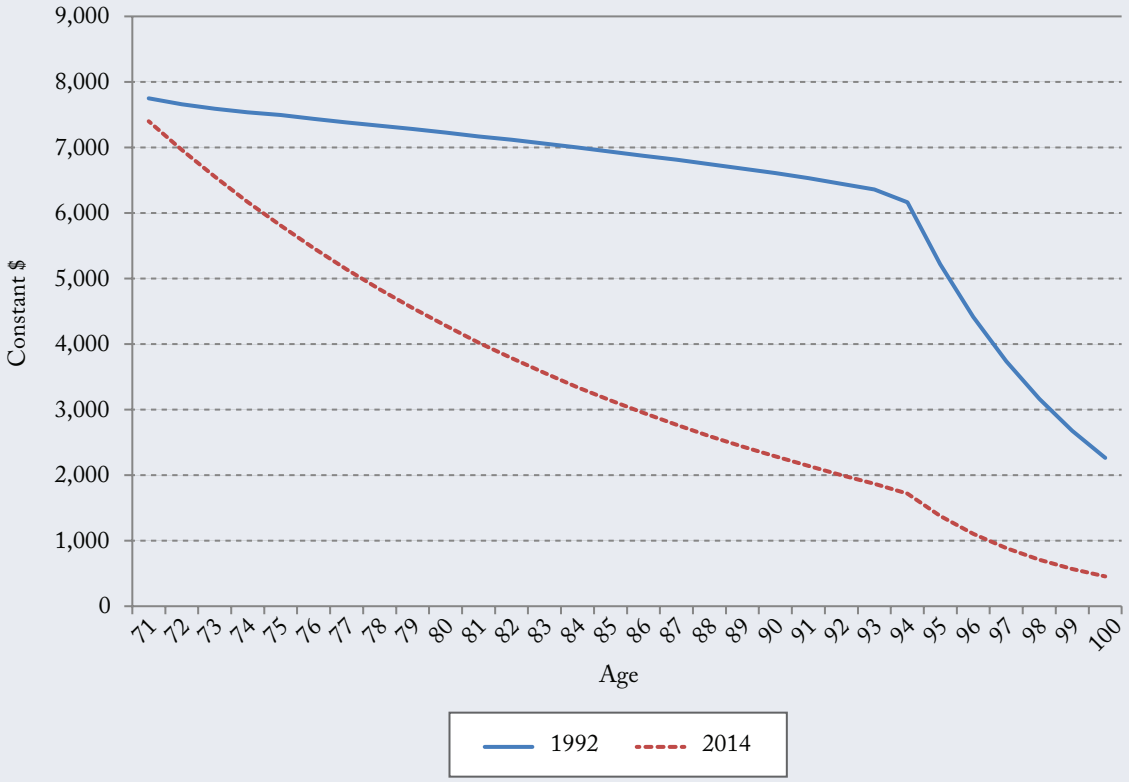
Sources and methods: Cumulative survival probabilities calculated by authors based on the 1985-1987 life tables (Statistics Canada 1989) and the 2009-2011 life tables (Statistics Canada 2013). Real values of RRIF balances calculated by authors using prescribed minimum drawdown schedule and real returns on a portfolio of federal bonds as described in the text.

initial balance's real value upon reaching her life expectancy. Now, she can expect to deplete about 80 percent of it. And she faces a 1-in-4 chance of seeing its real value drop more than 90 percent.[6]

Since the minimum withdrawals are percentages of the RRIF balance, the prospect of more rapid depletion of the account's real value in 2014 as compared to 1992 has a counterpart: the prospect of more rapid decline in the purchasing power of the withdrawals. With 1992-style returns, the mandatory minimum withdrawals from a $100,000 RRIF would have started with an annual real value around $7,750 and declined by only about $70 annually, to reach about $6,200 by age 94 (Figure 2). After that, they would have fallen off faster – but very few people would anticipate living that long. With 2014-style returns, however, the real value of the withdrawals declines more than three times faster, to only about $1,700 by age 94 – an age that, as just noted, about 1-in-7 men age 71 and 1-in 4-women age 71 can now expect to reach.

6 Increases in life expectancy appear to be continuing, which means that the updated life tables from Statistics Canada likely understate the probabilities reported here. Longevity tables that allow for continuing declines in mortality published by the Canadian Institute of Actuaries in 2014 would put the likelihoods of seeing 50, 75 and 90 percent declines in the account's real value higher yet: at 81, 52 and 18 percent for men; and at 87, 64 and 29 percent for women.

Figure 2: Projected Mandatory Minimum Withdrawal Amounts from a $100,000 RRIF



Source: Authors' calculations.

Some might argue that current retirees should invest their tax-deferred savings in assets that are more oriented toward growth and less toward income, to earn a premium over what is available on government of Canada bonds. Even if it is true that such a portfolio can reliably earn a premium over safer investments in the very long run – and both theory and evidence are mixed on that point – the timeframe over which an investor can count on such a premium is longer than is relevant even for today's longer-lived seniors. A tax-deferred portfolio less oriented toward current income would presumably experience larger changes in value over time, which would increase the variability of outcomes. The likelihood of having a real balance at a given age better than in these stylized scenarios would rise. So too would the likelihood of having a real balance that is worse – as anyone who has experienced the irreversible damage of mandatory withdrawals in a down market can testify. Seen in this light, the minimum RRIF withdrawal rules look like an inducement for today's retirees to invest less prudently – a bad idea.

Admittedly, these are stylized examples. They will not apply to everyone. Some seniors, especially those who do not anticipate living long, will want to withdraw tax-deferred savings faster than the RRIF minimums. In the coming decades, more seniors, enjoying better health and working at less physically demanding jobs than their predecessors, will work longer and replenish their savings notwithstanding the disadvantage of losing tax deferrals after age 71. Couples can delay the impact of the drawdown rules by gearing their withdrawals

to the younger spouse's age. High-income seniors whose incremental withdrawals do not trigger OAS and GIS clawbacks will find the burden of paying ordinary income taxes on them tolerable. As room to save in TFSAs grows, more seniors will be able to reinvest unspent withdrawals in them, avoiding repeated taxation.

For other seniors, however – even if they do have room to reinvest in TFSAs – these forced drawdowns make no sense. These seniors include those whose withdrawals – reinvested in TFSAs or not – trigger clawbacks and other income and asset tests, who find tax planning and investing outside RRIFs daunting, who cannot easily continue working, or who anticipate sizeable late-in-life expenses such as long-term care. Moreover, foreseeable demands on individual and public resources suggest we should be encouraging saving, rather than discouraging or at best complicating it. Roughly 203,300 Canadians are now age 90 and older; in about 25 years that number will roughly triple.[7] To the extent future seniors have ample assets to finance their needs – especially those such as health and long-term care that rise with age – all Canadians will benefit.

Conclusion and Recommendations

One policy response to 2014's changed circumstances would be to raise the ages at which minimum drawdowns from RRIFs and similar vehicles must begin and that determine the withdrawal amounts. Beyond that, the minimum drawdowns should become smaller. Considerably smaller: the second column of Table 1 shows minimum drawdowns that, with today's returns and life expectancies, would give today's 71-year-old RRIF holders the same real account balances at comparable time-to-death horizons as their counterparts faced in 1992. For the first 20 years, these updated minimum withdrawals would be barely more than one-third of the current levels.

One objection to an approach that takes the 1992 outcomes as an appropriate target for 2014 policies might be that the 1992 outcomes allowed too much tax deferral – that larger mandatory withdrawals would have been more appropriate then, and that a 2014 update should be less generous. Since the assets in RRIFs and like accounts will become taxable upon the death of the account holder or his/her spouse, partner or beneficiary, however, one could make an opposing argument: that the minimum withdrawals could disappear entirely. In a present-value sense, elimination would have no significant fiscal impact for the reasons already discussed. Elimination would have the additional benefit of removing the need for future updates as longevity, yields and possibly other circumstances change again.

A great deal of Canada's retirement saving and income discussions have focused on defined-benefit pension plans, their problems and possible alternatives. Most Canadians, however, are doing most of their retirement saving in CAPs, and will continue to do so for the foreseeable future. Governments impatient for revenue should not force these Canadians to run their tax-deferred assets down prematurely. Reforming the withdrawal rules for RRIFs and similar accounts would help retirees enjoy the post-retirement security they are striving to achieve.

7 Based on medium-growth – historical trends (1981 to 2008) projection scenario (Statistics Canada 2010).

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