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PENSION POLICY

Drawing Down Our Savings: The Prospects for RRIF Holders Following the 2015 Federal Budget

by

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- For many retired Canadians, the 2015 federal budget's reduction of the mandatory minimum withdrawals from registered retirement income funds (RRIFs) and similar vehicles is important. The drawdown rules established in 1992 had become badly outdated. Lower yields on safe investments and longer lives had put many Canadians at risk of outliving their savings.
- The new smaller minimums reduce that risk. With real investment returns of 3 percent, as assumed in the budget's illustrations, our projections suggest relatively constant minimum RRIF drawdowns up to age 94, and a lower risk of living to see a badly depleted RRIF account balance.
- However, real returns on safe investments are currently negative. Re-running the projections with zero real returns suggests that most seniors still face a material risk of outliving their tax-deferred savings. The 2015 changes should therefore be a downpayment on further liberalization. If more regular adjustments to keep the withdrawals aligned with returns and longevity are impractical, eliminating minimum withdrawals entirely may be the best way to help retirees enjoy the lifelong security they are striving to achieve.

Most Canadians will rely on tax-deferred savings to finance a substantial share of their post-retirement living expenses. Some are in defined-benefit and target-benefit pension plans, which promise benefits until they die. The majority, however, are in capital accumulation plans (CAPs), such as Registered Retirement Saving Plans (RRSPs) and defined-contribution (DC) pension plans.

This E-Brief updates and extends previous work by Robson (2008) and Robson and Laurin (2014). We thank Jamie Golombek, Barry Gros, Malcolm Hamilton, Moshe Milevsky, James Pierlot, and members of the C.D. Howe Institute's Pension Policy Council for their comments and suggestions on prior drafts. We retain responsibility for any errors and the views expressed here.

Life annuities are available, as are term-certain annuities to age 90 for regular RRSP savers, and many experts argue that more people should buy them. As matters stand, however, some tax and regulatory limits, and concerns about liquidity, cost, and loss of control have limited their use. So most savers face a challenge after they retire: balancing their need for current income against the risk of outliving their savings.

Mandatory Drawdowns from RRIFs

The federal *Income Tax Act* complicates this challenge. The tax rules oblige some DC plan members when they retire, and all CAP savers no later than the end of the year they turn 71, to either buy annuities or transfer their assets into registered retirement income funds, or RRIFs,¹ which they must start to draw down.

The minimum drawdowns from RRIFs accelerate receipt of government tax revenue that would otherwise occur later, potentially only upon the death of the account holder or his/her spouse, partner or beneficiary. They also run the typical CAP saver's tax-deferred assets down over time. Since none of us knows exactly how long we will live, this depletion puts some people at risk of outliving their tax-deferred savings.

The 2015 federal budget reduced the mandatory minimums to improve income security in old age (Table 1). In this E-Brief, we compare the interaction of the drawdown rules with different returns on investment and life expectancy in three periods: (i) 1992, when the old rules were established; (ii) in 2014, when longer lifespans and lower returns had made the rules badly outdated; and (iii) after the changes in the 2015 federal budget.

The Impact of the Old Rules: 1992

The 2015 budget explains that the old rules were established in 1992 “on the basis of providing a regular stream of payments from age 71 to 100 assuming a seven per cent nominal rate of return on RRIF assets and indexing at one per cent annually” (Canada 2015, 446-47). While the assumption of inflation indexing reveals an optimistic take on the investment options actually available to seniors, the rate at which the 1992 withdrawals would deplete tax-deferred savings would not, at that time, have appeared alarming to most people.²

Real yields – that is, yields adjusted for inflation – on safe investments were much higher then. The nominal yield on a portfolio of government of Canada bonds with maturities roughly matching expected drawdowns,

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- 1 Other vehicles for drawing down tax-deferred savings exist. Most similar to RRIFs are Life Income Funds (LIFs) and Locked-in Retirement Income Funds (LRIFs). Federal tax rules, and increasingly provincial pension regulations, also allow DC pension plans to pay “variable benefits” from their accumulated funds; the minimums that apply to RRIFs, LIFs and LRIFs also apply to them.
 - 2 Milevsky (2014) compares the old withdrawal schedule to an optimal withdrawal schedule in a consumption-smoothing life-cycle model for a longevity risk-averse retiree, and arrives at the same conclusion: the old schedule was easy to justify under the economic and demographic conditions prevailing in the early 1990s, but hard to justify under current conditions.

Table 1: Prescribed RRIF Minimum Drawdown Schedule, Old and New

Age at Start of Year	Old Factors	New Factors
	<i>(percent)</i>	
71	7.38	5.28
72	7.48	5.40
73	7.59	5.53
74	7.71	5.67
75	7.85	5.82
76	7.99	5.98
77	8.15	6.17
78	8.33	6.36
79	8.53	6.58
80	8.75	6.82
81	8.99	7.08
82	9.27	7.38
83	9.58	7.71
84	9.93	8.08
85	10.33	8.51
86	10.79	8.99
87	11.33	9.55
88	11.96	10.21
89	12.71	10.99
90	13.62	11.92
91	14.73	13.06
92	16.12	14.49
93	17.92	16.34
94	20.00	18.79
95 & over	20.00	20.00

Source: Canada (2015).

adjusted for the inflation rates anticipated in the Bank of Canada's inflation-reduction targets at the time, produced a prospective compound real rate of return of about 5.7 percent.³

A few simplifying assumptions allow a straightforward calculation of how drawing down the minimum mandatory annual amount after age 71 would affect the real value of a typical retiree's nest-egg. If birthdays, retirements, and RRIF distributions all occur at year-end, its real value per dollar of tax deferred assets held at the beginning of the year after the retiree turns 71 would drop below 50 cents by the end of the year s/he reached age 91, below 25 cents when s/he reached age 96, and below 10 cents when s/he reached age 102.

The odds that this person would experience those depletions were not high, especially because life expectancies were shorter in 1992. The life tables available then gave a male 71-year-old about a one-in-eight chance, and a female 71-year-old about a one-in-four chance, of surviving to age 91, the year the nest-egg's real value would have fallen by half (Table 2, first panel). As for reaching age 96 – the year its real value would have fallen by three quarters – the odds were 1 in 30 for a man, and 1 in 9 for a woman. The odds of reaching age 102 – the year its value would drop 90 percent – were minuscule in 1992 for either sex. So these minimum drawdowns would have presented most retirees with no serious threat to sufficient tax-deferred funds in very old age, which evidently made them acceptable at the time.

The Changing Impact of the Old Rules: 2014

By 2014, however, lower yields on safe investments markedly changed the impact of the 1992 rules. At the beginning of that year, the bond portfolio described above yielded only 0.25 percent in real terms. That meant the retiree would hit the thresholds for nest-egg depletion just described much sooner. The real value per initial dollar in the nest-egg would drop below 50 cents by the end of the year s/he reached age 80 (compared to age 91 in 1992), below 25 cents when s/he reached age 87 (compared to age 96 in 1992), and below 10 cents when s/he reached age 94 (compared to age 102 in 1992).

Increased longevity made these already unsettling numbers worse. The most recent 2009-2011 life tables put the average life expectancy of a 71-year-old man at 14.4 years, up from 11.2 in 1992, and of a 71-year-old woman at 16.9 years, up from 14.6 in 1992 (Statistics Canada 2013). The likelihood of living to see the real value of tax-deferred savings fall by half was no longer low: the chances had risen to 3 in 4 for a man, and better than 4 in 5 for a woman. The chances of seeing its real value fall by three-quarters had risen to 2 in 5 for a man and closer to 3 in 5 for a woman. And the chances of seeing its value fall by 90 percent had gone from negligible to appreciable: about 1 in 7 for a man, and 1 in 4 for a woman.

3 As explained in (Robson and Laurin 2014), we assume a portfolio of federal marketable bonds, 50 percent with maturities evenly spread over 10 years, 25 percent with maturities of 3 to 5 years, and 25 percent 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 are into the decumulation phase of their lives. With the benefit of hindsight, the assumption of persistent, high nominal yields despite successful inflation control in the 1990s might seem unrealistic, and the government did not use those values in calculating the old drawdown rules, but they were the actual yields available at the time.

Table 2: Real Value of RRIF Balance at Various Ages (at Beginning of Year), and Survival Probabilities, under Various Scenarios

	Real Value (per Initial Dollar)	Age	Probability, at 71, of Surviving (percent)	
			Man	Woman
1992 rules and yields	\$1.00	71	100.0	100.0
	\$0.50	91	11.9	28.8
	\$0.25	96	3.3	10.9
	\$0.10	102	<0.1	<0.1
1992 rules and 2014 yields	\$1.00	71	100.0	100.0
	\$0.50	80	73.1	81.6
	\$0.25	87	42.8	56.1
	\$0.10	94	14.2	23.9
2015 Budget rules and yields	\$1.00	71	100.0	100.0
	\$0.50	89	33.7	47.1
	\$0.25	95	11.3	19.8
	\$0.10	100	2.6	5.5
2015 Budget rules and current yields	\$1.00	71	100.0	100.0
	\$0.50	83	60.8	72.0
	\$0.25	90	29.3	42.4
	\$0.10	96	8.8	16.1

Notes:

“Age” and “Real Value” at beginning of the year. Real Value is equal or less than indicated.

The values for the 1992 scenarios differ slightly from those reported in Laurin and Robson (2014). In those simulations, our assumption of all payments, receipts and birthdays happening at year-end led us to calibrate each year’s minimum withdrawal to the RRIF’s value that year. In these simulations, we more realistically calibrate each year’s withdrawal to the RRIF’s value at the end of the previous year.

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 savings calculated by authors using old and new prescribed minimum drawdown schedules and real returns on a portfolio of federal bonds as described in the text.

The Impact of the 2015 Reforms Using the Budget Assumptions

The 2015 federal budget changes help alleviate the pressure of mandatory withdrawals on tax-deferred saving by reducing the required amounts. The new minimums, starting in 2015, are a bit more than one-quarter smaller than the old ones at age 71, and gradually converge with the old ones until they jump to the previous maximum of 20 percent annually at age 95.

The budget states that: “The new RRIF factors will permit holders to preserve more of their RRIF savings in order to provide income at older ages” (Canada 2015, 446-47). And applying the assumptions from the budget’s illustration of the new rules does produce an improved scenario for retirement security.

Applying those assumptions in our simulations produces odds of a nest-egg dropping dramatically in value that, though still higher than in 1992, are less alarming than under the old rules. The third panel of Table 2 shows the likelihood of a man and a woman living to see their RRIFs’ real values drop by 50, 75 and 90 percent. The simulations using the budget assumptions show that the likelihood of reaching the age at which the real value per initial dollar of tax-deferred savings would fall to 50 cents (age 89) would be about 1 in 3 for a man and about half for a woman. The likelihood of reaching the age at which its real value would fall below 25 cents (age 95) would be about one-tenth for a man and one-fifth for a woman. And the likelihood of reaching the age when its value would fall below 10 cents (age 100) would be one-fortieth for a man and one-twentieth for a woman.

The Reforms Using Current Yields

Crucially, however, the budget’s assumptions involve a real return of 3 percent. This assumed real return is lower than the real returns available in 1992, but it is out of line with current reality. Real returns have fallen further from the early 2014 numbers used in Robson and Laurin (2014): the real yield on the same portfolio of Canadian government bonds is now negative.

For the sake of avoiding assumptions that will seem unrealistic to people who think negative real interest rates cannot last, and to guard against the charge that we are adopting assumptions to show the RRIF minimums in an unreasonably negative light, we redo our simulations using the new minimums on the assumption that real returns are zero. That assumption makes the dates at which the nest-egg’s real value drops below key thresholds a straightforward result of the withdrawals themselves.

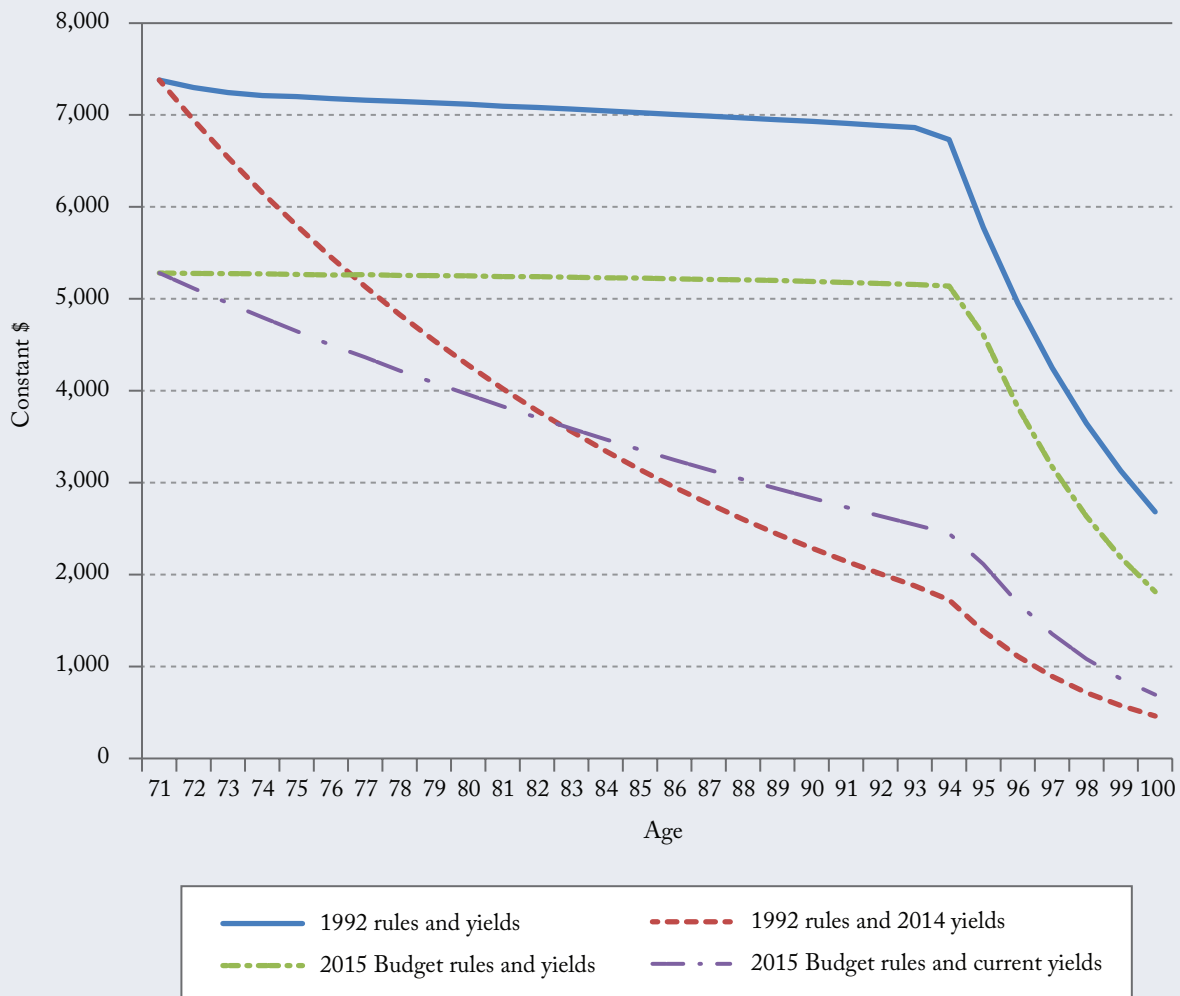
The fourth panel in Table 2 shows those projections. With real returns of zero, the real value per initial dollar will fall below 50 cents at age 83 – which both a man (a better than 6-in-10 chance) and a woman (a better than 7-in-10 chance) are likely to reach. Its real value will fall below 25 cents at age 90 – which a man has a 3-in-10 chance of reaching, and a woman a 4-in-10 chance. And its real value will fall below 10 cents at age 96 – which almost 1 in 10 men and 1 in 6 women will live to see.⁴

Comparing Real RRIF Incomes under Various Scenarios

Another insight on the potential depletion of tax-deferred savings comes from the real value of the withdrawals themselves: the purchasing power the RRIF holder enjoys as it is drawn down. Suppose the real value of the nest-egg were \$100,000 at the end of the year its holder turned 71.

⁴ 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 71, 37 and 10 percent for men; and at 79, 50 and 20 percent for women.

Figure 1: Projected Mandatory Minimum Withdrawal Amounts from a \$100,000 RRIF



Source: Authors' calculations.

Consider first the old rules. With 1992-style returns, the old mandatory minimum withdrawals would have had a real purchasing power around \$7,380 at the outset, and would have dropped about \$20 annually, down to about \$6,730 by age 94 (the blue line in Figure 1). After that, they would have fallen off faster – but few people would anticipate living that long.

With 2014-style returns, the real value of the withdrawals would have dropped about \$250 annually, down to about \$1,725 by age 94 (the red line in Figure 1) – an age that, as just noted, more current life tables say about 1 in 7 men age 71, and 1 in 4 women age 71, can expect to reach. To the extent that a financially unsophisticated

RRIF holder set his or her course for retirement on the assumption that the early years' real income from the withdrawals was sustainable, this rapid drop in their value could create major problems.

How about the new rules? Under the budget's assumptions, the real income from the minimum RRIF withdrawals would start at \$5,280, and remain pretty much constant to age 94 (the green line in Figure 1). After that, the 20 percent annual requirement rapidly depletes the account, and the value of the annual withdrawals. Re-run the numbers with the more current real return of zero, and the real value of the withdrawals begins falling right away (the purple line in Figure 1). It drops about \$125 annually, down to about \$2,450 by age 94, and declines even more steeply after that. As a guide to allocating post-retirement income, this is marginally better than the 2014 scenario, but that is the best one can say. It is not good.⁵

Mandatory RRIF Drawdowns: The Benefits and Costs

The motive for forcing holders of RRIFs and other similarly treated tax-deferred assets to draw down their savings is to accelerate the government's receipt of tax revenue, and likewise bring revenue from clawing back income-tested programs such as Old Age Security and the Guaranteed Income Supplement forward in time. These payments will occur eventually – notably on the death of the account holder or her/his spouse or partner – so they amount to an implicit asset on governments' balance sheets.⁶ The drawdowns do not affect their present value; they simply make them happen sooner.⁷

Does this impatience for revenue make sense? Governments are, for practical purposes, immortal, so the timing of receipts and payments matters less to them. Retirees are mortal, so timing may matter more to them.

The minimum withdrawals are not a serious problem for those who, perhaps because they do not expect to live long, want to draw their tax-deferred savings down fast. Others, willing and able to work and replenish their savings after age 71, will get by. Couples can gear 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

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- 5 It also contrasts starkly with the inflation-indexed defined-benefit pension arrangements that promise an annuity that preserves its real value for life.
 - 6 Advocates of comprehensive income taxation may argue that the revenue impact of allowing longer deferral of taxes on RRIF investments is a "tax expenditure." As a practical matter, the implicit assumption that all RRIF withdrawals are either spent or reinvested in assets with taxable returns may not be entirely true, since the RRIF holder may reinvest in a TFSA or a principal residence. In our view, however, the presumption that a comprehensive income tax is the appropriate baseline is simply wrong. Deferral of tax on retirement saving is a well-established principle in the Canadian tax system – indeed, it is one of several mechanisms to alleviate what would otherwise be double-taxation of saving, with TFSAs and the non-taxation of income from principal residences being others. If deferral of tax on retirement saving is part of the baseline system, differences in the length of the deferral do not create tax expenditures.
 - 7 In the case of a portfolio of federal government bonds, it is reasonable to use a discount rate in valuing future tax revenues 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. The effective tax rate might differ if taxes and clawbacks vary over time or with the size of the withdrawals. While some withdrawal strategies can lower effective tax rates, other circumstances – notably taxation of the accounts like ordinary income at death – can raise them (Robson and Laurin 2014), so we think it reasonable to assume that the tax rates will not, on average, be decisively different.

paying ordinary income taxes on them tolerable. Higher TFSA limits will also let more seniors reinvest unspent withdrawals in them, avoiding repeated taxation.

For others, however, forced drawdowns make no sense: those whose withdrawals – reinvested in TFSAs or not – trigger clawbacks; those daunted by tax planning and investing outside RRIFs; those unable to work longer; and those facing sizeable late-in-life expenses such as long-term care. More generally, foreseeable demands on individual and public resources suggest that encouraging or forcing dis-saving is a bad idea. The more future seniors have ample assets to finance such needs as health and long-term care, as well as the enjoyments of retirement, the better off Canada will be.

Is the zero real return we assume for a retiree's tax-deferred assets too low? Remember that we have rounded up the negative real returns currently available on a portfolio of Canadian government bonds. We have also ignored costs, which for a retail investor can easily subtract a percentage point from the yield on the underlying asset. We also note that real yields on government bonds have been low for several years. So relative to current conditions, we are at least as vulnerable to a charge of assuming returns on safe assets that are too high.

What about assets that are less safe, and/or have cashflows less well matched to a retiree's needs? It is possible that a portfolio of shares, and other less-than-sovereign-grade assets, would produce capital gains over time. It is also possible, indeed at intervals it is inevitable, that such a portfolio would suffer losses. People in their 70s, 80s and 90s are ill-placed to endure losses. A retiree seeking the 3 percent real return assumed in the 2015 budget would have to invest imprudently – another instance of the minimum withdrawals' potential inducement to bad financial planning.

Conclusion and Recommendations

The lower mandatory drawdowns from RRIFs and similar vehicles introduced in the 2015 budget are better than the old rules. This file should nevertheless remain open. If real yields on the types of securities a prudent retiree should hold do not rebound considerably, and if life expectancy continues to rise, the risk of outliving tax-deferred savings will continue to be material.

Only after 23 years of marked changes in economic and demographic circumstances did we get an update of the rules set in 1992. Evidently a legislated formula is hard to change. Could we adopt a more flexible approach?

We could make minimum RRIF withdrawals a function of real yields and longevity. The withdrawal percentages could be updated every year to reflect the investment returns actually available, for example, and the ages at which withdrawals must start and accelerate could be updated on publication of new life tables. Or the withdrawals could vary depending on the cost of annuities. That kind of “set-and-forget” approach would keep the rules reasonably current for the average retiree, but would add confusion and unpredictability to retirement planning.

If annual changes are too confusing, establishing review at frequent intervals – every three years, say – with a commitment to avoid changes of more than a given magnitude, is a second option. Such an approach represents a balance – changes in life expectancy and returns will affect the limits only with a lag, but retirees and their advisors would benefit from greater medium-term certainty. Like the current or an annually adjusted formula, however, any single rule would continue to subject the entire population of CAP savers – who are a heterogeneous group, with women being more at risk of outliving their savings than men, for example – to a one-size-fits-all regime.

The lessons of experience about how hard it is to update the rules legislatively, the complexities of formula-driven approaches, and the unsuitability of a single withdrawal schedule for all RRIF savers, direct attention to a third option: eliminating mandatory withdrawals of tax-deferred funds altogether. For the government, elimination would delay the income it would get by taxing and clawing back benefits in respect of these funds, but in present-value terms, the fiscal impact would be negligible.⁸ For RRIF holders, by contrast, elimination would remove complexity in financial planning and alleviate a threat to income security in retirement.

Government impatience for revenue should not force holders of RRIFs and similar tax-deferred vehicles to deplete their nest-eggs prematurely. While the 2015 budget's changes are a step in the right direction, retirees need further changes to these rules if they are to enjoy the post-retirement security they are striving to achieve.

8 The federal budget estimates that the new rules will reduce annual tax collections by about \$130 million over their first five years in effect. Elimination would increase this amount. But as discussed already, future tax collections will increase, as the RRIF holders who withdrew less subsequently draw down larger amounts in later years, or pay tax upon their deaths or the deaths of their beneficiaries, and the present value of the increased deferral would be roughly zero.

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