

Adding Longevity through Tax-Efficient Withdrawal Strategies

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Reichenstein [2008] and Reichenstein, Horan, and Jennings [2012] discussed several ways a private wealth manager can add value to a client's accounts by using the tax code. This study elaborates on one of those ways. Suppose a client just retired and has funds in a tax-deferred account (like a 401[k]), tax-exempt account (like a Roth IRA), and a taxable account. She needs to withdraw sufficient funds to finance her spending plans in retirement. Just using the tax code, how can she tax-efficiently withdraw funds from her financial portfolio to meet her spending goal and yet potentially allow her financial portfolio to last several years longer? This study answers this question.

As explained in Reichenstein [2008] and Reichenstein, Horan, and Jennings [2012], a tax-efficient withdrawal strategy requires the application of two principles. First, funds held in taxable accounts are generally taxed more heavily than funds held in tax-deferred and tax-exempt accounts. Therefore, as a rule of thumb, this retiree should withdraw funds from taxable accounts before tax-deferred and tax-exempt accounts.

The second principle is that tax-deferred accounts are best viewed as partnerships. The retiree is the majority partner, while the government is the minority partner that effectively owns t_n of the partnership, where t_n is the retiree's marginal tax rate

upon withdrawal. As majority partner, the retiree gets to make the investment and withdrawal decisions. She may decide to invest in Stock Fund A, and later move funds to Bond Fund B and then to Money Fund C. She also gets to decide when to withdraw funds. But every time she withdraws funds from the tax-deferred account, the government as minority partner gets t_n of the withdrawal amount. As we demonstrate in this study, a withdrawal strategy that applies these two principles can allow her financial portfolio to last several years longer.

The next section elaborates on these two principles. In addition, it reviews the literature on tax-efficient withdrawal strategies. We then present an example using the United States' progressive tax structure to illustrate that applying these two principles can add more than six years to the longevity of a retiree's financial portfolio. The final section presents a summary.

PRINCIPLES 1 AND 2

This section further develops the two principles for withdrawing funds tax-efficiently during retirement. We first define tax-deferred and tax-exempt accounts. Tax-deferred accounts (TDAs) are accounts that contain pretax funds that grow tax deferred and are fully taxable as ordinary income upon withdrawal. They include 401(k), 403(b),

SEP-IRA, traditional IRA, and defined-contribution (DC) plans. Tax-exempt accounts (TEAs) are those that contain after-tax funds that, if withdrawn in retirement, are generally tax free. They include Roth IRA, Roth 401(k), and Roth 403(b).

Principle 1

As a rule of thumb, retirees should withdraw funds from taxable accounts before TDAs and TEAs. Properly viewed, the after-tax value of funds held in TDAs and TEAs grow at the pretax rate of return, that is, they grow tax exempt. In contrast, funds held in taxable accounts are generally subject to taxes and thus grow at an after-tax rate of return.

While it is clear that the value of funds held in TEAs grows tax exempt, it may not be clear that the after-tax value of funds held in TDAs grows tax exempt. Without loss of generality, assume a retiree will be in a 25% marginal tax bracket in retirement. Let's compare the purchasing power in retirement of \$0.75 of after-tax funds held in a TEA and \$1 of pretax funds held in a TDA. They are invested in the same asset that earns $r\%$ pretax rate of return and will be withdrawn n years hence when the marginal tax rate, t_n , will be 0.25. The underlying asset can be stocks, bonds, or cash.

In n years, the market value of the TEA will be $\$0.75 (1+r)^n$. The retiree can withdraw these funds and buy $\$0.75 (1+r)^n$ of goods and services, where purchases require after-tax funds. In n years, the market value of the TDA will be $\$1 (1+r)^n$. The retiree can withdraw these funds, pay 25% in taxes, and buy $\$0.75 (1+r)^n$ of goods and services. Conceptually, it is useful to separate the \$1 of pretax funds in the TDA into \$0.75, the retiree's after-tax funds, plus \$0.25, the government's share of the TDA partnership.¹ The retiree's after-tax funds grow from \$0.75 today to $\$0.75 (1+r)^n$ in n years; that is, the after-tax value grows tax exempt. The effective tax rate is 0%.

Suppose the underlying assets are bonds earning 5% per year and the retiree will be in a 25% marginal tax rate in retirement. If held in a taxable account, the bond's after-tax value grows at a 3.75% after-tax rate of return, $[5\% (1 - 0.25)]$; the investor gets 3.75% of the return. If held in either a TDA or TEA, the investor's after-tax value grows at 5%. The first principle says that, in general, retirees should withdraw funds from the least-tax-advantaged taxable account before the more-tax-

advantaged TDA or TEA. As we shall see, this additional 1.25% return can extend the longevity of the retiree's financial portfolio by more than three years.

Principle 2

The second principle says that funds held in a TDA should be viewed as partnerships; the government effectively owns t_n of the TDA's current principal, where t_n is the marginal tax rate in the withdrawal year. The retiree should look for opportunities to withdraw funds from TDAs when they will be taxed at less than t_n . As explained in Reichenstein [2008], these opportunities are likely to occur a) before required minimum distributions (RMDs) begin, b) in years with large qualified contributions, and c) in years with large medical expenses.

Let us explain why many retirees have relatively low marginal tax rates in their early retirement years. Many retirees avoid withdrawals from TDAs until forced to by RMD rules. Before RMDs begin, they withdraw funds primarily from taxable accounts. But withdrawals from taxable accounts tend to be primarily, if not entirely, tax-free returns of principal. For example, suppose a 62-year-old retiree plans to spend \$75,000 in real terms each year in retirement. Further assume that once RMDs begin at 70.5, he will usually be in the 25% marginal tax bracket. He might withdraw \$75,000 from a savings account held in a taxable account to finance this year's spending goal. But this withdrawal would produce no taxable income. Thus, a retiree who avoids withdrawals from TDAs until RMDs begin and withdraws funds primarily from taxable accounts will likely be in an unusually low tax bracket before turning 70.5.

The better strategy is for this retiree to withdraw funds from TDAs each year before RMDs begin to the top of the 15% tax bracket (i.e., the top of the tax bracket before his usual tax bracket after RMDs begin) and then withdraw additional funds to finance his spending from taxable accounts. He should not miss the opportunity to withdraw funds from his TDA that will be subject to tax rates below 25%. In short, the United States has a progressive tax structure. Retirees should withdraw funds from TDAs before RMDs begin if this provides opportunities to withdraw funds from TDAs when the marginal tax rate will be unusually low for this retiree. As explained, such a situation may occur in the years before RMDs begin.

Horan [2006a, 2006b] considered withdrawal strategies to extend the longevity of a retiree's financial portfolio. His studies consider the optimal withdrawal strategy—defined as the one that maximizes the portfolio's longevity—when the retiree has funds only in TDAs and TEAs. A popular recommendation is that funds should be withdrawn first from TDAs, because they grow tax deferred, and then from the more tax-favored TEAs that grow tax exempt. As discussed earlier, the better view of a TDA is that it is a partnership with the government “owning” t_n of the TDA's current principal. But the after-tax value of the investor's funds in a TDA grows tax exempt, just like funds in a TEA. Horan shows that the withdrawal strategy that maximizes the longevity of the retiree's portfolio is one in which each year the retiree withdraws funds to the top of a “low” tax bracket. For example, if the retiree will generally be in the 25% tax bracket, then she should withdraw sufficient funds each year from TDAs to fully use the 15% tax bracket and then withdraw additional funds from her TEA.

A retiree's usual tax bracket in retirement after RMDs begin will vary with level of wealth and distribution of assets among savings vehicles (e.g., TDAs, TEAs, and taxable accounts). A “low” tax bracket for this investor will be any tax bracket below the usual tax bracket. The higher the retiree's usual tax bracket, the more she should withdraw each year from her TDA. In short, Horan's conclusion follows directly from this second principle that the TDA is best viewed as a partnership between the investor and the government.

The objective of the next section is to demonstrate that because of these principles, years of additional longevity are possible.

SIMPLE PROGRESSIVE TAX STRUCTURE

This section presents an example that shows it is possible for a retiree to add years to the longevity of her financial portfolio by withdrawing money tax-efficiently. To illustrate this point, we use a simplified model of the 2012 U.S. federal tax code.² It reflects the progressive nature of the tax structure with rising marginal tax brackets, but it ignores Social Security benefits and their taxation, the alternative minimum tax, and other complicating features of the tax code. We assume all retirement funds come from withdrawals from a 401(k) or other tax-deferred account, Roth IRA or other tax-exempt account, and a taxable account. This simplifica-

tion allows us to present a relatively simple spreadsheet example that clearly illustrates that a withdrawal strategy that follows the two principles can extend the longevity of a retiree's financial portfolio by more than six years.

We assume a single individual retires in 2012 at age 62. She will spend \$79,400 in today's dollars each year. Spending requires after-tax dollars. The initial amounts in her 401(k), Roth IRA, and taxable account are \$911,715.27, \$227,037.19, and \$375,524.83. As we shall see, these are the amounts that allow the 401(k), Roth IRA, and taxable account in withdrawal Strategy 1 to be exhausted after withdrawals in Years 3, 18, and 30. For simplicity, we assume the underlying investment is bonds earning 5% interest per year and inflation is 0%.³

In retirement, the first \$11,200 of income is tax free, which is the sum of the standard deduction, additional standard deduction for being at least 65 years old, and personal exemption. In 2012, the top of the 15% tax bracket is \$35,350. Each year, she can withdraw \$46,550 from a 401(k), [\$11,200 + \$35,350], that would be subject to a tax bracket below her usual 25% tax bracket in retirement.⁴

Exhibit 1 presents year-end balances (rounded to the nearest dollar) for three withdrawal strategies for this retiree with funds in a Roth IRA, 401(k), and taxable account. In Strategy 1, she withdraws funds from the Roth IRA until it is exhausted, then from her 401(k) until it is exhausted, and then from her taxable account. By design, we set her account balances so her portfolio would last 30 years.⁵

In Strategy 2, she withdraws funds from the taxable account until it is exhausted, then from the 401(k) until it is exhausted, and then from the Roth IRA, and her portfolio lasts 33.41 years. Unlike Strategy 1, Strategy 2 implements the first principle, and it adds more than 3 years to her portfolio's longevity.

In Strategy 3, in her early retirement years she withdraws funds each year from the 401(k) to the top of the 15% tax bracket and additional funds from the taxable account. After the taxable account has been exhausted, she withdraws funds each year from the 401(k) up to the top of the 15% tax bracket and additional funds from the Roth IRA. Strategy 3 implements both principles and allows her portfolio to last 36.23 years. In short, as summarized in Exhibit 2, by implementing the two principles, she can extend the longevity of her financial portfolio by more than six years. We now explain the details of Exhibit 1.

EXHIBIT 1

End-of-Year Balances in Three Accounts for Each of Three Withdrawal Strategies

Year	Str 1			Str 2			Str 3		
	Roth IRA	401(k)	tax acct	Roth IRA	401(k)	tax acct	Roth IRA	401(k)	tax acct
1	155019	957301	394301	227037	957301	310931	238389	908424	350475
2	79400	1005166	414016	238389	1005166	243108	250309	904967	324486
3	0	1055424	434717	250309	1055424	171893	262824	901338	297522
4		1006514	450367	262824	1108196	97118	275965	897527	269548
5		955157	466580	275965	1163605	18604	289763	893526	240524
6		901233	483377	289763	1146149	0	304252	889325	210411
7		844613	500778	304252	1101774		319464	884914	179170
8		785161	518806	319464	1055181		335437	880282	146757
9		722738	537483	335437	1006258		352209	875419	113128
10		657192	556833	352209	954889		369820	870312	78239
11		588370	576879	369820	900951		388311	864950	42041
12		516107	597646	388311	844317		407726	859320	4485
13		440230	619162	407726	784850		393219	853409	
14		360559	641452	428112	722411		373276	847202	
15		276905	664544	449518	656850		352337	840684	
16		189069	688467	471994	588010		330350	833841	
17		96840	713252	495594	515729		307264	826656	
18		0	738929	520373	439833		283024	819111	
19			692506	546392	360143		257572	811189	
20			643761	573712	276468		230847	802871	
21			592579	602397	188609		202786	794137	
22			538838	632517	96358		173322	784966	
23			482410	663763	0		142385	775337	
24			423160	613581			109901	765226	
25			360948	560890			75792	754610	
26			295626	505565			39979	743463	
27			227037	447473			2374	731759	
28			155019	386477				669989	
29			79400	322431				601806	
30			0	255182				530215	
31				184571				455043	
32				110430				376114	
33				32581				293237	
34								206217	
35								114846	
36								18906	

Note: Year-end values are rounded to the nearest dollar.

EXHIBIT 2

Summary of Portfolio Longevities with Six Withdrawal Strategies

Withdrawal Strategy	Longevity of Financial Portfolio
Strategy 1: Roth IRA, then 401(k), then taxable account	30 years
Strategy 2: Taxable account, then 401(k), then Roth IRA	33.41 years
Strategy 3: Each year, withdraw funds from 401(k) to top of 15% bracket and additional funds from taxable account. After taxable account is exhausted, withdraw funds from 401(k) to top of 15% bracket and additional funds from Roth IRA.	36.23 years

Strategy 1

In Strategy 1, at the beginning of Year 1, she withdraws \$79,400 from the Roth IRA. This provides \$79,400 after taxes to meet that year's spending goal. The remaining funds in the Roth IRA grow at 5%. At the beginning of Years 2 and 3, she withdraws \$79,400 from her Roth IRA, and her Roth IRA is exhausted after the Year 3 withdrawal.

Beginning in Year 4, she withdraws funds from her 401(k). Funds in this account have been growing at 5%. At the beginning of Years 4 through 18, she withdraws \$96,840 from her 401(k), which provides \$79,400 after taxes. The remaining 401(k) funds grow at 5%. Her 401(k) is exhausted after the withdrawal in Year 18.⁶

For simplicity, we assume the taxable account grows tax free at 5% for the first three years, at a 3.6% after-tax rate of return from Years 4 through 18, and tax free at 5% beginning in Year 19. In the first three years and in Years 19 and later, her adjusted gross income (AGI) consists solely of interest on her assets held in the taxable account. So, this interest is largely tax free. In Years 4 through 18, the 401(k) withdrawal raised taxable income to within \$10 of the top of the 25% tax bracket. The remainder of the interest would be taxed at 28%, which implies a 3.6% after-tax return, $[5\%(1 - 0.28)]$. At the beginning of Year 19, she withdraws \$79,400 from the taxable account, which funds her spending needs. Each year, she paid taxes, if any, on the 5% pretax return. So, withdrawals from the taxable account are tax-free returns of principal. She continues to withdraw \$79,400 per year until her funds are exhausted after the withdrawal at the beginning of Year 30.⁷

By design, we set the beginning balances in the Roth IRA, 401(k), and taxable account so these accounts would be exhausted in Strategy 1 after beginning-of-year withdrawals at the start of Years 3, 18, and 30.

This allows us to calculate how much longer the retiree's portfolio will last under more tax-efficient withdrawal strategies.

Strategy 2

In Strategy 2, the retiree withdraws funds from the taxable account until it is exhausted, then from the 401(k), and then from the Roth IRA.

This is a better strategy than Strategy 1 because she is withdrawing funds from the least-tax-efficient taxable account before the more-tax-efficient Roth IRA and 401(k). In the first four years, her AGI consists of interest on her taxable account. For simplicity, we assume this interest grows tax free.⁸ At the beginning of Year 6, the taxable account is exhausted and remaining funds to meet that year's spending goal are withdrawn from the 401(k). Beginning in Year 7, she withdraws \$96,840 from the 401(k) until it is exhausted with the withdrawal at the beginning of Year 23. The remaining withdrawal that year comes from the Roth IRA. In future years, she withdraws \$79,400 from the Roth IRA to finance her spending goal. This withdrawal strategy allows her financial portfolio to last 33.41 years; it finances all of her spending needs for 33 years plus 41% of her needs in the 34th year.

Strategy 3

In the early retirement years, she withdraws \$46,550 from the 401(k), which takes her taxable income to the top of the 15% tax bracket, and \$37,717.50 from her taxable account. The 401(k) withdrawal provides \$41,682.50 after taxes, while the taxable account withdrawal provides the additional \$37,717.50 after taxes to meet her \$79,400 spending goal. The remaining funds in her 401(k) grow at 5%, while the remaining funds in the taxable account grow at 3.75%, $[5\%(1 - 0.25)]$. She follows this withdrawal strategy in Years 1 through 12.

In Year 13, she withdraws the remaining \$4,485.40 from her taxable account, \$33,322.10 or $(\$37,717.50 - \$4,485.40)$ from her Roth IRA, and \$46,550 from her 401(k) to provide her spending goal. From Years 14 through 27, she withdraws \$46,550 from her 401(k) and \$37,717.50 from her Roth IRA, which provides her spending goal. In Year 28, she withdraws the remaining

balance from her Roth IRA and sufficient funds from her 401(k) to meet her spending goal. Beginning in Year 29, she withdraws \$96,840 each year from her 401(k), which provides \$79,400 after taxes. Strategy 3 satisfies RMD rules and provides funds for 36.23 years.

The difference in portfolio longevity between the least-tax-efficient and most-tax-efficient withdrawal strategies is more than six years. Key insights are as follows. First, as a rule of thumb, retirees should withdraw funds from taxable accounts before tax-deferred and tax-exempt accounts, because taxable accounts are the least tax efficient. The after-tax values of funds held in the tax-exempt Roth IRA and tax-deferred 401(k) grow at the pretax return of 5%, while funds in the taxable account generally grow at the after-tax return of 3.75%. This additional 1.25% allows the portfolio to last 3.41 years longer.

Second, retirees should look for opportunities to withdraw funds from TDAs whenever these funds would be taxed at an unusually low tax rate. To repeat, funds in TDAs are best thought of as a partnership, where the government "owns" t_n of the partnership. For 15 years in Strategy 1 and 16 years in Strategy 2, the retiree withdrew \$96,840 from the 401(k), the last \$50,290 of which was taxed at 25%. In Strategy 3, for the first 27 years she was able to avoid withdrawals from the 401(k) that were taxed at 25%. This withdrawal strategy allowed her portfolio to last about 2.8 years longer than in Strategy 2.

Your clients will have a usual tax bracket in retirement, which will usually be the tax bracket after RMDs begin. The objective is to look for opportunities to withdraw funds from tax-deferred accounts when they would be subject to a lower-than-usual tax rate. The next section describes one such opportunity for many retirees.

High Medical Expenses

This section repeats the prior example except it assumes the retiree spends her last three years in an assisted-living facility or nursing home and dies at the end of the 28th year. As before, she spends \$79,400 after taxes per year in her last three years, Years 26 through 28. Exhibit 3 presents end-of-year balances for Strategies 1 through 3.

In Strategy 1, the retiree dies after 28 years at age 90 and her beneficiaries inherit \$155,019 of taxable assets. Since the cost basis is also \$155,019, this is the after-tax amount inherited by her beneficiaries. In Strategy 2, she dies after 28 years and her beneficiaries inherit \$386,477 of Roth IRA assets, which is also \$386,477 after taxes. In Strategy 3, she withdraws \$79,400 from her 401(k) in Years 26 through 28 to pay expenses; unlike in Exhibit 1, she does not withdraw any funds from her Roth IRA for these years. Although these pretax withdrawals from the 401(k) increase taxable income, they are likely tax free due to deductible medical expenses.⁹ At her death, her beneficiaries would inherit \$87,739 of Roth IRA assets plus \$610,732 of 401(k) assets. If her beneficiaries are in the 25% tax bracket, then Strategy 3 would provide the beneficiaries \$545,788 after taxes, [$\$87,739 + \$610,732(1 - 0.25)$], which is about \$160,000 more than in Strategy 2 and \$390,000 more than in Strategy 1.

This example shows that if the retiree will have high medical expenses late in life, then she should save some funds in a 401(k) or other tax-deferred account to pay for these expenses. Since many retirees have high medical expenses in some years, it is desirable to retain some funds in TDAs to pay for the possibility of high medical expenses. Using the partnership principle, the government effectively owns t_n of the 401(k) principal, where t_n is the investor's marginal tax rate. But because of the high

EXHIBIT 3

End-of-Year Balances for Strategies 1-3 with High Medical Costs in Years 26-28

Year	Str 1 Roth IRA	Str 1 401(k)	Str 1 tax acct	Str 2 Roth IRA	Str 2 401(k)	Str 2 tax acct	Str 3 Roth IRA	Str 3 401(k)	Str 3 tax acct
25			360948	560890			75792	754610	
26			295626	505565			79582	708971	
27			227037	447473			83561	661049	
28			155019	386477			87739	610732	

Note: Year-end values are rounded to the nearest dollar. Medical expenses are \$79,400 in Years 26 to 28, and the retiree dies at end of 28th year.

medical expenses, the effective tax rate will probably be zero on these 401(k) withdrawals. This example is thus an application of the second principle: Withdraw funds from the 401(k) whenever those funds would be taxed at an unusually low tax rate for that retiree.

SUMMARY

In this study, we clearly illustrate with a simple progressive tax model that a retiree can extend the longevity of his or her financial portfolio by several years by following two principles. First, because funds held in taxable accounts are generally taxed more heavily than funds held in tax-deferred accounts and tax-exempt accounts, as a rule of thumb, retirees should withdraw funds from the less-tax-favored taxable accounts before the more-tax-favored accounts. Second, tax-deferred accounts are best viewed as partnerships. The retiree is the majority partner, while the government is the minority partner that effectively owns t_n of the partnership, where t_n is the retiree's usual marginal tax rate in retirement.

The objective is to look for opportunities to withdraw funds from tax-deferred accounts when they will be taxed at a lower marginal tax rate than t_n . Such opportunities are likely to occur a) before RMDs begin, b) in years with large qualified contributions, and c) in years with large medical expenses. In particular, many retirees should withdraw funds from tax-deferred accounts before RMDs begin to exploit the relatively low marginal tax rate in those years.

Separately, many retirees have high medical expenses, especially late in life. The deductibility of most of these high medical expenses will likely cause the taxpayer to have an unusually low tax rate in these years. Therefore, it is desirable to save some tax-deferred funds to pay for the possibility of high medical expenses.

Finally, this study shows that retirees can add several years of longevity to their financial portfolio by withdrawing funds tax-efficiently. In a separate study, Meyer and Reichenstein [2012] show that a single retiree with above-average life expectancy may be able to add several years of longevity by delaying the start of Social Security benefits. It also shows that a couple, for which at least one partner has above-average life expectancy, may be able to add several years of longevity to their financial portfolio by having the higher-earning spouse delay the start of Social Security benefits.¹⁰ Together, these studies

show that by tax-efficiently withdrawing funds and by selecting an optimal Social Security claiming strategy, many single people and married couples can add several years to the longevity of their financial portfolios.

ENDNOTES

¹This separation of each dollar in a TDA into the $(1 - t_n)$ of the investor's after-tax dollars plus t_n of the government's share of the current principal has implications for calculating the asset allocation and many other investment issues. See Reichenstein [2008] and Reichenstein, Horan, and Jennings [2012] for more information.

²Obviously, the tax code will change, but progressive tax rates will remain a key feature of the code. Instead of trying to guess what changes might be made, we assumed the 2012 tax brackets will remain in future years, subject to adjustments for inflation. Again, the key idea relies on progressive tax rates, which should remain a feature of the tax code.

³The all-bond assumption simplifies the analysis because we do not have to model complications associated with having some returns grow tax deferred. Separately, this inflation rate assumption simplifies the analysis because it means the spending goal and tax brackets do not need to increase with inflation. However, as long as returns are 5% above inflation, the longevity of the portfolio in Strategies 1 through 3 would be the same. For example, if inflation is 2%, then returns would be 7.1%, $[(1.05)(1.02) - 1]$.

⁴The \$1,450 over-65 deduction would not occur for the first three years. To simplify the analysis, we assume it exists every year. This simplifying assumption does not materially change the comparative results of alternative withdrawal strategies.

⁵We adopt the 30-year horizon based on the sustainable withdrawal rate literature. It asks how large the initial withdrawal rate from the financial portfolio can be if the retiree withdraws an inflation-adjusted equivalent amount each year thereafter without exhausting the portfolio within 30 years. Although 30 years is longer than most retirees' remaining life, 30 years is typically assumed to provide reasonable assurance that the retiree will not outlive the financial portfolio. See Jennings et al. [2011].

⁶The \$96,840 is separated into \$11,200, \$8,700, \$26,650, and \$50,290 that are taxed at 0%, 10%, 15%, and 25%. The after-tax amounts are \$11,200, \$7,830, \$22,652.50, and \$37,717.50, which total \$79,400.

⁷In reality, she will owe some taxes in Years 1 through 3 and in Years 19 through 26. Each year, the first \$11,200 is tax free, but the rest is taxable. In reality, these simplifying assumptions allow the portfolio in Strategy 1 to last a little longer than it actually would. In a more-detailed spreadsheet

we calculated taxes in Years 1 to 3 and beginning in Year 19, and this portfolio would last 29.69 years. (It would last 26.66 years if we limited the tax-free amount for the first three years to \$9,750, that is, if we excluded the over-65 deduction at ages 62 through 64.) These simplifying assumptions lengthen the longevity of the portfolio in Strategy 1 and thus understate the additional longevity that is possible from a tax-efficient withdrawal strategy.

⁸In reality, she would owe some taxes the first two years. In a more-detailed model that accounts for these taxes, Strategy 2 runs out in 33.37 years, a trivial 0.04 year shorter than if we assume the interest is tax free.

⁹Her AGI would be \$79,400. Medical expenses exceeding 7.5% of AGI would be tax deductible. Thus, she could deduct \$73,445 in itemized expenses, and the remaining \$5,955 of AGI would likely be less than the sum of her \$3,800 personal exemption, \$1,450 over-65 deduction, and other itemized expenses. At most, her income taxes would be trivial.

¹⁰See www.ssalyzer.com for sophisticated software that will help financial advisors recommend when clients should begin Social Security benefits.

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