The Importance of Withdrawal Strategies

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This paper presents an example that shows it is possible to add years to the longevity of a retiree's portfolio by withdrawing money from her accounts tax efficiently. For simplicity, we ignore Social Security, and assume all retirement funds come from withdrawals from a 401(k) (or other tax-deferred accounts), a Roth IRA, and a taxable account. The example shows that a tax-efficient withdrawal strategy that follows two principles can extend the longevity of her financial portfolio by several years. The first principle is: As a rule of thumb, withdraw funds from the taxable account before the 401(k) or Roth IRA. The second principle is to withdraw funds from the 401(k) whenever those funds would be taxed at an unusually low tax rate for that retiree.

In earlier work, I argued that, as a rule of thumb, retirees should withdraw funds from the taxable account before the 401(k) or Roth IRA.[1] For simplicity, assume the underlying asset is bonds earning 4% per year. The balances in the 401(k) and Roth IRA grow at 4%, but the balance in the taxable account grows at 4%(1-t), where t is the retiree's marginal tax rate. For someone in the 25% tax bracket, the retiree gets 4% return on funds held in the 401(k) and Roth IRA, but only 3% on funds held in the taxable account. Due to the lower return on funds held in taxable accounts, as a rule of thumb, the retiree should withdraw funds from the taxable account before retirement accounts.

There are exceptions to this rule of thumb. One key exception is the retiree should withdraw funds from the tax-deferred 401(k) whenever these funds would be taxed at an unusually low tax bracket for this investor.

Table 1 summarizes the results of three withdrawal strategies. For the interested reader, the details of these results are explained in the remainder of this paper. In Strategy 1, she withdraws funds from the 401(k) until it is exhausted then from the Roth IRA until it is exhausted and then from the taxable account. Her portfolio lasts 30 years. 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 36.17 years. In Strategy 3, in her early retirement years she withdraws funds each year from the 401(k) and taxable account. After the taxable account has been exhausted, she withdraws funds each year from the 401(k) and Roth IRA. This strategy allows her portfolio to last 37.5 years. In short, by implementing two principles, she can extend the longevity of her financial portfolio by 7.5 years.

[1] See William Reichenstein, "Withdrawal Strategies to Make Your Nest Egg Last Longer," (American Association of Individual Investors) *AAII Journal*, November 2006, 5-11 and "Tax-Efficient Sequencing of Accounts to Tap in Retirement," Trends and Issues, TIAA-CREF Institute, October 2006 available at www.tiaa-crefinstitute.org/pdf/research/trends_issues/tr100106.pdf

The remainder of this paper discusses the details of this example.

Table 1. Summary of Portfolio Longevities with Three Withdrawal Strategies

Withdrawal Strategy	Longevity of Financial Portfolio
Strategy 1: 401(k) then Roth IRA then taxable account	30 years
Strategy 2: Taxable account then 401(k) then Roth IRA	36.17 years
Strategy 3: Withdrawals each year from taxable account and 401(k) and then Roth IRA and 401(k)	37.5 years

Details of Example

We assume a single retiree will spend $67,400 in today's dollars each year. Spending requires after-tax dollars. The initial amounts in her 401(k), Roth IRA, and taxable account are $997,826.34, $248,628.07, and $435,720.02. The investments earn 3% interest per year and inflation is 0%.[2] As we shall see, she will usually be in the 25% tax bracket in retirement. So, she should withdraw funds from the 401(k) whenever they will be taxed at less than 25%. In 2011, the first retirement year, the first $10,650 of income is tax free. This is the sum of standard deduction, personal exemption, and 65-and-over deduction. The tops of the 10% and 15% tax brackets are $8,500 and $34,500. So, she can withdraw $45,150 from a 401(k) each year, [$10,650 + $34,500], that would be subject to a tax bracket below her usual 25% tax bracket in retirement.

In Strategy 1, at the beginning of Year 1, she withdraws $81,500 from the 401(k). This provides $67,400 after taxes to meet her spending target.[3] The remaining funds grows at 3%. At the beginning of Year 2, she withdraws another $81,500 from the 401(k), and the remaining funds grow at 3%. This process continues until the 401(k) is exhausted after the withdrawing $81,500 at the beginning of the 15th year. Funds in the Roth IRA have grown at 3%. At the beginning of Year 16, she withdraws $67,400 from the Roth IRA, which funds her spending needs. The remaining funds grow at 3% for that year. This process is continued until the Roth IRA is exhausted after a $67,400 withdrawal at the beginning of the 20th year. The taxable account has been growing at 2.25%, 3% pretax rate of return less taxes at 25%. At the beginning of Year 21, she withdraws $67,400 from the taxable account, which funds her spending needs. (Each year, she paid taxes on the 3% pretax return. So, withdrawals are tax-free returns of principal.) She continues this process until her funds are exhausted after the withdrawal of $67,400 at

[2] This inflation 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 3% above inflation, the longevities of the portfolio in Strategies 1 through 3 would be the same. For example, if inflation is 2% then returns would be 5.06%, [(1.03)(1.02) – 1].

[3] The $81,500 is separated into $10,650, $8,500, $26,000, and $36,000 that are taxed at 0%, 10%, 15%, and 25%. The after-tax amounts of $10,650, $7,650, $22,100, and $27,000 total $67,400.

the beginning of Year 30. By design, we set the beginning balances in the 401(k), Roth IRA, and taxable account so these accounts would be exhausted in Strategy 1 after the beginning of year withdrawals at the start of Years 15, 20, and 30. This allows us to calculate how much longer the retiree's portfolio will last under more tax-efficient withdrawal strategies.

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 less-tax-efficient taxable account before the more-tax-efficient retirement accounts, where retirement accounts include the 401(k) and Roth IRA. We assumed the taxable account earned 3% pretax return and it was tax free since this would be her only taxable income in those early years. At the beginning of Year 11, the taxable account is exhausted and remaining funds to meet that year's spending goal are withdrawn from the 401(k). Beginning in Year 12, she withdraws $81,150 from the 401(k) until it is exhausted with the withdrawal at the beginning of the 27th year. Remaining withdrawals that year come from the Roth IRA. In future years, distributions come from the Roth IRA. This withdrawal strategy allows her financial portfolio to last 36.17 years; it finances all of her spending needs for 36 years and 17% of her needs in the 37th year.

In Strategy 3, she withdraws funds tax efficiently each year from her financial accounts. In the early years, she withdraws $41,150 from the 401(k) and $27,000 from the taxable account. The $41,150 withdrawal from the 401(k) provides $40,400 after taxes; the first $10,650 is tax free, the next $8,500 is taxed at 10%, and the remaining $26,000 is taxed at 15%. Withdrawals from the taxable account are tax-free returns of principal. The 401(k) and Roth IRA grow at the 3% pretax rate of return, while the taxable account grows at 2.25% after taxes. At the beginning of the 20th year, the taxable account is exhausted and some funds are withdrawn from the Roth IRA. At the beginning of the 21st year, $41,150 is withdrawn from the 401(k) and $27,000 from the Roth IRA to meet the after-tax spending goal. This process continues. At the beginning of the 34th year, the 401(k) is exhausted. After that, all funds are withdrawn from the Roth IRA. Strategy 3 provides all funds for 37.5 years, that is, all funds for 37 years plus half of the $67,400 after taxes for the 38th year.[4] Table 2 presents year-end balances (rounded to the nearest dollar) in the 401(k), Roth IRA, and taxable account for Strategies 1 through 3.

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[4] In Strategy 3, the 401(k) is exhausted in the 34th year. In practice, the retiree could have extended the portfolio longer by switching about year 32 to a strategy of withdrawing funds from the 401(k) only part way into the 15% tax bracket and additional funds from the Roth IRA.

In summary, we examined the longevity of the same financial portfolio for three withdrawal strategies. The difference in longevities between the least tax-efficient and the most tax-efficient strategies was 7.5 years. By withdrawing funds tax efficiently, retirees can extend their portfolio's longevity by several years. Key insights are as follows. First, as a rule of thumb, withdraw funds from taxable accounts before tax-deferred accounts like the 401(k) and tax-exempt accounts like the Roth IRA, because the taxable account is the least tax efficient. Second, funds in tax-deferred accounts are best thought of as a trust, where the retiree owns (1-t) of the trust's principal and the government "owns" the remaining t, where t is the retiree's marginal tax rate in retirement. The objective is to look for opportunities for the retiree to withdraw funds from tax-deferred accounts whenever he or she would be taxed at a low tax rate for this retiree. In several years in Strategies 1 and 2, the retiree withdrew $81,150 from the 401(k), the last $36,000 of which was taxed at 25%. In Strategy 3, she avoided withdrawals from the 401(k) that were taxed at 25%. This allowed her portfolio to last longer. Your clients will have a usual tax bracket in retirement. The objective is to look for opportunities to withdraw funds from tax-deferred accounts when they will be subject to a lower-than-usual tax rate.

Table 2. End-of-Year Balances in Three Accounts for Each of Three Withdrawal Strategies (Year-end totals are rounded to the nearest dollar)

	Str 1	Str 1	Str 1	Str 2	Str 2	Str 2	Str 3	Str 3	Str 3
Year	401(k)	Roth IRA	tax acct	401(k)	Roth IRA	tax acct	401(k)	Roth IRA	tax acct
1	944177	256087	445524	1027761	256087	379370	981257	256087	417916
2	888917	263770	455548	1058594	263770	321329	964190	263770	399712
3	832000	271683	465798	1090352	271683	261547	946611	271683	381098
4	773376	279833	476278	1123062	279833	199971	928505	279833	362065
5	712993	288228	486995	1156754	288228	136548	909855	288228	342604
6	650798	296875	497952	1191457	296875	71223	890647	296875	322705
7	586737	305781	509156	1241428	305781	3937	870862	305781	302358
8	520755	314955	520612	1195087	314955	0	850483	314955	281554
9	452793	324403	532326	1147355	324403		829493	324403	260282
10	382793	334135	544303	1098191	334135		807873	334135	238530
11	310692	344159	556550	1047552	344159		785605	344159	216290
12	236428	354484	569072	995394	354484		762669	354484	193549
13	159936	365119	581876	941672	365119		739044	365119	170296
14	81150	376072	594968	886337	376072		714711	376072	146520
15	0	317932	608355	829343	387354		689648	387354	122210
16		258048	622043	770639	398975		663833	398975	97352
17		196368	636039	710173	410944		637243	410944	71935
18		132837	650350	647894	423273		609856	423273	45946
19		67400	664983	583746	435971		581647	435971	19372
20		0	611029	517674	449050		552592	441193	0
21			555860	449620	462521		522665	426619	
22			499451	379524	476397		491841	411607	
23			441772	307325	490689		460091	396146	
24			382795	232960	505410		427390	380220	
25			322491	156365	520572		393707	363817	
26			260831	77471	536189		359014	346921	
27			197783	0	549433		323280	329519	
28			133317		496494		286473	311594	
29			67400		441967		248563	293132	
30			0		385804		209515	274116	
31					327956		169296	254530	
32					268373		127871	234355	
33					207002		85202	213576	
34					143790		41254	192173	
35					78681		0	164441	
36					11620			99952	
37								33529	

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