

How Social Security and a Tax-Efficient Withdrawal Strategy Extend the Longevity of the Financial Portfolio

This case study was prepared following an interview by Morningstar with founders William Meyer and Dr. William Reichenstein. The purpose of this case study is to highlight the benefits of coordinating the timing of when you begin Social Security retirement benefits with a tax-efficient withdrawal strategy to extend the longevity of your financial portfolio.

In this case study, we will demonstrate three distinct ways the longevity of your financial portfolio can be extended:

1. By changing the age when you begin Social Security retirement benefits;
2. By changing the way you withdraw funds from your taxable account, 401(k), and, when applicable, other account types; and
3. By treating Social Security benefits as a bond, you may want to increase your financial portfolio's stock exposure to thus increase its expected return.

Assumptions

In this example, a single individual has \$500,000 in financial assets, including \$400,000 in a 401(k) (or in any other tax-deferred account), including \$250,000 in bonds and \$150,000 in stocks. In addition, he has \$100,000 in stocks held in taxable account with cost basis of \$100,000.

Our assumptions for the example are as follows:

- The asset allocation is 50% stocks and 50% bonds, and we rebalance each year back to this asset allocation.
- Returns are assumed to be 2% for bonds and 8% for stocks, including 2% dividends and 6% capital gains with 80% of gains being long term. Turnover ratio is assumed to be 20%.
- Spending which requires after-tax dollars is equal to \$36,850 in the first year, with an inflation-adjusted equivalent amount spent each year thereafter.
- Inflation is 2%.
- Primary Insurance Amount for Social Security retirement benefits is \$1,500.
- This individual is assumed to have been born on January 2, 1951.
- We used 2013 federal tax brackets with no state taxes. Federal tax brackets increase each year with inflation.

In this example, the individual investor retires from work at the beginning of 2013 at age 62. The spending amount in this example was purposely set so that the portfolio would barely last 30 years with a tax-efficient withdrawal strategy. Financial planners often use a 30-year withdrawal period. Although retirees usually die before age 92, the withdrawal rate literature in financial planning usually uses a 30-

year period to provide reasonable assurance that the retiree or retired couple does not outlive the financial portfolio. Suppose a retiree or retired couple has a 25 year expected retirement period. If they plan for a 25 year retirement period and the portfolio lasts 25 years, there would be about a 50% chance that they would outlive their financial portfolio.

Table 1 below compares the extended longevity that is possible across withdrawal strategies (Tax-Efficient, Less Tax-Efficient, Tax-Inefficient, and Tax-Efficient with 60% stocks and 40% bonds), as well as the extra longevity gained by delaying the start of Social Security retirement benefits.

Age Social Security Begins	Tax-Efficient Withdrawal Strategy	Less Tax-Efficient Withdrawal Strategy	Tax-Inefficient Withdrawal Strategy	Tax-Efficient Withdrawal Strategy 60S/40B
62	30 years	27+	24	34+
64	31+	28+	24+	36+
66	33+	31+	25+	39+
68	36+	34+	27+	44+
70	40+	37+	29	48+

TABLE 1

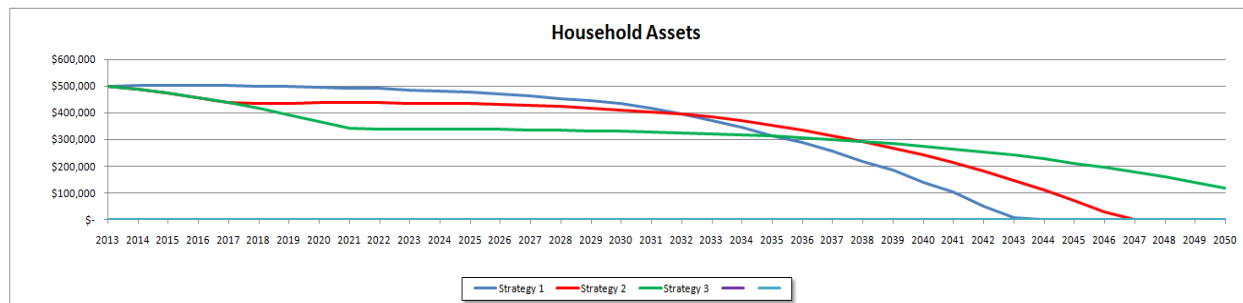
The Timing of Social Security Retirement Benefits

As you can see in the left hand column of Table 1, Social Security benefits can begin as early as age 62, as late as age 70, or at any age in between. Assuming a Tax-Efficient withdrawal strategy, if he begins benefits at 62 then his portfolio would last 30 years. If he delays benefits until 66 then his portfolio would last 33+, that is, 33 years plus part of the next year. If he delays his benefits until 70 then his portfolio would last 40+ years.

For our example, annual Social Security benefits (ignoring cost of living adjustments at 2% per year) would be \$13,500 if begun at 62, \$15,600 at 64, \$18,000 at 66, \$20,880 at 68, and \$23,760 if begun at 70. Ignoring taxation, if the retiree begins Social Security at 62, he would need to withdraw \$23,350 more to meet his spending needs, [\$38,850 - \$13,500]. By waiting until age 70, he would only need to withdraw \$13,090 more to meet his spending needs. All dollar amounts in this paragraph are expressed in real (inflation-adjusted) terms. The concept is simple. Assuming he lives to 92, delaying Social Security increases his lifetime Social Security benefits. As these lifetime benefits increase, his portfolio lasts longer.

In the graph below, the green line (Begin Social Security at 70) decreases fastest in the first 8 years before Social Security begins, since all funds to meet the spending goal must come from the financial portfolio. After age 70, it decreases the slowest because the spending goal is met with the least amount coming from the financial portfolio. In contrast, the blue line (Begin Social Security at 62) decreases slowest in the first years since Social Security provides some funds to meet the spending goal

immediately, but it decreases fastest after 70 since it requires the most funds to be withdrawn from the financial portfolio to meet the spending goal.



There are two reasons why delaying Social Security benefits from age 62 to 70 adds 10+ years to the longevity of the portfolio. First, assuming a 30-year lifespan, delaying Social Security benefits from 62 to 70 would increase the present value of lifetime Social Security benefits by \$117,720. If the retiree lives to age 92, the present values of lifetime Social Security benefits would be the following amounts: \$405,000 if begun at 62, [\$13,500 per year*30 years], while it would be \$522,720 if begun at 70, [\$23,760*22years]. Second, delaying Social Security benefits until 70 would reduce the portion of Social Security benefits that are taxable. After 70, he would receive a relatively large Social Security benefit and need relatively little from the 401(k). Because of the formula that determines the taxable portion of Social Security benefits, this would cause less of these benefits to be taxable.

It is clear in Table 1 that delaying Social Security benefits adds to the longevity of the financial portfolio, regardless of which withdrawal strategy is used to spend down the assets in the portfolio. For example, even with a Tax-Inefficient strategy as represented in the fourth column, about five years of longevity can be added simply by delaying claiming benefits from age 62 to age 70. This difference is even larger when delaying benefits is combined with a more tax-efficient strategy as we'll discuss next.

The Order of Tapping Accounts

The strategy for withdrawing funds from the taxable account and 401(k) can make a material difference in the longevity of the portfolio. In Table 1, the Tax-Efficient withdrawal strategy combined with beginning Social Security at 62 allows the portfolio to last 30 years. The longevity of the financial portfolio changes with the withdrawal strategy as defined below.

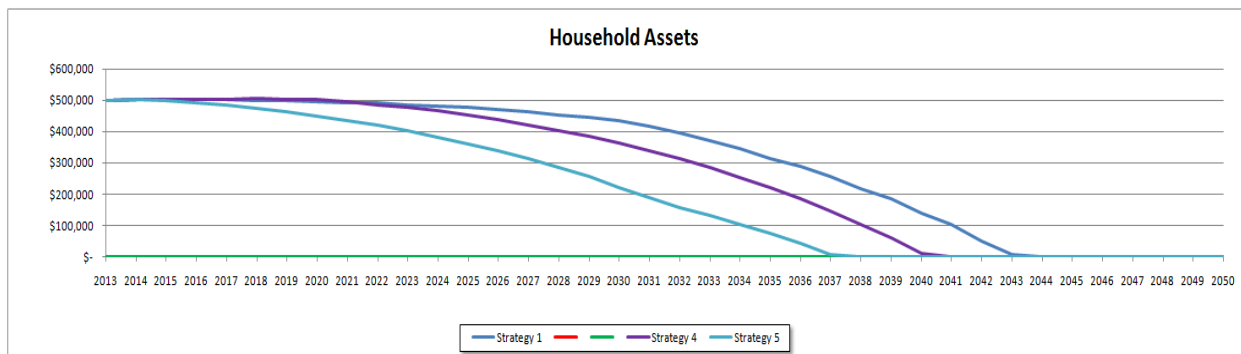
In the Tax-Efficient strategy, the retiree withdraws funds from the 401(k) each year as long as the marginal tax rate on these withdrawals is 15% or less. It then withdraws additional funds as needed from the taxable account. Except for this practice of withdrawing funds from 401(k) that would be taxed at a marginal rate of 15% or less, funds are withdrawn from the taxable account before the 401(k).

In the Less Tax-Efficient strategy, the retiree withdraws all funds from the taxable account until it is exhausted and then from the 401(k) until it is exhausted. Assuming Social Security benefits begin at 62, the portfolio lasts 27+ years, that is, 2+ years shorter than with the Tax-Efficient strategy.

In the Tax-Inefficient strategy, the retiree withdraws all funds from the 401(k) until it is exhausted and then from the taxable account. Assuming Social Security benefits begin at 62, the portfolio lasts 24 years, that is, six years shorter than with the Tax-Efficient strategy.

The Tax-Efficient strategy with 60% stocks and 40% bonds is the same as the Tax-Efficient strategy except the asset allocation of the financial portfolio is set at 60% stocks and 40% bonds with a return of 5.6% instead of 50% stocks and 50% bonds with a return of 5%. In this model, the returns to bonds and stocks are stable each year. As such, this example does not show the risk of having a heavier stock allocation in the event that stock returns, especially in the crucial early retirement years, should be negative. Assuming Social Security benefits begin at 62, the portfolio lasts 34+ years, that is, 4+ years longer than with the 50% stocks and 50% bonds asset allocation.

Next, let's compare a Tax-Efficient strategy (right-most line), Less Tax-Efficient strategy, and Tax-Inefficient strategy (left-most line) with Social Security beginning at age 62 for each strategy.



The Tax-Efficient strategy is better than the Less Tax-Efficient strategy, and here's why. Many writers say to take money out of the taxable account before the more tax-efficient 401(k). (References available upon request.) In general, this is true. But it is important to try to use every opportunity to *withdraw funds from the 401(k) such that we minimize the taxes on these withdrawals.*

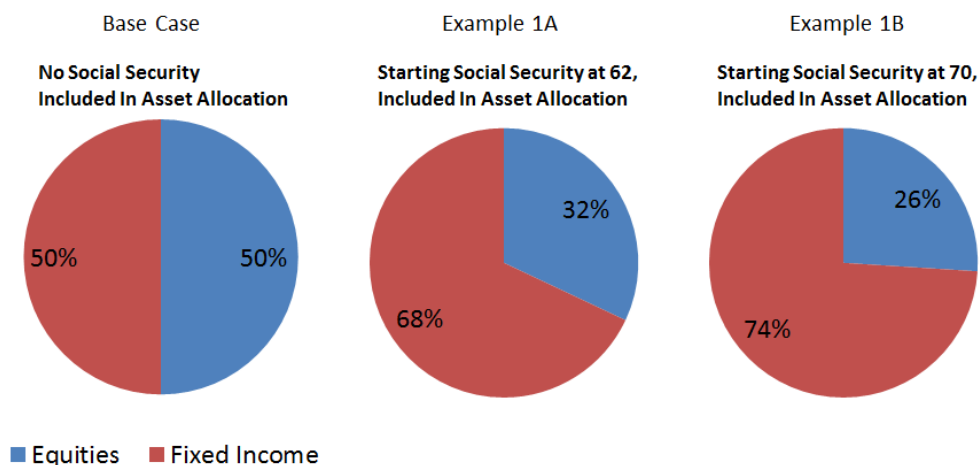
Consider the first year's portfolio withdrawals with these two strategies. In the Less Tax-Efficient strategy, at the beginning of the year the person withdraws \$36,850 from the taxable account to meet that year's spending needs. This is a tax-free withdrawal of principal because the withdrawal would represent a return of principal. The remaining \$63,150 in the taxable account would earn dividends and capital gains of about \$2,600 in 2013. Since the sum of standard deduction plus personal exemption for 2013 is \$10,000, he would have \$0 of taxable income for 2013. In fact, he could have withdrawn about \$7,400 from the 401(k) that would have been tax free since it would be offset by the standard deduction

and personal exemption. Furthermore, not only should he withdraw this \$7,400 from his 401(k) in 2013, but he should also withdraw additional funds from the 401(k) (and a corresponding lower amount from his taxable account) to take advantage of the 10% tax bracket. In short, the government takes a portion of his 401(k) distributions. He should time these withdrawals to minimize governmental taxes over his lifetime. The additional portfolio longevity of the Tax-Efficient strategy compared to the Less Tax-Efficient strategy is attributable to his timing 401(k) withdrawals to take advantage of low marginal tax brackets (adjusted to reflect the taxation of Social Security benefits).

Treating Social Security as a Bond

The academic community and notable leaders like Jack Bogle, Founder of Vanguard, view Social Security as an inflation-linked “bond” in the investor’s extended family portfolio, where the extended portfolio contains non-traditional “assets” like Social Security benefits, defined-benefit pensions, and human capital (i.e., future wages). Social Security benefits are like a Treasury Inflation Protected Securities (TIPS) bond in that cash flows on both are linked to inflation. These members of the academic and professional community argue that an investor should estimate the values of Social Security benefits and other non-traditional assets, include these assets in the extended portfolio, and manage this extended portfolio. Naturally, when Social Security benefits are included as a “bond” in the extended portfolio, the stock allocation is lower than in the traditional financial portfolio that ignores this “bond.” Consequently, investors that adopt this extended-portfolio framework may prefer to increase the stock allocation of their traditional portfolio in recognition of this large Social Security “bond” in their extended portfolio.

Continuing with the same example, let’s evaluate the impact of including Social Security as a “bond” in this extended portfolio. In this first example, this individual’s extended portfolio consists of the Social Security “bond” and traditional financial assets. He does not have a separate defined-benefit plan and he is retired. So his human capital is zero. His Primary Insurance Amount is \$1,500. Suppose he has an average life expectancy of 83 years (based on Social Security actuarial tables).



In Example 1A, he begins Social Security benefits at 62, and their present value is \$283,500 (using 2% cost of living adjustments and a 2% discount rate). The extended family assets (ignoring a home or other property) consist of \$283,500 in Social Security “bonds” plus \$500,000 in traditional financial assets evenly split between stocks and bonds for an asset allocation of the extended family portfolio of 32% stocks. Assuming the 8% annual stock returns and 2% bond returns and his spending of \$36,850 after taxes in real terms each year, at 70 the stock allocation of the extended family portfolio will be 37%. The present value of the Social Security benefits falls more quickly than the assets in the financial portfolio.

In Example 1B, he delays Social Security benefits until 70, and their present value is \$308,880. The extended family assets (ignoring home or other property) consists of \$308,880 in Social Security “bonds” plus \$500,000 in financial assets evenly split between stocks and bonds for an asset allocation of the extended portfolio of 31% stocks. Assuming the 8% annual stock returns and 2% bond returns and his spending of \$36,850 after-taxes in real terms each year, at age 70 the stock allocation of his extended portfolio will be 26%. He spends down much of the financial portfolio from age 62 until age 70. Meanwhile, the present value of Social Security benefits is still \$308,880. So, his stock allocation decreases. This is consistent with the usual advice that the family’s asset allocation should become more conservative as the retiree moves through retirement.

The prior example assumes the retiree (1) does not have a defined benefit (DB) plan and (2) is retired from work and thus has no future wages and salary. Suppose he has a DB plan. Then the present value of the projected DB plan is like a “bond” in his extended portfolio. Everything else the same, his financial portfolio should be more heavily weighted toward stocks than a similar retiree without this DB “bond” in his extended portfolio.

Similarly, for most employees, future wages and salary—that is, their human capital—is like a “bond” in their extended portfolio.¹ Consider two single individuals – Jan and Dave – both in their mid-60s with identical financial portfolios. Jan is retired from work, while Dave will continue to work. The human capital literature argues that, everything else the same, Dave can assume more risk in his financial portfolio than Jan, because his future wages and salary is, in essence, a “bond” in his extended portfolio.

In a different example, consider someone near retirement. If she is willing and able to postpone her retirement from the workforce, then she can assume more risk in her traditional financial portfolio than an otherwise similar person who will retire for certain in, say, two years. If stock returns prove poor before retirement, she can postpone her retirement—that is, she can substitute labor for leisure. For a great example of this human capital literature, read Moshe A. Milevsky’s, *“Are You a Stock or a Bond?”*

¹ For executives whose future salary consists largely of stock options, whose value is tied to the firm’s stock performance, their human capital is largely stock-like.

Consumers may wish to reassess their financial position using this extended-portfolio framework. If they do then they will have the opportunity to reassess their risk tolerance and potentially increase the target stock allocation of their financial portfolio. Table 1 illustrated that a 10% increase in the stock allocation of the traditional financial portfolio could increase the longevity of the portfolio by 4 to 8 years depending upon when they begin Social Security benefits. Note, in the analysis above, Example 1B would suggest the client could assume even more stock exposure. It is very important that consumers understand the added volatility associated with increasing their stock exposure.

Conclusion

The examples in this case study were created based on published research from our firm. A simplified base case explored the impact of three approaches to lengthening the longevity of your financial portfolio: (1) maximizing lifetime Social Security benefits by adjusting the date you start benefits, (2) by tax-efficiently withdrawing funds from your financial portfolio over time, and (3) by increasing the stock allocation of your traditional financial portfolio, which may be justified by considering Social Security benefits as a bond in your extended family portfolio. You may pick and choose among these approaches, and none of these approaches are dependent on timing the market or active money management. Coordination of these three approaches can be complicated and challenging, but integrating these important elements into your retirement plan could result in significantly lengthen the longevity of your financial portfolio, significantly raise your annual spending goal during your lifetime, or both.

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