

Collecting Social Security versus Spending Retirement Savings

by James H. Gilkeson, PhD, CFA

ABSTRACT

Although the Social Security claiming decision (when to first claim benefits) reflects a wide range of personal factors, this paper examines only the case of an individual who will retire (or has already retired) at age 62 and has sufficient resources to meet desired after-tax spending without relying on early claiming of Social Security benefits. The analysis in this paper finds much of the previous literature is biased against early claiming of benefits because it uses inappropriately low discount or earnings rates. Treating the claiming decision as an investment (present value) decision, with proper consideration of historical market returns, inflation, and current mortality rates, men should generally begin to collect what benefits they can, subject to the earnings test, as soon as they can. At higher market return expectations, women are also better off claiming benefits as soon as possible, but at normal or lower returns they are better off waiting to claim at full retirement age.

Vol. 70, No. 4 | pp. ###-##

This issue of the Journal went to press in June 2016.
Copyright © 2016, Society of Financial Service Professionals.
All rights reserved.

Individuals who are eligible for Social Security “old-age insurance” benefits own a claiming or timing option. They can begin to claim benefits as early as age 62, but the amount of the monthly benefit increases for each month claiming of benefits is delayed, up to age 70.¹ There is a large body of research that provides insight on optimal claiming of benefits and what issues might affect the decision. The decision is rightfully considered from two perspectives: return, or what decision will maximize the present value of benefits, and risk, or how to minimize the probability of running out of money. Unfortunately, this body of work does not jointly address two important issues for the subset of individuals who have amassed sufficient retirement savings at age 62 to meet their desired spending needs without relying on early claiming of benefits: the true opportunity cost of delaying benefits and the impact of mortality and gender differences in mortality.

This paper presents a framework for analyzing these issues and concludes that men who desire to and are able to afford early retirement should almost certainly claim Social Security benefits as soon as they reach the age at which they can and earn little enough labor income to pass the earnings test. Women are better off claiming early only when the expected return on their tax-deferred retirement accounts is relatively high. Throughout the remainder of this paper, “benefits” refers to Social Security benefits and

“retirement account” refers to a tax-deferred account whose withdrawals are fully subject to income taxation, such as a 401(k) retirement account, 403(b) plan, or traditional IRA.

Factors that Affect Social Security Benefits

An individual’s Social Security benefits are determined in part by the wages and net earnings from self-employment earned by the individual over his or her working life and the number of quarters of work (up to the highest 35 years of indexed earnings). Benefits increase each year in proportion to changes in the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) so as to maintain their purchasing power. Benefits are also based on the age at which the individual chooses to begin receiving (claim) them. At present, the full retirement age is 66. An individual may claim benefits as early as age 62 and at that age would receive 75 percent of the full retirement benefit. An individual may also claim benefits as late as age 70 and at that age would receive 132 percent of the full retirement benefit.² As one piece of evidence regarding how people respond to this claiming option, in 2014, “Seventy-three percent of...retired workers received reduced benefits because of entitlement prior to full retirement age.” Approximately 60 percent begin to collect benefits as soon as they can, at age 62.³

Benefits claimed prior to full retirement age are also reduced if the individual has earned labor income, but they are not affected by income from rental property, financial assets, retirement accounts, and pensions. In 2016, benefits were reduced by \$1 for every \$2 of labor income over \$15,720 and by \$1 for every \$3 of labor income above \$41,880. This reduction ceases at full retirement age, and the lost benefits, if any, from earlier years are automatically recaptured by an increase in the benefit amount going forward.

The Social Security claiming decision may be closely associated with the retirement decision for many individuals, but it is not the same. People can

and do retire from work and delay claiming benefits for many years. Others, particularly those at lower income levels, claim benefits while continuing to work.

When an Individual Should Claim Benefits

As it is the only decision a beneficiary can make regarding Social Security, [AUTHOR: CONFIRM/MODIFY EDIT.] the question of when a person should claim Social Security benefits has been the subject of much research and writing. Googling “When to claim Social Security” produced approximately 175 million hits in March 2016. The first two pages of these included articles from the Social Security Administration, popular and financial presses (*Forbes*, *Money*, *Kiplinger*, *USA Today*), financial firms (T. Rowe Price, Merrill Lynch, TIAA-CREF, Fidelity), and others (Morningstar, AARP, specialized Web sites). Everyone, it seems, has something to say about this question. As many of these sources and others point out, the claiming decision is complicated by a number of factors that vary substantially between individuals. In general, it is widely agreed that the following characteristics would make it more advantageous or more likely for an individual to claim benefits earlier:

- poor physical health
- family history of fatal illness
- no employer-paid health insurance⁴
- low job satisfaction/high desire to retire
- poor economy/lack of employment opportunities
- strong financial condition/high retirement savings

Men might also have an incentive to claim benefits earlier than women because although they have shorter life expectancy, the aged-based changes in benefits (the discount for early claiming) are the same for both genders.

Research on the claiming decision has often focused on three points in an individual’s life: age 62, the earliest benefits may be claimed; age 66, or full retirement age; and age 70, at which benefits cease to increase. Some researchers have searched for an optimal claiming age, some have studied the risk of run-

ning out of retirement savings (longevity risk), and some have examined both.

Most researchers conclude that individuals should delay claiming until full retirement age.⁵ A smaller group finds benefits to early claiming.⁶

There is substantial variation in decision frameworks examined by researchers. Some focus on when the benefits from later claiming will equal those of early claiming.⁷ Others focus on the present value of benefits for different claiming decisions.⁸ Still others compare the impact of different claiming decisions on how long the individual's retirement portfolio will last before being depleted.⁹

In addition to a myriad of individual factors discussed previously in this section, there are two important issues that should be addressed when analyzing the claiming decision: the opportunity cost of delaying benefits and the impact of mortality (and gender differences in mortality). Consideration of these issues has varied widely across researchers. Some ignore the time value of money entirely.¹⁰ Others posit that the opportunity cost of benefits is very low—the yield on risk-free, inflation-protected securities.¹¹ Of course, a low or zero discount rate implies higher values on later payments and therefore relatively higher value on delayed claiming of benefits.

Mortality plays a large role in retirement planning, and mortality rates differ substantially between women and men, yet a large portion of the literature ignores mortality or considers only average life expectancy.¹² Munnell and Soto provide a close look at mortality but only for focusing on differences in claiming decisions for single and married women.¹³

A Comprehensive Approach

This paper examines the Social Security claiming decision for a particular type of individual, specifically one who is single and:

- is about to turn 62 and wishes to retire or has already retired;
- has the financial means to support desired spending using withdrawals from tax-deferred retire-

ment accounts without relying on early Social Security benefits, if that proves optimal;

- has a predetermined level of desired real (net of inflation) after-tax spending in retirement that is reasonable given available resources; and
- considers three things when making the claiming decision: (1) comparing the present value of expected future benefits across different claiming ages, (2) measuring when the expected future balance in the retirement account will be larger if claiming of benefits is delayed, and (3) determining the impact of different claiming decisions on how long the retirement account will last without running out of money.

The balance in the retirement account could be important to the individual because it protects against longevity risk, it can be passed on to family or gifted to friends or charitable organizations, or both. **[AUTHOR: CONFIRM/MODIFY EDITS.]**

This seems to describe the sort of person likely to have the means, education, and desire to consult with a financial planner. The intention herein is to treat the claiming decision as an investment decision in the context of the individual's full portfolio of assets and full set of investment goals, including gifting.

This analysis also assumes the individual does not earn any labor earnings so that the earnings test for receiving early benefits does not apply, but this assumption doesn't really matter. Labor earnings change only the timing of benefits. If it proves advantageous to claim benefits early, it will still be advantageous to receive a smaller amount of benefits that have been reduced because of the earnings test. If it proves advantageous to wait until full retirement or later, labor income won't matter because the earnings test ceases at full retirement age.

In this paper, the two measures (present value of future benefits and expected future account balance) are calculated using the same assumptions about discount/earnings rates, taxes, and mortality. Results and sensitivity analysis are presented for both men and women because their mortality rates vary substantially.

Collecting Social Security versus Spending Retirement Savings

James H. Gilkeson

A discount or earnings rate is necessary to perform either present value or future account balance analysis. As discussed earlier, recent research has compared cash flows from early, regular, and/or late claiming of benefits by applying an inflation-free, risk-free discount rate (the Treasury Inflation-Protected Securities yield). **[AUTHOR: CONFIRM/MODIFY EDIT.]** This approach is incorrect. Decisions regarding future cash flows should always value those cash flows by their opportunity cost. An opportunity cost is the answer to the question, “What is the next best return available for this investor for this dollar?” In the specific case considered in this paper, a dollar of after-tax spending can be supported by withdrawing money from the tax-deferred retirement account or by Social Security benefits; thus the opportunity cost is the after-tax expected return on the individual’s retirement account, which will depend on financial market return expectations, the individual’s asset allocation, and the individual’s tax rate.

From 1995–2014, the average total monthly/annual return on the S&P 500 index was 0.77 percent/9.59 percent, calculated conservatively as a geometric average.¹⁴ During the same time, the Barclay’s U.S. Aggregate Fixed Income index total return was 0.48 percent/5.93 percent per month/year, and the change in the CPI-W was 0.18 percent/2.23 percent per month/year.¹⁵ **[AUTHOR: CONFIRM/MODIFY EDIT.]** A portfolio continually rebalanced to 50 percent equity and 50 percent fixed income would have had a total monthly/annual return of 0.65 percent/8.07 percent. Therefore, during a volatile period of time that included both the dot-com boom and bust and the Great Recession, a 50-50 retirement account would have bested inflation by 5.71 percent per year on a pretax basis.

Taxes are important because withdrawals from retirement accounts are subject to full federal taxation, but only a portion of Social Security benefits is taxable depending on the level of benefits and the amount of income from labor, rental property, tax-exempt interest, investments, pensions, and retirement account

withdrawals.¹⁶ While the proportion of benefits that is taxable varies according to a relatively complicated formula, in 2016 if an individual received the maximum level of benefits available at age 62 (\$23,784), he or she paid no taxes on benefits if income from other sources was \$13,108 or less. If income from other sources was \$40,600 or more, taxes were paid on 85 percent of benefits.¹⁷ The focus here is on after-tax spending; therefore benefit dollars have a natural tax advantage over withdrawals from retirement accounts.

Mortality is critically important to the claiming decision. Purely from an investments perspective, future benefits should be adjusted by the likelihood of receiving them. This means, for example, when calculating the present value of a benefit to be received at age 70, a man/woman who is currently 62 should adjust the amount of the benefit downward by 12.77 percent/8.43 percent to reflect the probability of dying prior to that time. When measuring the present value of future benefits, the expected cash flow for each month will be calculated as the inflation-adjusted benefit amount multiplied by the probability the individual is alive to receive it. All mortality rates used in this paper come from the Social Security Administration’s Period Life Table, 2010.¹⁸

The account balance issue is sometimes referred to as longevity risk or the likelihood of running out of money, which is affected by market returns, the portfolio’s asset allocation, and mortality. Benefits are guaranteed for life, so the question that should be asked is whether or how likely it is that retiree will be forced to live on a smaller-than-desired amount of spending and whether the decision to claim Social Security benefits earlier adds to this risk in a significant way. For individuals with reasonable levels of savings, longevity risk is primarily controlled by setting an overall spending rate that reflects the size of the retirement account and the level of Social Security benefits. An individual with a \$1 million retirement portfolio can practically eliminate longevity risk by planning to spend only \$10,000 per year or, conversely, almost guarantee depletion of the portfolio before death by planning to spend \$150,000 per year.¹⁹

Collecting Social Security versus Spending Retirement Savings

James H. Gilkeson

The Present Value of Benefits

The base case analysis in this paper assumes an expected nominal return on the retirement portfolio of 8 percent, expected inflation of 3 percent, and an average tax rate of 20 percent. The benefit for the 62-year-old individual is the maximum for 2016 (\$1,982). He or she has enough other income that 85 percent of the benefits are taxable, but the amount of benefits and the proportion that is taxable have no impact on the relative present values for early, full, and late claiming.²⁰ This base case is examined using mortality rates for men and for women. The present values of early claiming (at 62) and late claiming (at 70) are compared to claiming at full retirement age (66).

The results of this analysis, along with various changes in assumptions—higher and lower portfolio returns and tax rates, and the discount/premium that will be in effect after 2021 when the full retirement age increases to 67—are provided in Table 1. The trade-offs are clear. Higher expected portfolio returns advantage early claiming of benefits, because money left in the retirement portfolio rather than withdrawn grows at a faster pace. Higher tax rates disadvantage early claiming because the after-tax discount rate is lower, and lower discount rates make the higher future payments from delayed claiming more valuable. Men are generally better off claiming at 62, except at very low returns or high tax rates, whereas women are generally better off claiming at full retirement age. Delayed claiming of benefits is only advantageous to women when expected returns are very low. Changes that are occurring in the full retirement age make early claiming more beneficial (i.e., less harmful).

Panel C of Table 1 shows the current discount for claiming at age 62 (75 percent of full benefits) or premium at age 70 (132 percent) relative to full retirement at age 66, and compares that to 2021 and beyond, when claiming at 62 will provide only 70 percent of full retirement benefits and delaying until 70 will increase benefits to 124 percent of full retirement amounts.

Retirement Account Breakeven

Because the analysis in the previous section found essentially no benefit to late claiming (at 70), this analysis only compares claiming at 62 and at 66. To examine retirement account balances and the breakeven between early and full claiming, an initial account balance and an after-tax spending rate must be assumed: a \$1,000,000 portfolio and \$6,000 per month are used. This level of spending relative to resources implies that planned spending relies on

TABLE 1

Comparing the Present Value of Benefits at 66 to Claiming at 62 and 70

	Men		Women	
	62	70	62	70
A: Portfolio Return				
6%	-2.4%	-2.7%	-5.2%	0.9%
7%	-0.3%	-4.7%	-3.3%	-1.1%
8% (base case)	1.8%	-6.8%	-1.2%	-3.2%
9%	4.1%	-8.8%	0.9%	-5.2%
10%	6.4%	-10.8%	3.2%	-7.3%
	Men		Women	
	62	70	62	70
B: Average Tax Rate				
10%	4.1%	-8.8%	0.9%	-5.3%
15%	2.9%	-7.8%	-0.2%	-4.2%
20% (base case)	1.8%	-6.8%	-1.2%	-3.2%
25%	0.7%	-5.7%	-2.3%	-2.1%
30%	-0.3%	-4.7%	-3.3%	-1.1%
	Men		Women	
	62	70	62	70
C: Changing Retirement Age				
75/132 at 66 (base case)	1.8%	-6.8%	-1.2%	-3.2%
70/124 at 67 (post-2021)	3.2%	-4.9%	-0.7%	-2.1%

Base case is 8% expected portfolio return, 3% expected inflation, and 20% average tax rate.

Collecting Social Security versus Spending Retirement Savings

James H. Gilkeson

benefits (whether claimed at 62 or 66) as well as on retirement account returns; therefore the example has a built-in longevity risk of depleting the account balance prior to death. **[AUTHOR: CONFIRM/MODIFY EDIT.]**

If benefits are claimed early, withdrawals from the retirement account will be lower at first compared with claiming at a later date, but with later claiming the amount of withdrawals from the retirement account at later dates is smaller. Three questions are asked:

1. After how many months would the expected retirement account balance be higher if the individual delayed benefits until 66 compared with

the expected balance if benefits were claimed at 62? This is essentially a break-even question and will be referred to as such.

2. If the individual claims benefits at 62, after how many months is the retirement account expected to be fully depleted?
3. If the individual waits until 66 to claim benefits, after how many months is the retirement account expected to be fully depleted?

The first question addresses the claiming decision. The second and third jointly address longevity concerns. The results of this analysis are provided in Table 2. The calculations used are discussed in the

TABLE 2

Comparing Retirement Portfolio Breakeven and Longevity for Retirement at 62 and 66

	Months until	Probability of Survival		Account Depleted	
	Breakeven	Men	Women	Claim at 62	Claim at 66
A: Portfolio Return					
6%	238	52.0%	63.8%	244	244
7%	263	44.1%	56.6%	278	280
8% (base case)	298	31.9%	44.6%	331	336
9%	353	16.6%	27.6%	434	449
10%	473	0.7%	2.1%	>480	>480
B: Average Tax Rate					
10%	298	31.9%	44.6%	>480	>480
15%	298	31.9%	44.6%	395	414
20% (base case)	298	31.9%	44.6%	331	336
25%	298	31.9%	44.6%	281	279
30%	298	31.9%	44.6%	241	235
C: Changing Retirement Age					
75/132 at 66 (base case)	298	31.9%	44.6%	331	336
70/124 at 67 (post-2021)	308	28.0%	40.4%	315	316
D: Reduce Spending by 10%					
\$6,000/month (base case)	298	31.9%	44.6%	331	336
\$5,400/month	298	31.9%	44.6%	473	>480

Base case is a \$1,000,000 retirement portfolio, \$6,000 per month after-tax spending, full retirement age benefit of \$2,642 per month, 8% expected portfolio return, 3% expected inflation, 20% tax rate, and 85% of benefits taxable.

Collecting Social Security versus Spending Retirement Savings

James H. Gilkeson

Appendix. To give scale to the break-even point, the probability that a man or woman would survive for the indicated number of months is provided.

The break-even point in the base case is just under 25 years and is positively related to the expected portfolio return. At a low expected portfolio return, the portfolio survives the break-even point by only 6 months. The tax rate has no impact on the break-even point but is negatively associated with portfolio longevity, such that at higher tax rates the portfolio does not survive to the break-even point. The coming increase in the age of full retirement will increase the break-even point but negatively affect portfolio longevity. Reiterating an earlier comment that portfolio longevity is more a question of spending than when benefits are claimed, a 10 percent reduction in planned after-tax spending increases portfolio longevity by about 12 years.

Summary

This paper examines the claiming decision for Social Security benefits from two perspectives: a comparison of the present value of after-tax benefits between early claiming (age 62), claiming at full retirement age (66), and late claiming (age 70) and a comparison of expected retirement account depletion for different claiming decisions (i.e., longevity risk).

The analysis in this paper differs from the existing literature in important ways: It applies an appropriate, market-based opportunity cost in present value analysis, and it incorporates annual mortality rates rather than life expectancy and thereby differentiates between men and women.

The specific situation considered in this paper is an unmarried individual who is retired at age 62 and has sufficient retirement savings to support his or her desired lifestyle without relying on early claiming of Social Security benefits. For this individual, the primary implications of the analysis in this paper are:

- Present value analysis using appropriate expected returns suggests that in many cases men are better off claiming benefits as early as possible.

Women are less likely to benefit from early claiming, unless expected account returns are relatively high.

- The impact of tax rates is ambiguous because at higher tax rates, early claiming of benefits is less advantageous from a present value perspective but more advantageous from a longevity risk perspective.

The claiming decision is complex and will never be one-size-fits-all, so it is especially important for a financial planner to understand that the decision can be examined using a number of decision tools (present value, longevity risk, breakeven) and requires consideration of a myriad of personal, market, and demographic factors. ■

James H. Gilkeson, PhD, CFA, is an associate professor of finance at the University of Central Florida and the director of the Integrated Business program. He earned a PhD from Duke and an MBA from Georgia Tech, and he is an author of more than 30 papers published in academic and professional journals. In 2000, he was awarded the right to use the Chartered Financial Analyst designation. He can be contacted at gilkeson@ucf.edu.

(1) Survivors (widows and widowers) may begin to claim benefits as early as age 60, but the discounts for early claiming are very different than for others and are not considered in this paper.

(2) For those born in 1943–1954, full retirement age is 66. The full retirement age grows by two months for those born in 1955 and continues to grow at that rate until it reaches 67 for those born in 1960 or later. For those born in 1960 and later, benefits may still be claimed as early as age 62, but a 62-year-old beneficiary will receive 70 percent of the full retirement benefit and a 70-year-old beneficiary will receive 124 percent of the full retirement benefit.

(3) “Annual Statistical Supplement to the Social Security Bulletin, 2014,” *Social Security Administration* 2015; accessed at: www.socialsecurity.gov/policy/docs/statcomps/supplement/:2. [AUTHOR: CONFIRM REFERENCE.]

(4) Historically, an issue for early retirees was the inability to acquire health insurance, or the high cost of coverage if available, between early retirement and eligibility for Medicare at age 65. With the advent of the Affordable Care Act, these concerns have been reduced, although an employee whose employer pays a substantial portion of health insurance costs must consider this “lost income” in the retirement decision.

(5) William Meyer and William Reichenstein, “How the Social Se-

Collecting Social Security versus Spending Retirement Savings

James H. Gilkeson

curity Claiming Decision Affects Portfolio Longevity,” *Journal of Financial Planning* 25, No. 4 (2012): 53–60; and Clarence C. Rose, “The Return on Investment for Delaying Social Security Beyond Age 62,” *Journal of Financial Planning* 28, No. 4 (2015): 50–58. Also, John B. Shoven and Sita Nataraj Slanov, “Recent Changes in the Gains from Delaying Social Security,” *Journal of Financial Planning* 27, No. 3 (2014): 32–41. **[AUTHOR: MEYER AND REICHENSTEIN 2012 IS INCLUDED TWICE IN THIS CITATION. INCLUDE THEM ONCE, OR INCLUDE 2012 AND 2010 PAPERS?]**

(6) Michael Tucker, “Optimal Retirement Age under Normal and Negative Market Conditions Considering Social Security and Private Savings,” *Journal of Financial Planning* 22, No. 7 (2009): 42–49.

(7) Doug Lemons, “When to Start Collecting Social Security Benefits: A Break-Even Analysis,” *Journal of Financial Planning* 25, No. 1 (2012): 52–60; and Clarence C. Rose and L. Keith Larimore, “Social Security Benefit Considerations in Early Retirement,” *Journal of Financial Planning* 14, No. 6 (2001): 116–121.

(8) William Meyer and William Reichenstein, “Social Security: When to Start Benefits and How to Minimize Longevity Risk,” *Journal of Financial Planning* 23, No. 3 (2010): 49–59; Shoven and Slavov (2014), endnote 5; and Tucker (2009), endnote 6.

(9) Meyer and Reichenstein (2012), endnote 5; and Meyer and Reichenstein (2010), endnote 6.

(10) Rose and Larimore (2001), endnote 7; and Lemons (2012), endnote 7.

(11) Meyer and Reichenstein (2012), endnote 5; and Shoven and Slavov (2014), endnote 5.

(12) Meyer and Reichenstein (2010), endnote 6; Robert Muskian, “The Effect of Retirement under Social Security at Age 62,” *Journal of Financial Planning* 17, No. 1 (2004): 64–71; and Rose (2015), endnote 7. Also, Lemons (2012), endnote 7; and Rose and Larimore (2001), endnote 7.

(13) Alicia H. Munnell and Mauricio Soto, “When Should Women Claim Social Security Benefits?” *Journal of Financial Planning* 20, No. 6 (2007): 58–65.

(14) **[AUTHOR: PLEASE PROVIDE CITATION FOR THESE DATA.]**

(15) **[AUTHOR: PLEASE PROVIDE CITATION FOR THESE DATA.]**

(16) State income taxes are not considered in this paper. According to information from the Tax Foundation **[AUTHOR: PLEASE PROVIDE CITATION FOR THIS INFORMATION.]**, nine states have no income tax, six tax Social Security benefits to the same extent they are subject to federal taxation, 27 exempt benefits from taxation, and the remaining eight have different exemptions than for federal taxes.

Kamala Raghavan, “Survey of Total State Taxes and Planning Implications for Retirees,” *Journal of Financial Planning* 22, No. 1 (2009): 56–63 (provides a comprehensive overview of the impact of state-level taxes on retirement across states).

(17) Income from rental property, interest, dividends, and payments from pension funds is not considered for the earnings test for Social Security benefits but is considered when determining the proportion of benefits subject to federal taxation.

According to the Social Security Administration, the taxable portion of benefits depends on the individual’s combined income, which is adjusted gross income plus nontaxable interest plus half of Social Security benefits. Generally, if the combined income is between \$25,000 and \$34,000, up to 50 percent of benefits are taxable, and if the combined income exceeds \$34,000, up to 85 percent of benefits are taxable.

(18) “Actuarial Life Table,” *Social Security Administration* 2015; accessed at: www.ssa.gov/oact/STATS/table4c6.html.

(19) Retirement spending can almost certainly be adjusted to reflect periods of unusually low (or high) investment returns. This issue could be explored using simulation analysis but would require an assumption of a specific spending rule related to the portfolio balance and life expectancy. A variety of rules of thumb are available, the most common being the 4 percent rule.

(20) Early, full, and late benefits are based on the same amount (with a multiplier of 0.75, 1, or 1.32 applied, respectively), and all benefits are multiplied by one minus the product of the tax rate and the proportion that is taxable. Therefore the amount of benefits and the proportion that are taxable have no impact on the relative present values.

Collecting Social Security versus Spending Retirement Savings

James H. Gilkeson

APPENDIX

In this appendix, an example of the break-even calculations is provided. This example is for the base case in which the 62-year-old individual has a \$1,000,000 retirement portfolio balance that is expected to earn 8 percent per year. The individual desires \$6,000 in real, after-tax spending; is eligible for the maximum (2016) benefit of \$2,642 at full retirement; has a tax rate of 20 percent; and will pay taxes on 85 percent of benefits. Inflation is expected to be 3 percent per year.

In the first month, if the individual has claimed early benefits, \$1,982 is received (= \$2,642 × 75%). After tax, this provides \$1,645 to meet spending needs (= \$1,982 × [1 - (0.20 × 0.85)]). The remaining \$4,355 requires a withdrawal from the retirement account of \$5,444 [= \$4,355 ÷ (1 - 0.20)]. The expected account balance grew at the expected monthly return of 0.6434 percent [= (1 + 0.08)^(1/12) - 1] leaving a retirement account balance after the withdrawal of \$1,000,990 (= \$1,000,000 × 1.006434 - \$5,444).

If the individual has not claimed benefits early, the after-tax spending must be covered by an account withdrawal of \$7,500 [= \$6,000 ÷ (1 - 0.20)], leaving an account balance of \$998,934 (= \$1,000,000 × 1.006434 - \$7,500).

In each month thereafter, the Social Security benefit and the after-tax spending requirement increase at the monthly inflation rate of 0.2466 percent [= (1 + 0.03)^(1/12) - 1]. So, in the second month, the spending requirement increases to \$6,015 and the benefit for early retirement increases to \$1,854.

The results of these calculations for the first 5 months, the months surrounding full retirement age, and the break-even point (at 298 months) are provided in Table 3. Just before full retirement age (66) is reached (month 48), the retirement portfolio is expected to be about \$120,000 higher if benefits were claimed at age 62; however, the benefit in month 49 is \$744 higher if benefits were claimed later, and that difference grows with inflation. In succeeding months, the retirement portfolio will decrease more quickly under earlier claiming.

Looking forward another 20-plus years, the difference in the retirement account balance is very small in month 297 and becomes negative in month 298. This is the break-even point. As this example is carried forward, it is projected that the retirement account would be completely exhausted in month 331 for early claiming and in month 336 for claiming at full retirement age.

TABLE 3
Example of Break-Even Calculations

Month	Spend	Claim at 62			Claim at 66		
		Benefit	W/D	Balance	Benefit	W/D	Balance
0				\$1,000,000			\$1,000,000
1	\$6,000	\$1,982	\$5,444	1,000,990	\$0	\$7,500	998,934
2	6,015	1,986	5,458	1,001,973	0	7,518	997,843
3	6,030	1,991	5,471	1,002,948	0	7,537	996,726
4	6,045	1,996	5,485	1,003,917	0	7,556	995,583
5	6,059	2,001	5,498	1,004,878	0	7,574	994,415
48	6,736	2,225	6,112	1,038,071	0	8,421	916,321
49	6,753	2,230	6,127	1,038,622	2,974	5,356	916,861
50	6,770	2,236	6,143	1,039,162	2,981	5,369	917,390
51	6,786	2,241	6,158	1,039,691	2,988	5,383	917,910
52	6,803	2,247	6,173	1,040,207	2,996	5,396	918,420
296	12,409	4,098	11,259	360,896	5,464	9,842	359,203
297	12,439	4,108	11,287	351,930	5,478	9,866	351,648
298	12,470	4,118	11,315	342,880	5,491	9,891	344,020
299	12,501	4,128	11,343	333,743	5,505	9,915	336,318
300	12,532	4,139	11,371	324,519	5,518	9,940	328,542