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Social Security Decisions: Should Recipients Opt for Early Payments?

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Key Takeaways:

Excel templates allow for a comparison of receiving lower monthly social security benefits at an earlier age versus waiting for higher monthly benefits at a later age.

A “reserve rule of 72” metric allows for adjustments on comparing the different social security payment structures based on life expectancy.

Other adjustments for comparing the different social security structures can made for those who work while receiving benefits.

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Two Excel-based templates are developed to help determine when it is optimal for starting to receive monthly social security benefits. The decision information accounts for uncertain life expectancy by implementing a rate of return that should be set, at a minimum, to the individual's expected return on investments or based on a metric provided in the article that considers potential life expectancy.

Determining the best time to start receiving monthly social security payments is not a readily obvious decision because life expectancy measures are not a guaranteed outcome. The decision is a matter of comparing receiving a lower monthly payment sooner versus a higher monthly payment starting later. If you live long enough, the latter may be more beneficial than the former, but one needs to consider some measure of life expectancy risk and possible rates of return in making this determination.

An Excel template is developed to help make the above decision. The template determines how many years one needs to live if selecting to delay their monthly social security payment in order to offset the benefit of starting with a lower monthly payment earlier. To introduce life expectancy risk into the criteria, a rate of return is applied and some suggestions are also provided in order to determine this parameter.

Another template is provided to determine how the monthly social security benefit is adjusted for individuals working immediately prior to your eligible full retirement age. This situation matters because if you earn too much money, the entire monthly social security benefit is initially eliminated and by default, you will wait before starting to receive the monthly benefit. If you choose to work when you are eligible for full social security benefits, a portion of your social security benefit may become taxable (up to 85% can be taxable).

The first section provides the template and associated Excel formulas for deciding how long it takes for receiving higher monthly social security payments later to offset the benefit of receiving lower monthly social security payments sooner. The Excel template provided in the second section determines how much a monthly social security payment adjusts if you are working prior to eligibility for full retirement benefits. The template

demonstrates that a reduction in the monthly social security benefit will lower the time it takes to break-even with waiting for a higher monthly payment starting later.

The third section discusses the tax implications of working when receiving social security benefits and how Medicare premiums adjust based on income for which monthly social security payments are included. This will warrant monitoring as income approaches certain threshold values. The fourth section concludes the paper.

MONTHLY SOCIAL SECURITY RETIREMENT AGE MATRIX

In Table 1, social security benefits between the age of 62 and 70 are displayed based on birth year (information from U.S. Social Security, www.ssa.gov/ProgData/ar_drc.html).

Table 1: Social Security Benefit Multiplier (%) based on Age and Year of Birth

Birth Year:	Age: 62	Age: 63	Age: 64	Age: 65	Age: 66	Age: 67	Age: 68	Age: 69	Age: 70
1924	80.00	86.67	93.33	100.00	103.00	106.00	109.00	112.00	115.00
1925	80.00	86.67	93.33	100.00	103.50	107.00	110.50	114.00	117.50
1926	80.00	86.67	93.33	100.00	103.50	107.00	110.50	114.00	117.50
1927	80.00	86.67	93.33	100.00	104.00	108.00	112.00	116.00	120.00
1928	80.00	86.67	93.33	100.00	104.00	108.00	112.00	116.00	120.00
1929	80.00	86.67	93.33	100.00	104.50	109.00	113.50	118.00	122.50
1930	80.00	86.67	93.33	100.00	104.50	109.00	113.50	118.00	122.50
1931	80.00	86.67	93.33	100.00	105.00	110.00	115.00	120.00	125.00
1932	80.00	86.67	93.33	100.00	105.00	110.00	115.00	120.00	125.00
1933	80.00	86.67	93.33	100.00	105.50	111.00	116.50	122.00	127.50
1934	80.00	86.67	93.33	100.00	105.50	111.00	116.50	122.00	127.50
1935	80.00	86.67	93.33	100.00	106.00	112.00	118.00	124.00	130.00
1936	80.00	86.67	93.33	100.00	106.00	112.00	118.00	124.00	130.00
1937	80.00	86.67	93.33	100.00	106.50	113.00	119.50	126.00	132.50
1938	79.17	85.56	92.22	98.89	105.42	111.92	118.42	124.92	131.42
1939	78.33	84.44	91.11	97.78	104.67	111.67	118.67	125.67	132.67
1940	77.50	83.33	90.00	96.67	103.50	110.50	117.50	124.50	131.50
1941	76.67	82.22	88.89	95.56	102.50	110.00	117.50	125.00	132.50
1942	75.83	81.11	87.78	94.44	101.25	108.75	116.25	123.75	131.25
1943	75.00	80.00	86.67	93.33	100.00	108.00	116.00	124.00	132.00
1944	75.00	80.00	86.67	93.33	100.00	108.00	116.00	124.00	132.00
1945	75.00	80.00	86.67	93.33	100.00	108.00	116.00	124.00	132.00
1946	75.00	80.00	86.67	93.33	100.00	108.00	116.00	124.00	132.00
1947	75.00	80.00	86.67	93.33	100.00	108.00	116.00	124.00	132.00
1948	75.00	80.00	86.67	93.33	100.00	108.00	116.00	124.00	132.00
1949	75.00	80.00	86.67	93.33	100.00	108.00	116.00	124.00	132.00
1950	75.00	80.00	86.67	93.33	100.00	108.00	116.00	124.00	132.00

1951	75.00	80.00	86.67	93.33	100.00	108.00	116.00	124.00	132.00
1952	75.00	80.00	86.67	93.33	100.00	108.00	116.00	124.00	132.00
1953	75.00	80.00	86.67	93.33	100.00	108.00	116.00	124.00	132.00
1954	75.00	80.00	86.67	93.33	100.00	108.00	116.00	124.00	132.00
1955	74.17	79.17	85.56	92.22	98.89	106.67	114.67	122.67	130.67
1956	73.33	78.33	84.78	91.11	97.78	105.33	113.33	121.33	129.33
1957	72.50	77.50	83.33	90.00	96.67	104.00	112.00	120.00	128.00
1958	71.67	76.67	82.22	88.89	95.56	102.67	110.67	118.67	126.67
1959	70.83	75.83	81.11	87.78	94.44	101.33	109.33	117.33	125.33
1960	70.00	75.00	80.00	86.67	93.33	100.00	108.00	116.00	124.00

One can see from Table 1 that full monthly social security benefits do not necessarily start at age 65. In fact, if you are born in 1960 or later, full social security monthly benefits are not available until age 67.

Table 1 is embedded into an Excel spreadsheet (Table 2) to help generate a "breakeven retirement age matrix" to assess what age one needs to reach to breakeven with receiving a lower monthly social security payment at an earlier point in time (e.g. start receiving lower monthly payments at age 62 versus receiving larger monthly payments at age 63 through age 70). To make this calculation more realistic, a rate of return is applied to the breakeven calculation. This rate of return allows an individual who does not have immediate need of the money to invest until the funds are required. Alternatively, this rate can also be adjusted to considered life expectancy when deferring the receipt of social security payments. Individuals that estimate shorter life expectancies will require a greater rate of return to defer benefits. In comparison, individuals who believe they have a long life expectancy post-retirement will be willing to accept relatively lower rate of return.

Table 2: Breakeven Retirement Age Matrix in Excel

	A	B	C	D	E	F	G	H	I	J
1	BIRH DATE:	12/1/1960		AGE:	61					
2	RATE OF RETURN:	3.60%								
3										
4	RETIREMENT AGE MATRIX:									
5		AGE AT TIME OF FIRST PAYMENT								
6	AGE:	62	63	64	65	66	67	68	69	70
7	62		82.98	84.52	83.10	83.34	84.11	84.30	84.90	85.73
8	63			86.15	83.15	83.44	84.34	84.50	85.15	86.03

9	64				81.09	82.49	83.91	84.22	85.01	86.01
10	65					83.97	85.43	85.28	85.98	86.99
11	66						86.98	85.89	86.60	87.69
12	67							85.01	86.45	87.90
13	68								87.96	89.46
14	69									91.05
15		70.00	75.00	80.00	86.67	93.33	100.00	108.00	116.00	124.00
16	Adjustment:	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
17										
18	**REVERSE RULE of 72**									
19	Expected Years:	20								
20	RATE of RETURN:	3.60%								
21										

Table 1 is not shown, but is located within the spreadsheet in cells O1:X38

Cell E1: =IF((MONTH(TODAY())*100 + DAY(TODAY())) >= (MONTH(B1)*100 + DAY(B1)), YEAR(TODAY()) – YEAR(B1), YEAR(TODAY()) – YEAR(B1) – 1)
Although lengthy, this cell identifies how old you are. The TODAY() function identifies the current day and will adjust every time the spreadsheet is opened.

Cell C7: =IF(FV($B$2/12,(C$6 – $B$6)*12, –$B$15) >= (C$15 – $B$15)/($B$2/12), “NO B/E”, NPER($B$2/12, –(C$15 – $B$15), FV($B$2/12, (C$6 – $B$6)*12, –$B$15))/12 + C$6)
The “IF” statement checks to determine if the money collected from receiving payments at age 62 is greater than receiving payments at a later age in perpetuity. If true, there is no breakeven age at which the earlier amounts of money can be equivalently recovered by later higher payments, i.e. “NO B/E.” If false, a breakeven age is computed using the NPER() function with the FV() function.
Copy this cell to cells D7 through J7.

Cell D8: =IF(FV($B$2/12,(D$6 – $C$6)*12, –$C$15) >= (D$15 – $C$15)/($B$2/12), “NO B/E”, NPER($B$2/12, –(D$15 – $C$15), FV($B$2/12, (D$6 – $C$6)*12, –$C$15))/12 + D$6)
The “IF” statement checks to determine if the money collected from receiving payments at age 63 is greater than receiving payments at a later age in perpetuity. If true, there is no breakeven age at which the earlier amounts of money can be equivalently recovered by later higher payments, i.e. “NO B/E.” If false, a breakeven age is computed using the NPER() function with the FV() function.
Copy this cell to cells E8 through J8.

Cell E9: =IF(FV($B$2/12,(E$6 – $D$6)*12, –$D$15) >= (E$15 – $D$15)/($B$2/12), “NO B/E”, NPER($B$2/12, –(E$15 – $D$15), FV($B$2/12, (E$6 – $D$6)*12, –$D$15))/12 + E$6)
The “IF” statement checks to determine if the money collected from receiving payments at age 64 is greater than receiving payments at a later age in perpetuity. If true, there is no breakeven age at which the earlier amounts of money can be equivalently recovered by later higher payments, i.e. “NO B/E.” If false, a breakeven age is computed using the NPER() function with the FV() function.
Copy this cell to cells F9 through J9.

Cell F10: =IF(FV($B$2/12,(F$6 – $E$6)*12, –$E$15) >= (F$15 – $E$15)/($B$2/12), “NO B/E”, NPER($B$2/12, –(F$15 – $E$15), FV($B$2/12, (F$6 – $E$6)*12, –$E$15))/12 + F$6)
The “IF” statement checks to determine if the money collected from receiving payments at age 65 is greater than receiving payments at a later age in perpetuity. If true, there is no breakeven age at which the earlier amounts of money can be equivalently recovered by later higher payments, i.e. “NO B/E.” If false, a breakeven age is computed using the NPER() function with the FV() function.
Copy this cell to cells G10 through J10.

Cell G11: =IF(FV($B$2/12,(G$6 – $F$6)*12, –$F$15) >= (G$15 – $F$15)/($B$2/12), “NO B/E”, NPER($B$2/12, –(G$15 – $F$15), FV($B$2/12, (G$6 – $F$6)*12, –$F$15))/12 + G$6)
The “IF” statement checks to determine if the money collected from receiving payments at age 66 is greater than receiving payments at a later age in perpetuity. If true, there is no breakeven age at which the earlier amounts of money can be equivalently recovered by later higher payments, i.e. “NO B/E.” If false, a breakeven age is computed using the NPER() function with the FV() function.
Copy this cell to cells H11 through J11.

Cell H12: =IF(FV($B$2/12,(H$6 – $G$6)*12, –$G$15) >= (H$15 – $G$15)/($B$2/12), “NO B/E”, NPER($B$2/12, –(H$15 – $G$15), FV($B$2/12, (H$6 – $G$6)*12, –$G$15))/12 + H$6)
The “IF” statement checks to determine if the money collected from receiving payments at age 67 is greater than receiving payments at a later age in perpetuity. If true, there is no breakeven age at which the earlier amounts of money can be equivalently recovered by later higher payments, i.e. “NO B/E.” If false, a breakeven age is computed using the NPER() function with the FV() function.
Copy this cell to cells I12 through J12.

Cell I13: =IF(FV($B$2/12,(I$6 – $H$6)*12, –$H$15) >= (I$15 – $H$15)/($B$2/12), “NO B/E”, NPER($B$2/12, –(I$15 – $H$15), FV($B$2/12, (I$6 – $H$6)*12, –$H$15))/12 + I$6)
The “IF” statement checks to determine if the money collected from receiving payments at age 68 is greater than receiving payments at a later age in perpetuity. If true, there is no breakeven age at which the earlier amounts of money can be equivalently recovered by later higher payments, i.e. “NO B/E.” If false, a breakeven age is computed using the NPER() function with the FV() function.
Copy this cell to cell J13.

Cell J14: =IF(FV($B$2/12,(J$6 – $I$6)*12, –$I$15) >= (J$15 – $I$15)/($B$2/12), “NO B/E”, NPER($B$2/12, –(J$15 – $I$15), FV($B$2/12, (J$6 – $I$6)*12, –$I$15))/12 + J$6)
The “IF” statement checks to determine if the money collected from receiving payments at age 69 is greater than receiving payments at age 70 in perpetuity. If true, there is no breakeven age at which the earlier amounts of money can be equivalently recovered by later higher payments, i.e. “NO B/E.” If false, a breakeven age is computed using the NPER() function with the FV() function.

Cell B15: =(YEAR($B$1) >= 1960, VLOOKUP(1960, $O$2:$X$38, 2, FALSE), VLOOKUP(YEAR($B$1), O$2:$X$38, 2, FALSE))*B16
The code will provide the appropriate adjustment to the monthly social security payment based on age from Table 1 within the Excel spreadsheet.

Cell C15: =(YEAR($B$1) >= 1960, VLOOKUP(1960, $O$2:$X$38, 3, FALSE), VLOOKUP(YEAR($B$1), O$2:$X$38, 3, FALSE))*C16
The code will provide the appropriate adjustment to the monthly social security payment based on age from Table 1 within the Excel spreadsheet.

Cell D15: =(YEAR($B$1) >= 1960, VLOOKUP(1960, $O$2:$X$38, 4, FALSE), VLOOKUP(YEAR($B$1), O$2:$X$38, 4, FALSE))*D16
The code will provide the appropriate adjustment to the monthly social security payment based on age from Table 1 within the Excel spreadsheet.

Cell E15: =(YEAR($B$1) >= 1960, VLOOKUP(1960, $O$2:$X$38, 5, FALSE), VLOOKUP(YEAR($B$1), O$2:$X$38, 5, FALSE))*E16
The code will provide the appropriate adjustment to the monthly social security payment based on age from Table 1 within the Excel spreadsheet.

Cell F15: =(YEAR($B$1) >= 1960, VLOOKUP(1960, $O$2:$X$38, 6, FALSE), VLOOKUP(YEAR($B$1), O$2:$X$38, 6, FALSE))*F16
The code will provide the appropriate adjustment to the monthly social security payment based on age from Table 1 within the Excel spreadsheet.

Cell G15: =(YEAR($B$1) >= 1960, VLOOKUP(1960, $O$2:$X$38, 7, FALSE), VLOOKUP(YEAR($B$1), O$2:$X$38, 7, FALSE))*G16
The code will provide the appropriate adjustment to the monthly social security payment based on age from Table 1 within the Excel spreadsheet.

Cell H15: =(YEAR($B$1) >= 1960, VLOOKUP(1960, $O$2:$X$38, 8, FALSE), VLOOKUP(YEAR($B$1), O$2:$X$38, 8, FALSE))*H16
The code will provide the appropriate adjustment to the monthly social security payment based on age from Table 1 within the Excel spreadsheet.

Cell I15: =(YEAR($B$1) >= 1960, VLOOKUP(1960, $O$2:$X$38, 9, FALSE), VLOOKUP(YEAR($B$1), O$2:$X$38, 9, FALSE))*I16
The code will provide the appropriate adjustment to the monthly social security payment based on age from Table 1 within the Excel spreadsheet.

Cell J15: =(YEAR($B$1) >= 1960, VLOOKUP(1960, $O$2:$X$38, 10, FALSE), VLOOKUP(YEAR($B$1), O$2:$X$38, 10, FALSE))*J16
The code will provide the appropriate adjustment to the monthly social security payment based on age from Table 1 within the Excel spreadsheet.

The following code will be explained later in the paper:

Cell B20: =72/(B19*100)

A version of this file can be downloaded from: https://scholarship.richmond.edu/finance-faculty-publications/XX/

Based on the rate of return, a person born on 12/1/1960 can decide, based on life expectancy, whether to start receiving monthly social security benefits at age 62 or to wait to receive a higher monthly payment at a later age. Looking at the row within the "retirement age matrix" associated with age 62 in the "AGE:" column, the person will need to live to age 82.98 (in the "63" column) to "breakeven" with receiving higher monthly social security payments at age 63 versus receiving lower monthly social security payments starting at age 62. Similarly, waiting until age 65 to receive benefits has a "breakeven" age of 83.10 years.

As one ages, the matrix makes comparisons from ages 62 through 70 in regard to the breakeven age associated with waiting longer before receiving higher money social security payments. Clearly, one has to make a judgement about life expectancy, however, life expectancy risk can be incorporated into the rate of return input.

At a minimum, the rate of return should be set to the amount of return your investments tend to generate. If the rate of return is high, say approximately 8% APR, you are not likely to live long enough to "breakeven" with delaying receiving social security monthly payments after the age of 62 assuming you are actually retiring. This makes sense, if you can generate a significant return with your investments, receiving smaller amounts that can be invested sooner is better than receiving larger amounts later. This conclusion

assumes that the retiree does not have immediate need of the funds as perhaps their sole source of income.

As mentioned above, another consideration for the rate of return is life expectancy risk. Certain health conditions have predictable outcomes over a set period of time and one will need to plan accordingly. Aside from assessing your actual ability to generate return on your investments, it is suggested here to use a variation of the "Rule of 72." The Rule of 72 is an approximation for finding how many years (X) it takes to double the value of an investment at a set interest rate (k):

$$X = 72 \div (k \times 100) \quad (1)$$

For example, earning 8.00% APR on an investment will double the investment in approximately nine years (i.e. $9 = 72 \div (8\% \times 100)$).

The suggestion here is a "Reverse Rule of 72" in which predicted longevity (X) generates a rate of return (k) that doubles an investment in the given amount of time (cell B20 in Table 2).

$$k = 72 \div (X \times 100) \quad (2)$$

This is an arbitrary rule, but it does seem to make a reasonable adjustment for life expectancy risk. An individual with a greater life expectancy will be willing to receive a lower rate of return relative to an individual who estimates they have only a short time to live. Using this Reverse Rule of 72, if you expect to live 20 years, the Reverse Rule of 72 generates a rate of 3.60% APR (i.e. $3.60\% = 72 \div (20 \times 100)$). This rate of return (applied in Table 2) can be used by the individual in decisions regarding when to start social security payments. This ad hoc measure includes an inherent adjustment based on their perceived life expectancy.

If you have a condition that sets life expectancy at 5 years, the Reverse Rule of 72 generates a rate of 14.40% (i.e. 14.40% = 72 ÷ (5 × 100)). At this high rate, which takes into consideration significant life expectancy risk, the retirement age matrix clearly indicates that monthly social security payments should be started at age 62.

ADJUSTMENT FOR WORKING WHEN APPROACHING FULL RETIREMENT AGE

Another variable to consider is if you intend to work while collecting monthly social security benefits. Once you reach full retirement age, the benefit is unaltered, but may become taxable (up to 85% of the benefit), based on total income.

Prior to full retirement age, social security benefits are reduced based on your income. In the Breakeven Retirement Age Matrix (Table 2), there is a row titled "Adjustment" which are all set to 1.000. This row is available for when someone is working while being 62 or older to "adjust" their social security benefit because they are working.

The rules for working prior to attaining full retirement age while receiving monthly social security change every year. In 2022, earning above $19,560 will reduce the monthly payment ($1 reduction of annual benefit for every $2 earned over the limit). If you retire part way through the year, earning above $51,960 while working will reduce the monthly payment ($1 reduction of annual benefit for every $3 earned over the limit). See Social Security Document: www.ssa.gov/oact/cola/rtea.html. Table 3 provides a template for generating this calculation.

Table 3: Adjustment for Working While Receiving Social Security Payments Prior to Full Retirement Age

	A	B	C
1	**Monthly Social Security Received:**	$1,000.00	
2			
3	**Not working and younger than full retirement age:**		
4	IRS Annual Limit:	$19,560.00	
5			
6	Your annual earnings:	$26,000.00	
7	Adjusted Monthly Social Security:	$731.67	
8	Adjusted Annual Social Security:	$8,780.00	
9	Adjusted Annual Social Security (%):	73.17%	
10			
11	Earnings Limit:	$43,560.00	
12			
13	**Working part of year until full retirement age:**		
14	IRS Annual Limit:	$51,960.00	
15			
16	Months working:	7	
17	Earnings until full retirement:	$55,000.00	
18	Adjusted Monthly Social Security:	$855.24	
19	Adjusted Annual Social Security:	$10,986.67	
20	Adjusted Annual Social Security (%):	91.56%	
21			
22	Earnings Limit:	$72,960.00	

Cell B1: this information can be estimated at www.ssa.gov/benefits/retirement.estimator.html

Cell B7: =IF(B6 >= B11, 0, IF(B6 <= B4, B1, B1 – (B6 – B4)/2/12))
The first IF statement considers if you earn too much to receive a monthly payment and the second IF statement adjusts the monthly payment based on the IRS annual limit assuming you will receive a monthly payment.

Cell B8: = B7*12
Calculates the annual benefit

Cell B9: = B8 / (12*B1)
Calculates the proportion of what you received annually versus the full annual benefit.
Based on your age, this value is what should be entered into the "Adjustment" row in Exhibit 1

Cell B11: =B4 + 2*12*B1
Calculates the threshold value for an annual salary that will not receive any social security benefit.

Cell B18: =IF(B16 <= 12, IF(B17 >= B22, 0, IF(B17 <= B14, B1, B1 – (B17 – B14)/3/B16)),"ERROR")
The first IF statement prevents entering a value greater than 12 for "months working." The second IF statement considers if you earn too much to receive a monthly payment and the third IF statement adjusts the monthly payment based on the IRS annual limit assuming you will receive a monthly payment.

Cell B19: =B18*B16 + B1*(12 – B16)
Calculates the annual benefit

Cell B20: = B19 / (12*B1)
Calculates the proportion of what you received annually versus the full annual benefit.
Based on your age, this value is what should be entered into the "Adjustment" row in Exhibit 1

Cell B22: =IF(B16 <= 12, B14 + 3*B1*B16, "ERROR")
The IF statement prevents entering a value greater than 12 for "months working." Calculates the threshold value for an annual salary that will not receive any social security benefit.

A version of this file can be downloaded from: https://scholarship.richmond.edu/finance-faculty-publications/XX/

The calculation in Table 3 applies to Table 2 through the "Adjustment" row (row 16 in Table 2). For example, if you intend to be working while collecting a monthly social security payment at age 62, assuming a $1,000 monthly payment and annual earnings of $26,000 (top portion of Table 3), your annual benefit will be 73.17% of the maximum annual benefit. Entering this value into cell B16 in Table 2 significantly changes the breakeven calculation applying to an age of 62.

Table 4: Breakeven Retirement Age Matrix in Excel Adjusted

	A	B	C	D	E	F	G	H	I	J
1	BIRH DATE:	12/1/1960		AGE:	61					
2	RATE OF RETURN:	3.60%								
3										
4	RETIREMENT AGE MATRIX:									
5		AGE AT TIME OF FIRST PAYMENT								
6	CURRENT AGE:	62	63	64	65	66	67	68	69	70
7	62		65.28	67.96	70.00	71.80	73.44	74.81	76.13	77.43
8	63			86.15	83.15	83.44	84.34	84.50	85.15	86.03
9	64				81.09	82.49	83.91	84.22	85.01	86.01
10	65					83.97	85.43	85.28	85.98	86.99
11	66						86.98	85.89	86.60	87.69
12	67							85.01	86.45	87.90
13	68								87.96	89.46
14	69									91.05
15		51.22	75.00	80.00	86.67	93.33	100.00	108.00	116.00	124.00
16	Adjustment:	0.7317	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
17										
18	**REVERSE RULE of 72**									
19	Expected Years:	20								
20	RATE of RETURN:	3.60%								
21										

Because the benefit at age 62 becomes so significantly reduced, waiting until age 67 for full benefits will only require living until age 73.44 to break even relative to starting receiving benefits at age 62. This example demonstrates how the two templates in Tables 2 and 3 interact when planning for receiving social security benefits.

Before leaving this section, it should be noted that the above analysis is focused on an individual's situation without considering a spouse. If the individual is married, there are possible consequences for declaring social security early in regard to a spouse's social

security benefit which needs to be considered and is not addressed in this analysis. Further, because breakeven analysis is applied in this presentation, the benefit of social security providing "longevity insurance" (i.e. a cost of living adjusted monthly payment guaranteed for life which has a particular benefit should someone live a significantly long time) is not considered in the analysis. Consequently, the analysis provided should be considered as only part of a more complicated process for making social security decisions.

TAXATION OF SOCIAL SECURITY BENEFITS AND MEDICARE PREMIUMS

Following IRS Publication 554 and assuming full retirement age, your taxable adjusted earnings include 50% of your annual social security benefit. The adjusted earnings can be subject to taxation if in excess of the standard deduction. However, in 2020, if the adjusted earnings are above $34,000 ($44,000 if married and filing jointly), up to 85% of the annual social security benefit may be taxable. Note: also see "Income Taxes and Your Social Security," www.ssa/benefits/retirement/planner/taxes.html.

For 2022, based the Medicare Fact Sheet (www.cms.gov/newsroom/fact-sheets/2022-medicare-parts-b-premiums-and-dedcutibles2022-medicare-part-d-income-realted-monthly-adjustment) provides a schedule for premiums for Part B and Part D based on income levels (see Tables 5 and 6).

Table 5: Medicare Part B Monthly Premiums Based on Income (Annual Modified Adjusted Gross Income)

Individual:	Married Filing Jointly:	Monthly Premium:
≤ $91,000	≤ $182,000	$170.10
$91,000 < and ≤ $114,000	$182,000 < and ≤ $228,000	$238.10
$114,000 < and ≤ $142,000	$228,000 < and ≤ $284,000	$340.20
$142,000 < and ≤ $170,000	$284,000 < and ≤ $340,000	$442.30
$170,000 < and ≤ $500,000	$340,000 < and ≤ $750,000	$544.30
> $500,000	> $750,000	$578.30

Table 6: Medicare Part D Monthly Premiums Based on Income (Annual Modified Adjusted Gross Income)

Individual:	Married Filing Jointly:	Monthly Premium:
≤ $91,000	≤ $182,000	$0.10
$91,000 < and ≤ $114,000	$182,000 < and ≤ $228,000	$12.40
$114,000 < and ≤ $142,000	$228,000 < and ≤ $284,000	$32.10
$142,000 < and ≤ $170,000	$284,000 < and ≤ $340,000	$51.70
$170,000 < and ≤ $500,000	$340,000 < and ≤ $750,000	$71.30
> $500,000	> $750,000	$77.90

Consequently, working or receiving significant benefits from retirement investing (see Arnold, Earl and Marshall, 2022, Arnold, Earl, Marshall, and Schwartz, 2017 and 2018, and Kuselias, Perreault, and Shafer, 2021) while collecting "full retirement age" social security payments does have taxation implications and Medicare premium implications (see Reichenstein and Meyer, 2019).

The templates provided in the previous sections do not consider taxation and would become much too complicated if all tax consequences were implemented because taxation issues are very individualized. However, the previous templates do provide a context for considering when social security benefits are optimally started allowing taxation considerations to be a logical next step for retirement planning.

CONCLUSION:

Determining when to start social security benefits is a trade-off between receiving earlier lower payments versus larger payments starting later. Further, starting social security payments earlier while working also affects the trade-off consideration. By using the two templates provided in this article, an individual can make decisions about when to

start receiving social security benefits based on life expectancy risk (rate of return input in the template).

The next step in planning is to consider the tax implications from earning income or retirement investment benefits while at “full retirement” age. A portion (up to 85%) of annual social security benefits may become taxable and monthly Medicare premiums can be affected.

Also applicable, one has to consider a spouse’s benefits and the value of the longevity insurance provided by social security in making a final decision about when to start receiving benefits.

REFERENCES:

Multiple government agency websites referenced in the article. Be aware that some information updates annually.

Arnold, T., Earl, J. and C. Marshall. "Required Minimum Distribution (RMD) Spreadsheet Calculators Based on the SECURE Act of 2019." (2021) *Working Paper*.

Arnold, T., J. Earl, C. Marshall, and A. Schwartz. "Excel Calculators for Determining Retirement Accumulation and Disbursement Information." *Journal of Wealth Management,* Vol. 20, No. 2 (2017), pp. 94-101.

Arnold, T., J. Earl, C. Marshall, and A. Schwartz. "Using 'Equivalent Tax Rates' to Determine Tax-Efficient Retirement Investment and Withdrawal." *Journal of Wealth Management,* Vol. 21, No. 2 (2018), pp. 55-69.

Kuselias, S., Perreault, S. and M. Shafer. "The financial and Tax Considerations of Social Security and Early Retirement." *Journal of Wealth Management,* Vol. 24, No. 3 (2021), pp. 90-98.

Reichenstein, W. and W. Meyer. "Medicare and Tax Planning for Higher-Income Households." *Journal of Wealth Management,* Vol. 22, No. 3 (2019), pp. 28-40.