WHEN TO START TAKING SOCIAL SECURITY BENEFITS...

BY LARRY D KILLION APRIL 2022

This commentary is a contrarian view --- that one should, as a general rule, take social security sooner than later (say when one is 66 at Full Retirement Age) --- and NOT take it at a later date (say age 70).

By more honestly evaluating the financial value difference between taking a *lower* monthly social security check benefit early (and as discussed herein, a less risky and financially most likely higher valuable option) versus taking a *higher* monthly check at a later date, generally does not make good financial sense to defer taking the benefit¹... unless the social security beneficiary lives an exceedingly long time, and as illustrated herein, one may have to live well over 100 years old for the deferred social security benefit to make better financial sense than taking a lower earlier amount.

<u>Here's why</u>...

All of the reports and publications regarding when to take Social Security, recognize there are many variables and risks that go into a decision whether or not to delay taking social security benefits (since by delaying, future monthly benefits will be higher), and hence arguably a better deal. The advice generally tends to have a bias that it is better to delay taking social security than take early.

For example, for someone retiring in 2022...

- \$2,993 is the maximum monthly benefit if 65 (Full Retirement Age FRA²)
- \$3,240 is the maximum monthly benefit if 66 (Full Retirement Age FRA)
- \$2,364 is the maximum benefit if 62 (earliest age to take social security but you get less if take too early not Full Retirement Age)
- \$4,194 is the maximum benefit if you wait to age 70
 - This is equivalent to a 6.7% annual increase of \$3,240 otherwise taken at age 66
- \$1,657 is the reported average monthly social security benefit at age 66 in 2022. Its maximum benefit if taken at age 70 is \$2,145³

Consequently, at first glance the higher check amount (\$4,194) at age 70 seems like a better deal, and arguably the 6.7% annual increase an attractive return on investment when compared to today's investment interest rates. <u>But is it?</u>

¹ There can be other reasons for delaying taking social security benefit such as tax estate planning, limited financial planning, budget and investment skills thus letting the US Government make those decisions by taking social security later with a locked in higher social security check, philanthropic objectives of using other assets for retirement and leaving social security assets for use by less fortunate.

² Full Retirement Age depends on when you were born: Born before 1943 : FRA is 65; 1943/54 : 66; the FRA increases by 2 months for each year after 1954 with the maximum FRA of 67 if born after 1960.

³ The maximum monthly benefit taken at age 70 (\$2,145) based on an average social security benefit taken at 66 of \$1,657, was determined by referring to Social Security Administration earnings and benefit table (<u>Maximum-taxable benefit examples (ssa.gov</u>)). That table illustrates the maximum benefit if taken at age 66 is \$3,240 and if taken at age 70 is \$4,194. The ratio of \$4,194/\$3,240 equals a factor of 1.294, which was used to scale up the average benefit taken at age 66 of $$1,657 \times 1.294 = $2,145$, as the equivalent maximum benefit that wage earner would receive if they deferred taking social security to age 70.

The perceived 'flaws' in that conventional wisdom are as follows:

- Flaw 1: Expected Life Expectancy Statistic Uncertainty: Very little if any emphasis is put in the fact that social security beneficiary's benefits cease for that beneficiary when the beneficiary dies (exceptions being spousal survival benefits and disability payments generally survive the death of their spouse). Consequently, there is no 'inheritance' rights to the amount of unused social security paid during the working life of the beneficiary (or their survivor). Thus, is it wise to play probability games as to guessing when you will die? Yes, you may receive more social security income over the long term if you defer taking social security...IF you live long enough, but over a 100 years⁴ does not make sense? Date of death can happen for a lot of reasons and generally unknown and unknowable. So why gamble with social security retirement income on what your life expectancy is going to be? A bird in the hand sort of thing. Locking in social security benefits early reduces the risk of loss of those benefits since the beneficiary does not know when they will die... Take the money now when at Full Retirement Age...
- Flaw 2: Failure To Take Into Account Value of Early Social Security Income: Almost all of the analysis and on-line social security benefit calculators, this author has reviewed, have ignored (or certainly glanced over) a very relevant, real and significant component of the analysis -- by not taking into account the value of social security taken early! If a social security beneficiary does not immediately need social security benefits (because they have savings or other retirement income to rely on), they can do one of two things with their social security entitlement:

(1) Defer taking social security and be paid a higher monthly amount in the future (and pay taxes on that higher amount); or

(2) Take a lower social security amount early, then *invest* that early income (and pay taxes on that lower amount)

and if taken early, then pay yourself on a monthly basis if needed, that locked in / captured early social security income plus invested interest (which is now a captured use or inheritable asset and not lost on death), in the future, thereby you controlling the increase of future social security income and offsetting much (most?) of the 'loss' of the otherwise deferred future higher amount.

As simplified examples, (not taking into account: taxes, cost of living increases and investment interest income),

- Assume a beneficiary at 66 can take their social security monthly income of \$3,240/month. If social security were deferred to age 70, the monthly check would be \$4,194.
 - If the beneficiary deferred taking social security and dies at age 70, the beneficiary would receive no social security benefits.

⁴ The 100 years 'break-even analysis' is based on the analysis presented in this report of equalizing Net Present Value financial value between taking social security early vs later. A beneficiary would have to live over 100 years for the NPV of deferring taking social security to equal the NPV of taking social security early.

- If the beneficiary had taken social security at age 66 (\$3,240/m) and died at age 70, they would have captured \$155,520 (\$3240 x 12 x 4) for their use or inherited by their family.
- Assume the same above examples but the beneficiary lives to 86 years old.
 - If the beneficiary deferred taking social security to aged 70 (\$4194/m) and dies at age 86, they would have captured \$805,248
 - If the beneficiary had taken social security at age 66 and died at age 86, they would have captured \$777,760 (which is equivalent to a monthly check starting at age 70 of \$ 4,050 (\$777,700/(12 x 16)). While in this example taking social security early results in only a very slight advantage of deferring taking social security (\$4,194 vs \$4,050 per month), the early social security check much reduces the risk of dying early and losing benefits as well as the possibility of the beneficiary investing instead of spending their early taken benefit, which investment value would more than likely cause the early taken equivalent monthly benefit to be higher than the deferred benefit.
- These simplified examples illustrate taking social security early is generally a better and less risky deal.

Reported examples generally fail to take into account this early captured value. *Take the money now when at Full Retirement Age*...

- Flaw 3: Net Present Value Analysis Absence: Common financial analysis, uses many fundamental tools to compare financial decisions --- one such fundamental analysis is to compare Net Present Value (NPV). NPV analysis forces financial analyses to be compared on an apples-to-apples basis...a fair and defensible analysis. Generally, the decision which option to choose is based on the highest NPV (being the highest and generally the best financial value expectation). The author recognizes the assumptions that go into the more complex NPV financial risk analysis can influence such an analysis, but NPV is much more relevant and reliable than what is generally reported by on-line simplified social security calculators—stressing deferral of taking benefits based on receiving merely a bigger check tomorrow than a lower one today. The NPV value analysis is more complex than that, and takes into account many more relevant and important issues. As Einstein noted, keep things simple but not too simple.
 - Net present value, or NPV, is used to calculate the current total value of a future stream of payments.
 - If the NPV of a project or investment is positive, it means that the discounted present value of all future cash flows related to that project or investment will be positive, and therefore attractive.
 - To calculate NPV, you need to estimate future cash flows for each period and determine the correct discount rate.
 - When comparing financial decisions and decide which ones to pursue, net present value is one of the main tools to use. NPV is the tool of choice for most financial analysts. There are two reasons for that. One, NPV considers the *time value of money*, translating future cash flows into today's dollars. Two, it provides a concrete number that managers can use to easily

compare an initial outlay of cash against the present value of the return, with the greater NPV being the preferred choice.

There are many resources to refer to understand Net Present Value and how to determine it. One such resource is <u>https://www.investopedia.com/terms/n/npv.asp</u>. An over simplified example of NPV analysis is as follows:

Suppose you are given a choice of being given \$1000 today or in the alternative being given \$1,300 in two years. Which would you choose? If you took the \$1,000 today (its present value today) you could invest that sum of money, make interest on it and in two years time, could grow that value to a future value. Let's assume you could invest that money at 10% per year, so at the end of year one you would have \$1,100. Then you would invest that amount at another 10% and at the end of year two you would have \$1,210. So you could make the decision that you won't get a better interest than 10%, so it looks like taking \$1,300 in the future is a better deal.

Another way to analyze this comparison is to determine how much the future \$1,300 is worth today (its present value) and compare that to the \$1,000 present value alternative. To do that analysis we need to compute the net present value today of the future \$1,300. That analysis is called Net Present Value or NPV analysis. The NPV of \$1,300 over two years would need to be *discounted* (so called time value of money analysis) back to today's value using a *discount factor* and in this example we will use a discount rate of 10%, the same rate we could invest the \$1,000. Thus the future \$1,300 value received in two years discounted back at 10% per year today is the same as a present value of \$1,074 received today. So the future \$1,300 NPV is worth today \$1,074 (since \$1,074 invested for 2 years at 10% per year = \$1300) which is greater than the \$1,000 alternative, so better deal to take. Thus NPV analysis takes into account the *time value of money* and a very useful tool to assist in making financial decisions.

As illustrated in this report, the NPV analysis of taking social security early indicates higher NPV values...so *Take the money now when at Full Retirement Age.*

Explanation of the analysis...

The author has prepared a range of spreadsheet (Excel) financial analyses, using NPV as a basis of analysis, to make the argument that taking social security early is generally a lower risk, better deal.

First: Discussion of My Analysis Assumptions

My analysis is based on the following assumptions (where the devil is in the detail), see Appendix A for summary of input assumptions and information source references used in author's spreadsheet analysis:

For year 2022, average (\$1,657/month) and maximum (~\$3,240/month) social security benefits if taken at age 66, and average maximum (\$2,145/month) and maximum (\$4,194/month) social security benefits if deferred and taken at age 70, as reported by IRS and various online data publications.

- Average annual Cost of Living Adjustment (COLA) of 2.4% used to escalate social security benefits on an annual basis (based on average COLA from 2012 to 2022 of 2.4%, minimum of 0% and maximum of 5.9% (2022) as reported by IRS).
- Based on current age of 66, average life expectancy for a male is to age 85.5 (rounded to 86) and a female is to age 86.8 (rounded to 87), based on IRS estimates.
- Average effective income tax rate of 23%, based on various internet statistical data reports.
- Average annual return on investment (APR) of 4%⁵ (author's assumption based on a variety of online financial reporting assumptions).
- Spousal (no earned income) social security survivor benefit assumed to be the same as their partner, where the partner is the primary income earner and social security beneficiary.
- NPV discount rate based on APR investment rate (4%).

Appendix B is an illustration of the spreadsheet calculation format.

Second: The Cases Analyzed

Sixteen social security election cases (taken 'early' at age 66 or 'deferred' to age 70) were analyzed to compare Net Present Values and determine which had the highest NPV.

A spreadsheet allowed modeling of cases by merely adjusting input parameters.

NPV was determined by assessing future annual taxable income cash flow from both social security, and if invested, taxable interest income, then, each years income adjusted for tax to determine after tax values, and the after tax future values discounted to 2022 to determine the NPV. NPV's were generally determined based on the longest expected life expectancy of a single person or partner.

An analysis was also undertaken to determine how long a social security beneficiary would have to live in order for the NPV of deferring social security to age 70 equaled the NPV of taking social security early at age 66 --- the NPV 'cross-over' age.

Third: The Results and Interpretation

The below tables and bar graph summarize the 16 case descriptions, NPV results and 'cross-over' NPV (how long a beneficiary would need to live for the NPV of deferred social security to equal the NPV of taking social security early – in effect, how long a person needs to live for the deferred social security election to be a better financially valued deal).

⁵ Rate of Return is affected by many variables: length of investment, risk, inflation, diversification, geopolitical circumstances, taxes, etc. Some typical average annual rates of return include: stocks: 16.63%; international stocks: 0.40%. 7.39%; bonds: 3.05%; gold: -0.21%; real estate: 11.72%; CDs: (see https://www.bankrate.com/investing/good-return-on-investment). The author has used an assumed conservative average annual rate of return of 4%. The larger the rate of return, the bigger the advantage of taking social security early since there would be a greater return (increased value) on the social security taken early and invested and not immediately spent.

Appendix C illustrates the NPV graphical analysis of various Case comparisons, which illustrate taking social security early for the typical circumstances and cases analyzed, show early election results in higher NPV values. Also shown is how long a beneficiary would need to live for the deferred NPV to exceed the early NPV, and generally, the beneficiary would need to live in excess of 109 years.

CONCLUSION

- Typical circumstances were analyzed to assess the pros and cons of taking social security early. Cases included:
 - Taking Full Retirement Age social security early at age 66 or deferring to age 70
 - Inclusion of life expectancy analysis for males (86) and females (87), with spousal ages differences ranging from being the same to 10 years a part
 - Assessing average social security benefits compared with maximum potential benefits
- A net present value spreadsheet analysis was performed that took into account:
 - Range of potential social security monthly benefits (average and maximum); taking early at age 66 vs deferred to age 70; life expectancy of beneficiaries, taxation, COLA adjustments, investment interest and NPV discount rate.
- THE ANALYSIS SHOWS:
 - GENERALLY, IT IS MORE BENEFICIAL TO TAKE FULL RETIREMENT AGE SOCIAL SECURITY BENEFITS EARLY (SAY AT AGE 66) AND NOT LATER (SAY AT AGE 70)
 - TAKING SOCIAL SECURITY BENEFITS EARLY, LOCKS IN BENEFIT VALUE TAKEN, SINCE UPON DEATH SUCH BENEFITS CEASE (ANY OUTSTANDING BENEFITS ARE NOT INHERITABLE)
 - NET PRESENT VALUES OF CASES ASSESSED WERE ALWAYS HIGHER FOR THE EARLY ELECTION, AND FROM A FINANCIAL VIEWPOINT, THE BETTER ELECTION.
 - A BENEFICIARY GENERALLY WOULD HAVE TO LIVE IN EXCESS OF 100 YEARS (109 IN MOST CASES ASSESSED) FOR THE DEFERRED SOCIAL SECURITY NET PRESENT VALUE TO BREAK EVEN WITH THE EARLY SOCIAL SECURITY NET PRESENT VALUE.

Case description	Initial	NPV	NPV 'Cross-over' Age:
Cases 1-8: Average SS \$1,657 @ 66; \$2,300 @ 70	Monthly		Deferred NPV = Early
Cases 9-16: Max SS \$3,345 @ 66; \$4,194 @ 70	SS		NPV
Case 1: Single Male; Take SS @ 66, Deceased @ 85; Spend SS when received (not invested)			
	Ş1657	\$265,925	109
Case 2: Same as Case 1 except Take SS @ 70			
	\$2145	\$223,680	109
Case 3: Same as Case 1 except deceased at age 70			
	\$1657	\$71,379	76
Case 4: Same as Case 1 except invest SS @ 4% until 71 (use savings to live on until 70), Pay			
self invested SS in equal annual installments between 70 and 85	\$1657	\$267,644	110
Case 5: Same as Case 2 except Deceased @ 70	\$0	\$0	Never equals
Case 6: Same as Case 1 except Male is married to same age partner (Female); Partner			
Deceased @87	\$1657	\$265,925	109
Case 7: Same as Case 6 except partner is 10 years younger (younger spouse case)	\$1657	\$365,166	109
Case 8: Same as Case 7 except Male take SS @ 70 (younger spouse case)	\$2145	\$337,783	109
Case 9: Same as Case 1 except higher SS	\$3240	\$519,574	109
Case 10: Same as Case 2 except higher SS	\$4194	\$437,349	109
Case 11: Same as Case 3 except higher SS	\$3240	\$139,570	76
Case 12: Same as Case 4 except higher SS	\$3240	\$523,335	110
Case 13: Same as Case 5 except higher SS	\$0	\$0	Never equals
Case 14: Same as Case 6 except higher SS	\$3240	\$519,974	109
Case 15: Same as Case 7 except higher SS	\$3240	\$714,023	109
Case 16: Same as Case 8 except higher SS	\$4194	\$660,448	109

Case Evaluation	Take Early	Defer
Case 1 vs Case 2: NPV(early) = \$265,925 is GREATER than NPV (defer) = \$223,680; NPV cross over @ 109	\checkmark	
 SS early value offsets value from higher deferred SS payment 		
Case 3 vs Case 5: NPV(early) = \$71,379 is GREATER than NPV (defer) = \$0; NPV cross over never occurs	\checkmark	
 Death @ 70 eliminates any potential SS value if deferred, SS early value always better 		
Case 4 vs Case 2: NPV (early/invested) = \$267,644 is GREATER than NPV (defer) = \$223,680; NPV cross	\checkmark	
over @ 110		
 Early SS invested value offsets value from higher deferred SS payment 		
Case 6 vs Case 2: NPV(early) = \$265,925 is GREATER than NPV (defer) = \$223,680; NPV cross over @ 109	\checkmark	
 SS early value offsets value from higher deferred SS payment 		
Case 7 vs Case 8: NPV(early) = \$365,166 is GREATER than NPV (defer) = \$337,783; NPV cross over @ 109	\checkmark	
 SS early value offsets value from higher deferred SS payment 		
Case 9 vs Case 10: NPV(early) = \$519,574 is GREATER than NPV (defer) = \$437,349; NPV cross over @	\checkmark	
109		
 SS early value offsets value from higher deferred SS payment 		
Case 11 vs Case 13: NPV(early) = \$139,570 is GREATER than NPV (defer) = \$0; NPV cross over never	\checkmark	
occurs		
 Death @ 70 eliminates any potential SS value if deferred, SS early value always better 		
Case 12 vs Case 10: NPV (early/invested) = \$523,335 is GREATER than NPV (defer) = \$437,349; NPV cross	\checkmark	
over @ 110		
 Early SS invested value offsets value from higher deferred SS payment 		
Case 14 vs Case 10: NPV(early) = \$519,974 is GREATER than NPV (defer) = \$437,349; NPV cross over @	\checkmark	
109		
 SS early value offsets value from higher deferred SS payment 		
Case 15 vs Case 16: NPV(early) = \$714,023 is GREATER than NPV (defer) = \$660,448; NPV cross over @	\checkmark	
109		
 SS early value offsets value from higher deferred SS payment 		



March 2022, Why take social security early:

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APPENDIX A

SPREADSHEET INPUT ASSUMPTIONS:

Reginning Verr 2022 (Assume born December 1056)	Pango: Average	Pango: Highost	Poforonco
Beginning real 2022 (Assume boint December 1950)	Kalige. Average		Reference.
Social Security Monthly Amount @ age 66 =	Ş 1,657	Ş 2,300	https://www.ssa.gov/oact/cola/examplemax.html
			https://www.ssa.gov/oact/cola/examplemax.html;
			https://www.thebalance.com/social-security-for-
			married-couples-2389042;
			https://www.ssa.gov/news/press/factsheets/basicfac
Social Socurity Monthly Amount @ ago 70 -	¢ 2.24E	ć 4.104	Average benefit at 70 based on 1.32 times average
Social Security Monthly Amount @ age 70 =	<u>२</u>	Ş 4,194	<u>benefit at 66 (same ration as for age 70)</u>
Average Appual Inflation for Social Security (Cost of			
Average Annual Innation for Social Security (Cost of			
Living Allwance - COLA, last 20 year average) (%) =	2.4%		https://www.ssa.gov/oact/cola/SSIamts.html
Life expectancy: (years)			
Male =	86		https://www.ssa.gov/oact/STATS/table4c6.html
Female =	87		
Effective Income Tax Rate (%):			https://taxfoundation.org/2019-tax-brackets/
			https://www.washingtonpost.com/business/2019/10
			/08/first-time-history-us-billionaires-paid-lower-tax-
Average =	23.0%		<u>rate-than-working-class-last-year/</u>
			https://www.moneyunder30.com/rate-of-return-for-
Average Return on Investment (APR, %) =	4.0%		retirement-planning
Survivor benefit % (assume married >10 years);			
widow takes benefit when reaches at least 66=	100%		https://www.ssa.gov/benefits/survivors/

APPENDIX B

EXAMPLE OF CASE 4 SPREADSHEET CALCULATION FORMAT:

Illustrates case description, cashflow analysis and net present value determination. NPV cutoff varies depending on age of death, and in Case 4 date of death is 86 (year 21 of the spreadsheet).

		Y	ear 1		Year 2		Year 3		Year 4		Year 5	,	Year 6	1	Year 7		Year 8		Year 9		Year 10	1	fear 11
Monthly social										T													
security elected	Age (on January 1)		66		67		68		69		70		71		72		73		74		75		76
\$ 1,657	Case 4: Assume MALE, single, take social security when 66, die on date of life expectancy; invest social security until 70 (use savings to live on until 70), spend all of social security in year received after age 70, spreading invested social security equally over remaining years of life expectancy)		66		67		68		69		70	71			72		73		74		75		76
	Inflation adjustment for social convity %		0		2 49/	-	2 49/	-	2 49/	-	2 49/		2 49/		2 49/		2 49/		2 49/		2 49/		2 49/
	Social Security income inflation adjusted	ć 1	10 004 00	ć	2.4%	ć	2.4%	ć	2.4%	ć	2.470	ć	2.470	ć	2.4%	ć	2.470	ć	2.4%	ć	2.4%	ć	2.4%
	Tax rate, average	2 1	22%	Ş	20,301	Ş	20,850	Ş	21,330	Ş	21,803	Ş	22,387	Ş	22,925	Ş	23,475	Ş	24,038	Ş	24,015	Ş	25,200
	Tax naid	ć	4 572	ć	4 692	ć	4 705	ć	4 011	ć	5 029	ć	5 140	ć	5 272	ć	5 200	ć	5 5 20	ć	5 661	ć	5 707
	Tax paid	\$	4,573	Ş	4,083	ç	4,795	> ¢	4,911	ç	3,028	ç	17 229	ç	3,2/3	ç	3,399	ç	3,329	ç	10.054	ç	3,797
	Arter tax social security income	\$	15,511	\$	13,078	2	10,034	\$	10,440	Ş	10,034	\$	17,250	Ş	17,052	\$	10,070	\$	10,505	Ş	10,334	\$	13,403
	Social security investment:					-		1		-													
	Initial after tax investment=	\$	15,311																				
	Earned taxable interest=			\$	612	\$	1,258	\$	1,939	\$	2,657	\$	3,412	\$	3,906	\$	3,717	\$	3,512	\$	3,291	\$	3,053
	Tax on interest=			\$	141	\$	289	\$	446	\$	611	\$	785	\$	898	\$	855	\$	808	\$	757	\$	702
	After tax earned interest=			\$	472	\$	969	\$	1,493	\$	2,046	\$	2,627	\$	3,008	\$	2,862	\$	2,704	\$	2,534	\$	2,351
	Cumulative after tax invested social security			\$	15,782	\$	32,429	\$	49,977	\$	68,462	\$	87,924	\$	100,658	\$	95,777	\$	90,500	\$	84,806	\$	78,677
	Total after tax invested social security + current																						
	year invested social security	\$	15,311	\$	31,460	\$	48,484	\$	66,417	\$	85,297	\$	105,162	\$	100,658	\$	95,777	\$	90,500	\$	84,806	\$	78,677
	Invested after tax social security paid as income																						
	equally withdrawn											\$	7,511.58	\$	7,743	\$	7,981	\$	8,227	\$	8,481	\$	8,742
						_		_		_													
	Social security after tax income:		0		0		0	-	0	_	0	Ş	24,750	Ş	25,395	Ş	26,057	Ş	26,737	Ş	27,434	Ş	28,150
	NET PRESENT VALUE =		\$267,644			-		\vdash		-								-					
			ŚO	-	\$0		ŚO		ŚO		\$0		\$19,560		\$38,858		\$57,898		\$76,683		\$95,216		\$113,502
-		-	40		40	-	40	-	40	-	40		725,550		100,000		201,000	-	1.0,000		100,210		12201002

APPENDIX C

NET PRESENT VALUE COMPARISONS OF CASES ANALYZED AND 'CROSS-OVER' AGE OF BENEFICIARY FOR DEFERRED NPV VALUE TO EQUAL TAKE EARLY NPV VALUE













