Social Security & Retirement Financial Modeling

 3.2.0

Overview

SS&R, a financial modeling tool, utilizes basic information pertinent to a person's (or couple's) financial situation and projects that situation into his/her/their retirement years. By that means, SS&R enables the user to see the possible impact of various retirement financial decisions:

- Retire now **or** work a few more years
- Collect Social Security at 62 **or** wait
- Take a lump sum **or** monthly pension
- Convert tax-deferred retirement assets to a Roth account, **or** leave them alone and take Required Minimum Distributions through retirement years
- Put more money in a retirement account **or** take a nice vacation

And help answer innumerable questions:

- At my current expense level, are my assets likely to be sufficient?
- What might I expect financially if I live to be 100?
- Can I afford to buy a new vehicle? Take a trip? Do some home remodeling?
- If I or my spouse dies, what does the survivor's financial future look like?
- Relative to taking withdrawals from tax-deferred accounts, is my current plan, or lack thereof, efficient from a tax point of view? **[SS&R includes an evaluation procedure to help determine the potential benefits of shifting tax-deferred retirement assets to a Roth account.]**

SS&R's Background Story

SS&R was created for two reasons:

1) The need for a simple (relatively speaking) but accurate means of:
    a. Assessing my retirement financial situation
    b. Evaluating potential financial choices.
2) There is a market, specifically the vast majority of retirees and near-retirees whose finances are not overly complicated, and whose children are grown and out of the house, that could benefit from the same type of tool that I wanted for myself. People in that group:
    a. Don't want or need an expensive and complicated tool that, in addition to retirement planning, is capable of dealing with such things as:
        i. multiple real-estate transactions
        ii. rental property income
        iii. estate planning
        iv. the expenses of raising children and providing for their education
    b. But who would find valuable a tool that:
        i. Calculates Social Security (SS) benefits based on basic SS info, date-of-birth, marital situation, and age when filing
        ii. Calculates federal taxes, in all the detail described below (rather than using an average tax rate)

Because of its detailed calculations, SS&R enables an evaluation of the benefits of various financial options that is simply not possible with cruder analyses. For instance, a realistic assessment of the benefits of shifting tax-deferred retirement assets into Roth accounts cannot be done if Required Minimum Distributions (RMDs) and the taxable portion of Social Security are not calculated. (Simple example: A retiree in the current 12% tax bracket, who is collecting SS, needs some cash and withdraws $1000 from their tax-deferred IRA. Depending on their particular circumstances, that $1000 bump to their income may not change the taxability of their SS income at all, or it could cause up to an additional $850 of it to become taxable. In the latter case, their overall taxable income increases by a total of $1850. As a result, their $1000 withdrawal nets them only $778 after paying their additional federal tax of $222 (12% of $1850). Their marginal rate may only be 12%, but the effective tax rate on their $1000 withdrawal is 22.2%!)

Despite the usefulness of such a tool, there appears to be nothing commercially available, at anywhere near the price of SS&R, which has the capabilities of SS&R. (If anyone knows of one, please let me know: paul@eipie.com).

Finally, before getting into the details of using SS&R, a simple request to those who have made the purchase – your feedback is wanted. If you could provide ratings for SS&R in the Apple or Windows App Store, and/or email your comments/suggestions (paul@eipie.com), it would be much appreciated. Good ratings help drive sales, and sales motivate the continued development of SS&R. (If you have purchased SS&R, you can get the latest update for free, and thus that feedback is mutually beneficial! Want to be on the notification list for when updates are available? Send an email with your request: paul@eipie.com.)

SS&R Inputs

The necessary inputs consist of:

- Birthday(s)
- Marital status
- Income (monthly)
    - Work (check the 'SE' box if Self-Employed; check the 'xSS' box if the work is not covered by Social Security)
    - Pensions/annuities (check the 'Non-SS Empl' box if the pension is from work not covered by Social Security; check the 'COL' box if the pension includes Cost-Of-Living adjustments)
    -
- Expenses
    - Mortgage
    - Other expenses (excluding mortgage and federal taxes)
- Assets
    - Non-retirement
    - Retirement
        - Tax-deferred (e.g., traditional IRA or 401K)
        - Roth
    - **S**ocial **S**ecurity (SS) **P**rimary **I**nsurance **A**mount (PIA)

Along with entering the above information, the user may modify the default values used by SS&R for **C**ost-**O**f-**L**iving (COL, 2%) and **I**nvestment **G**rowth **R**ate (IGR, 5%). SS&R, utilizing the key rules of both Social Security and the IRS, then does its work to create estimates of your financial future.

SS&R Inputs and Operation – Items of Note

- Expenses are met by drawing from the asset accounts in the following order:
    - Non-retirement
    - Roth
    - Tax-deferred account (in the case of a couple, first from the older individual's account)
- With asset transfers, the specified transfer amount may exceed the account balance, but the actual transfer is limited by the available funds in the specified "From" account.
- When performing an IRA to Roth evaluation, fund transfers are always assumed to occur in January. (Given that, on average, returns are expected to be positive for any given year, the expected tax burden will be less if assets are transferred before growth is realized. Of course, if assets do decline in value, the best time to transfer them would not be at the start of the year, but rather at the time of minimum asset value.)

What elements of Social Security and the IRS does SS&R incorporate?

- Social Security:
    - Worker, spouse, and widow(er) benefits
    - Impact of work on benefits
    - Impact of age at which benefits are begun
    - File, suspend, and restart options
    - Spousal only benefit option (after full retirement age, and which is now available only for those who turned 62 in 2015 or earlier)
    - Windfall Elimination Provision (WEP) and Government Pension Offset (GPO) situations

- The IRS:
    - Single/married
    - Wage/self-employment income
    - Taxable portion of Social Security benefits
    - **R**equired **M**inimum **D**istributions (RMD) from tax-deferred retirement accounts
    - Capital gains
    - **A**lternative **M**inimum **T**ax (AMT) calculations
    - FICA (i.e., Social Security) and Medicare taxes
    - Medicare expense for those over 65 (not technically a tax, but similar enough to include here)

What limitations and assumptions exist in SS&R relative to Social Security and the IRS? SS&R does not deal with Social Security benefits for children or the disabled, and does not accommodate the Social Security "Windexing" provisions that may be beneficial to widows/widowers whose spouses died before age 62.

Relative to the IRS, calculations comprehend single or married status, but not head-of-household. Standard deductions are assumed, including, when appropriate, the additional deduction available to those over 65. It follows then that itemized deductions are not accommodated. Since SS&R is making estimates out into future years, it is assumed the structure of federal taxes remains fixed, but tax brackets are indexed to cost-of-living changes. Required Minimum Distributions from tax-deferred retirement accounts are always calculated using the IRS's "Uniform Lifetime Table." (If the account owner's spouse is more than 10 years younger than the account owner, the less demanding "Joint Life and Last Survivor Expectancy Table" would normally be used.)

It should also be mentioned that capital gains on non-retirement assets are assumed to be realized every year. As required by the IRS, capital losses above $3000 are carried over to the following year. SS&R, with default settings, assumes gains in non-retirement assets are split evenly between long-term capital gains and ordinary income items (e.g., short-term capital gains, CD interest, and non-qualified dividends). The user, however, has the option to specify a different ratio if their non-retirement account investments are better represented by something other than a 50:50 split (clicking on the green bar across the bottom of the screen brings up a bottom app bar where the desired split can be specified).

Because SS&R includes all the taxes typically encountered by Joe Taxpayer, but conservatively assumes standard deductions, tax estimates for some will miss on the high side. Consequently, the calculation of total assets over time should tend to miss on the low side for those who benefit by itemizing deductions.

Inputting Data and Viewing Results

SS&R is mostly, but not entirely, a single-screen operation (Fig. 1). Inputs are specified on the left side of the screen and output graphs are presented on the right. The upper summary graph of income, expenses, and assets is always present, but the lower graph position is used to present any one of four additional graphs – one of three breakdown plots (income, expense, or asset), or else an income/federal tax summary. A bottom app bar (Fig. 2), brought into view by clicking on the green bar across the bottom of the SS&R window, provides a few additional options for the user, and a "Help" flyout is brought into view (Fig. 3) by clicking on the circled question mark at the upper right of the SSS&R screen.

Fig. 1 – **SS&R Screen**

Fig. 2 – **SS&R Screen with Bottom App Bar Visible**

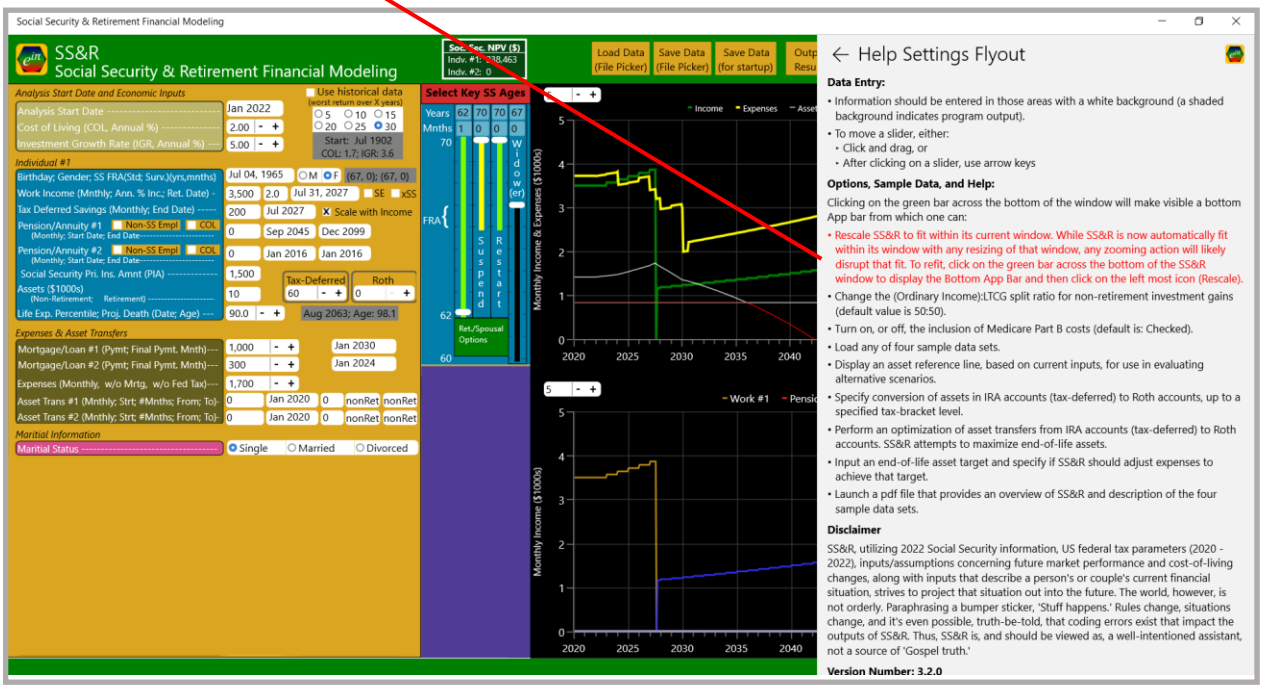


Fig. 3 – **SS&R Screen with "Help Settings Flyout" Visible**

Numerical Results

The numerical value of any graphed item, at a particular point in time, can be obtained by placing the cursor at the desired point on the curve of interest. However, for those who want extensive numerical details, there is the option to export numerical results to a tab-delimited text file (simply click on the "Output Results" box and then, when prompted, specify a file name). That text file, which can be imported into a spreadsheet program such as Excel, provides detailed monthly information as well as annual tax numbers. To give a sense of what is provided, a snippet of output associated with the Mary Lamb sample data is presented in Fig. 4 (readable if page magnification is increased).

Date	Income	Income	Income	Income	Income	Income	Income	Income	Income	Income	IRAAt01k	Expense	Expense	Expense	Assets	Assets	Assets	Assets	AssetTr1	AssetTr1	AssetTr1	AssetTr2	AssetTr2	AssetTr2	TxOptTr	TxbIInc	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Meth-Yr	Work_#1	Work_#2	Pnsn_#1	Pnsn_#2	SSobt#1	SSobt#1	SSobt#2	SSobt#2	SSadj#2	SSadj#2	TxDfrSv	MiscExp	Loans	Fed_Tax	Non-Ret	TxDfr#1	TxDfr#2	Roth	From	To	Amount	From	To	Amount	Amount	Exc1TCG	Worklinc	TxDfrSv	Pension	Amt_SS	Txbl_SS	STCG	TxDfrWd	RMD_#1	RMD_#2	EntyWth	LTCG	MdlEinc	PICA+Md	Inc_Tax	AMT	LTCG_Tx	MdlEiTax	EW_PrBt	Med_Pre
Jan-20	3,500	0	0	0	0	0	0	0	0	0	200	1,700	1,300	525	9,815	60,444	0	0	-	-	0	-	-	0	0																				
Feb-20	3,500	0	0	0	0	0	0	0	0	0	200	1,703	1,300	525	9,627	60,891	0	0	-	-	0	-	-	0	-																				
Mar-20	3,500	0	0	0	0	0	0	0	0	0	200	1,706	1,300	525	9,435	61,339	0	0	-	-	0	-	-	0	-																				
Apr-20	3,500	0	0	0	0	0	0	0	0	0	200	1,708	1,300	525	9,240	61,789	0	0	-	-	0	-	-	0	-																				
May-20	3,500	0	0	0	0	0	0	0	0	0	200	1,711	1,300	525	9,041	62,240	0	0	-	-	0	-	-	0	-																				
Jun-20	3,500	0	0	0	0	0	0	0	0	0	200	1,714	1,300	525	8,838	62,694	0	0	-	-	0	-	-	0	-																				
Jul-20	3,500	0	0	0	0	0	0	0	0	0	200	1,717	1,300	525	8,631	63,149	0	0	-	-	0	-	-	0	-																				
Aug-20	3,500	0	0	0	0	0	0	0	0	0	200	1,720	1,300	525	8,421	63,607	0	0	-	-	0	-	-	0	-																				
Sep-20	3,500	0	0	0	0	0	0	0	0	0	200	1,723	1,300	525	8,208	64,066	0	0	-	-	0	-	-	0	-																				
Oct-20	3,500	0	0	0	0	0	0	0	0	0	200	1,725	1,300	525	7,990	64,527	0	0	-	-	0	-	-	0	-																				
Nov-20	3,500	0	0	0	0	0	0	0	0	0	200	1,728	1,300	525	7,769	64,990	0	0	-	-	0	-	-	0	-																				
Dec-20	3,500	0	0	0	0	0	0	0	0	0	200	1,731	1,300	525	7,544	65,455	0	0	-	-	0	-	-	0	-	27,418	42,000	2,400	0	0	0	218	0	0	0	0	218	0	3,213	3,093	0	0	0	0	0
Jan-21	3,570	0	0	0	0	0	0	0	0	0	204	1,734	1,300	537	7,370	65,925	0	0	-	-	0	-	-	0	0																				
Feb-21	3,570	0	0	0	0	0	0	0	0	0	204	1,737	1,300	537	7,193	66,398	0	0	-	-	0	-	-	0	-																				
Mar-21	3,570	0	0	0	0	0	0	0	0	0	204	1,740	1,300	537	7,012	66,872	0	0	-	-	0	-	-	0	-																				
Apr-21	3,570	0	0	0	0	0	0	0	0	0	204	1,743	1,300	537	6,827	67,349	0	0	-	-	0	-	-	0	-																				
May-21	3,570	0	0	0	0	0	0	0	0	0	204	1,745	1,300	537	6,639	67,827	0	0	-	-	0	-	-	0	-																				
Jun-21	3,570	0	0	0	0	0	0	0	0	0	204	1,748	1,300	537	6,447	68,307	0	0	-	-	0	-	-	0	-																				
Jul-21	3,570	0	0	0	0	0	0	0	0	0	204	1,751	1,300	537	6,252	68,790	0	0	-	-	0	-	-	0	-																				
Aug-21	3,570	0	0	0	0	0	0	0	0	0	204	1,754	1,300	537	6,052	69,274	0	0	-	-	0	-	-	0	-																				
Sep-21	3,570	0	0	0	0	0	0	0	0	0	204	1,757	1,300	537	5,849	69,760	0	0	-	-	0	-	-	0	-																				
Oct-21	3,570	0	0	0	0	0	0	0	0	0	204	1,760	1,300	537	5,643	70,248	0	0	-	-	0	-	-	0	-																				
Nov-21	3,570	0	0	0	0	0	0	0	0	0	204	1,763	1,300	537	5,432	70,739	0	0	-	-	0	-	-	0	-																				
Dec-21	3,570	0	0	0	0	0	0	0	0	0	204	1,766	1,300	537	5,218	71,231	0	0	-	-	0	-	-	0	-	28,001	42,840	2,448	0	0	0	159	0	0	0	0	159	0	3,277	3,161	0	0	0	0	0
Jan-22	3,641	0	0	0	0	0	0	0	0	0	208	1,769	1,300	547	5,057	71,729	0	0	-	-	0	-	-	0	0																				
Feb-22	3,641	0	0	0	0	0	0	0	0	0	208	1,772	1,000	547	5,193	72,229	0	0	-	-	0	-	-	0	-																				
Mar-22	3,641	0	0	0	0	0	0	0	0	0	208	1,775	1,000	547	5,325	72,732	0	0	-	-	0	-	-	0	-																				
Apr-22	3,641	0	0	0	0	0	0	0	0	0	208	1,777	1,000	547	5,456	73,236	0	0	-	-	0	-	-	0	-																				
May-22	3,641	0	0	0	0	0	0	0	0	0	208	1,780	1,000	547	5,584	73,743	0	0	-	-	0	-	-	0	-																				
Jun-22	3,641	0	0	0	0	0	0	0	0	0	208	1,783	1,000	547	5,710	74,251	0	0	-	-	0	-	-	0	-																				
Jul-22	3,641	0	0	0	0	0	0	0	0	0	208	1,786	1,000	547	5,833	74,762	0	0	-	-	0	-	-	0	-																				
Aug-22	3,641	0	0	0	0	0	0	0	0	0	208	1,789	1,000	547	5,954	75,274	0	0	-	-	0	-	-	0	-																				
Sep-22	3,641	0	0	0	0	0	0	0	0	0	208	1,792	1,000	547	6,072	75,789	0	0	-	-	0	-	-	0	-																				
Oct-22	3,641	0	0	0	0	0	0	0	0	0	208	1,795	1,000	547	6,188	76,306	0	0	-	-	0	-	-	0	-																				
Nov-22	3,641	0	0	0	0	0	0	0	0	0	208	1,798	1,000	547	6,301	76,825	0	0	-	-	0	-	-	0	-																				
Dec-22	3,641	0	0	0	0	0	0	0	0	0	208	1,801	1,000	547	6,412	77,346	0	0	-	-	0	-	-	0	-	28,537	43,697	2,497	0	0	0	138	0	0	0	0	138	0	3,343	3,221	0	0	0	0	0

Fig. 4 – **Sample of output resulting from clicking on "Output Results"**

The column headings, abbreviated for obvious reasons in the output file, are as follows:

- Date Mnth-Yr -> Data provided corresponds to end of given month
- Income Work_#1 -> Income, from work, for individual 1
- Income Work_#2 -> Income, from work, for individual 2
- Income Pnsn_#1 -> Income, from pensions, for individual 1
- Income Pnsn_#2 -> Income, from pensions, for individual 2
- Income SSrib#1 -> Income, from Social Security (SS) Ret. Ins. Benefit (RIB), for indv. 1
- Income SSsib#1 -> Income, from SS Spousal Ins. Benefit (SIB), for indv. 1
- Income SSwib#1 -> Income, from SS Survivor Ins. Benefit (WIB), for indv. 1
- Income SSrib#2 -> Income, from Social Security (SS) Ret. Ins. Benefit (RIB), for indv. 2
- Income SSsib#2 -> Income, from SS Spousal Ins. Benefit (SIB), for indv. 2
- Income SSwib#2 -> Income, from SS Survivor Ins. Benefit (WIB), for indv. 2
- IRA401k TxDfrSv -> IRA/401k Tax Deferred Savings (individuals 1 & 2 combined)
- Expense MiscExp -> Expenses - Miscellaneous
- Expense Loans -> Expenses - Loans
- Expense Fed_Txs -> Expenses – Federal Taxes (Income, FICA, Medicare, & Medicare premiums)
- Assets Non-Ret -> Assets – Non-Retirement (individuals 1 & 2 combined)
- Assets TxDfr#1 -> Assets – Tax-Deferred (indv. 1)
- Assets TxDfr#2 -> Assets – Tax-Deferred (indv. 2)
- Assets Roth -> Assets – Non-Retirement (individuals 1 & 2 combined)
- AsstTr1 From -> Asset Transfer #1 – Account From
- AsstTr1 To -> Asset Transfer #1 – Account To
- AsstTr1 Amount -> Asset Transfer #1 – Monthly Amount
- AsstTr2 From -> Asset Transfer #2 – Account From
- AsstTr2 To -> Asset Transfer #2 – Account To
- AsstTr2 Amount -> Asset Transfer #2 – Monthly Amount
- TxOptTr Amount -> Tax Optimization Transfer – Once per year transfer in January
- TxblInc ExcLTCG -> Taxable Income, annual, excluding long-term capital gains
- Annual WorkInc -> Annual Work Income
- Annual TxDfrSv -> Annual Tax-Deferred Savings
- Annual Pension -> Annual Pension Income
- Annual Annl_SS -> Annual Social Security Income
- Annual Txbl_SS -> Annual Taxable Social Security Income
- Annual STCG -> Annual Short-Term Capital Gains
- Annual TxDfWtd -> Annual Tax-Deferred Withdrawals
- Annual RMD_#1 -> Annual Required Minimum Distribution, indv. 1
- Annual RMD_#2 -> Annual Required Minimum Distribution, indv. 2
- Annual ErlyWth -> Annual Early Withdrawal from Tax-Deferred Assets
- Annual LTCG -> Annual Long-Term Capital Gains
- Annual MdSrInc -> Annual Medicare Surcharge Income
- Annual FICA+Md -> Annual FICA plus Medicare Tax
- Annual Inc_Tax -> Annual Federal Income Tax (excludes standard FICA and Medicare)
- Annual AMT -> Annual Alternative Minimum Tax (included in Inc_Tax)
- Annual LTCG_Tx -> Annual Long-Term Capital Gains Tax (included in Inc_Tax)
- Annual MdSrTax -> Annual Medicare Surcharge Tax (included in Inc_Tax)
- Annual EW_Pnlt -> Annual Early Withdrawal Penalty from Tax-Deferred Acnts (incl. in Inc_Tax)
- Annual Med_Pre -> Annual Medicare Part “B” Premium (included in Inc_Tax)
  (Medicare premiums are typically deducted from SS payments, but are grouped with federal taxes in SS&R)

Fictional Case Studies

Enough description – Let's take a look at how SS&R works by entering some fictional data. Specifically, we will consider four situations:

- Mary Lamb (a pet shop manager in her mid-50s)
- Jack and Jill (water conservation consultants in their mid-60s)
- Mr. and Mrs. L. J. Horner (financial planners in their late-60s/70)
- Mr. and Mrs. O. K. Cole (retirees in their mid-70's)

Mary Lamb

To get a sense of how SS&R functions, we will begin with the relatively simple situation of a single woman, Mary (born 7/4/1965), who is starting to look down the road towards retirement. Her concern is she may not have been saving enough. She doesn't want to retire early since she enjoys her job managing a pet store (especially the educational/marketing part where she gets to take animals around to the local schools), but her friends keep talking about retiring at 62 and doing some traveling.

Mary is reasonably paid at $3500/month, and typically gets a 2% raise per year, but has no pension. Out of her paycheck, she puts $200/month into a conventional IRA (and increases that amount in proportion to any wage increases). She has $10,000 in non-retirement savings and a conventional IRA currently worth $60,000. From the statements periodically sent out by Social Security, as well as from the SS website (http://www.socialsecurity.gov/retire/estimator.html), Mary knows her **P**rimary **I**nsurance **A**mount (PIA) is $1500. The PIA value is the current estimate of what her benefits would be if she waited until her SS **F**ull **R**etirement **A**ge (FRA) of 67 to claim benefits. Because the PIA value is based on an individual's top 35 years of earnings (with those earnings adjusted to account for changes in average earnings over time), it is likely her PIA will change slightly with each passing year.

Relative to expenses, Mary pays $1000 per month on a mortgage that will be paid off in Jan 2030. She also has a car payment until Jan 2024 of $300 per month. Her average miscellaneous monthly expenses (excluding mortgage and federal taxes) are $1700. (To estimate monthly expenses, rather than attempting to add up all the big (e.g., state income tax, property tax, car insurance, etc.) and little things (food, pet food, books, presents, etc.) on which money is spent, Mary did the following: Starting with annual income, she subtracted off federal taxes (including Social Security and Medicare taxes that don't show up on a 1040 tax form unless you are self-employed), mortgage payments, and net deposits into retirement, savings, and credit card accounts. (A net deposit to any of those accounts gets subtracted because that represents income not spent, but if there was a net withdrawal or an increase in credit card balance, that would have to get added since it represents additional expenditures.) That process yields annual "miscellaneous" expenditures, and thus, average monthly expenses when divided by 12.

After Mary puts her information into SS&R, the input section appears as shown in Fig. 5. The first thing to point out is that user inputs are entered in areas that have a white background. SS&R calculated values, such as FRA values and expected date of death, have a shaded background.

Analysis Start Date and Economic Inputs

At the top of the input area, it is seen that Mary is using Jan 2022 as the start date for her analysis. (If Mary were to specify a later analysis start date, income and expenses would be tracked before the specified start, but no changes in assets would occur during the pre-start period.) Mary is keeping the

default values for average annual cost-of-living increase (2%) and investment returns (5%). (The investment returns are pre-inflation, so Mary is assuming a net return of 3%. It should be additionally noted that the investment growth rate is also used in determining the Net Present Value (NPV) of SS benefits.)

Life Expectancy

One input not yet mentioned is the **L**ife **E**xpectancy **P**ercentile (LEP – which is not a Social Security acronym). If we have good reason to anticipate an early death, there's little need to financially plan for a 100-year life, but what LEP value is appropriate for one of average health and lifestyle? Should Mary use 50%? If she did, that would imply she would live to the date corresponding to when half the females of her age would have died (with counting beginning on the Analysis Start Date). Being in generally good health, and having some long-lived grandparents, Mary decided to use 90%. Using Social Security's actuarial tables, that results in a life expectancy of 98.1 years and a check-out date in August of 2063!

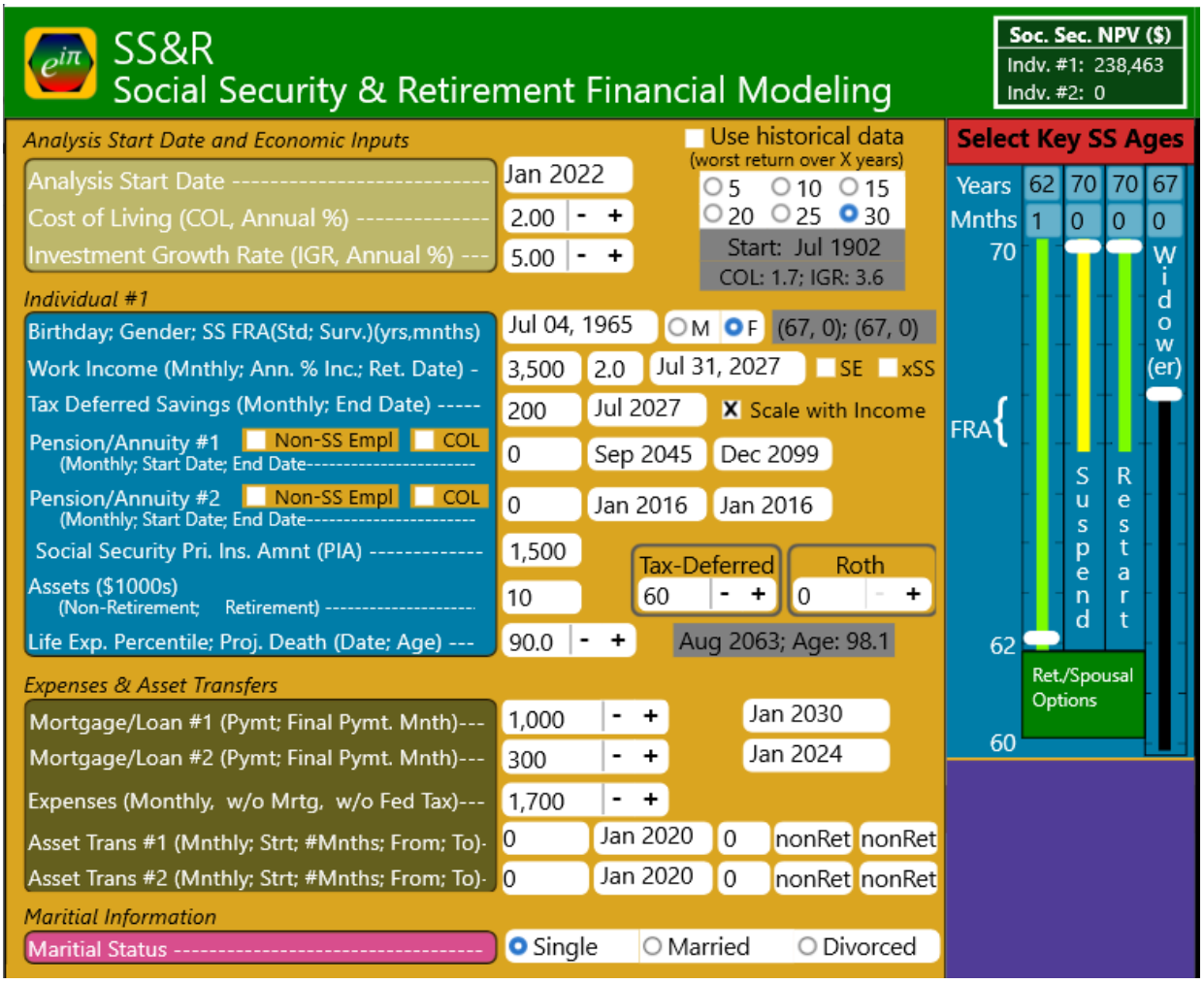


Fig. 5 – **SS&R Input Area (Mary Lamb)**

Sliders[1]

To the right of the fields for numerical and date entries are a series of slider bars. Those bars are used to specify decision ages relative to Social Security. The first slider sets the age for the start of **R**etirement **I**nsurance **B**enefit (RIB) payments (that portion of Social Security dependent on the given individual's work record). It extends from age 62 at the bottom (actually, except for those born on the 1st or 2nd of the month, people are first eligible at age 62 and one month), to age 70 at the top. The second bar (yellow), reflects a recipient's option to suspend benefits after reaching FRA (assuming they had been previously started), and thus accumulate **D**elayed **R**etirement **C**redits (DRC). Those credits serve to increase payments when benefits are started/restarted. Benefits are increased by 2/3 of 1% for each month benefits are delayed or suspended after FRA. Thus, for each year they are so delayed, the RIB increases by 8%. The third bar, RIB Restart, has the same range as RIB Suspend and allows the given individual to specify when to resume their suspended benefit payments. The last slider on the right (black) is not of concern to Mary since it is used to specify the starting age for Widow(er) Insurance Benefits (WIB).

Social Security Benefit Options

Taking the Most Popular Approach – Many Social Security recipients (~40%) start their benefits at age 62. Mary can evaluate that scenario with SS&R by simply setting the RIB slider at the bottom of its range and setting the Suspend slider at its top. With that done, the **Summary** plot, always visible at the upper right of the SS&R window, should appear as shown in Fig. 6. The three lines shown in this plot are Income (left scale), Expenses (left scale; includes tax-deferred savings), and Assets (right scale; positive asset values are displayed in white and negative values in red).

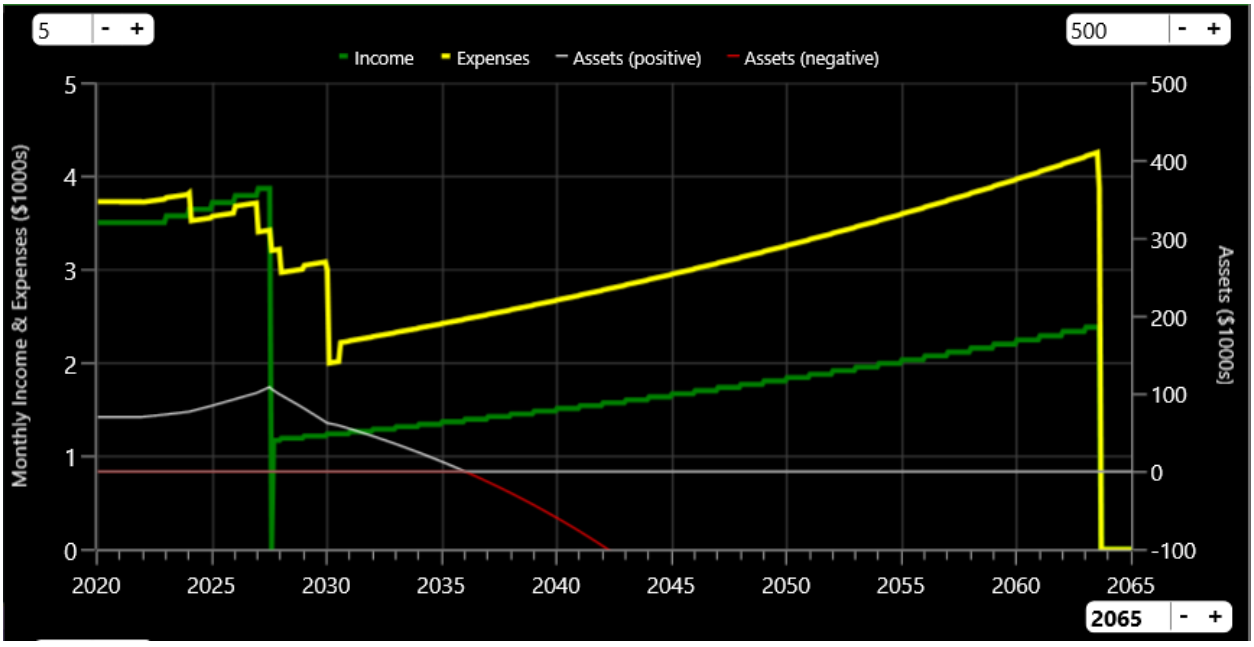


Fig. 6 – **Summary Plot (Mary Lamb)**

[1] Sliders can be moved either by clicking and dragging with the mouse, or with the arrow keys to move the last slider activated by clicking.

Mary was correct in thinking she may not have been saving enough, at least not if she had any thoughts of retiring at 62. Mary could maintain her lifestyle for a while, but by about 2036 her assets are gone and her income will no longer support the expenses of her pets.

Over time, expenses grow due to inflation (with medical expenses likely replacing travel and recreation expenses with increasing age). Mary's Social Security benefits, permanently reduced in this scenario due to having taken them at 62, increase with the cost-of-living but not enough to keep the gap between her expenses and income from growing. The smaller one's monthly benefits, the smaller will be the dollar increases from cost-of-living adjustments.

Below the **Summary** plot, four other graphical displays of Mary's financial situation are available and can be selected by clicking on the buttons to the right of the lower plot. The first three provide a breakdown of the income, expense, and asset lines shown in the upper plot. Specifically:

- **Income Breakdown** (Fig. 7) provides separate curves for income from work, pensions, and Social Security.
- **Expense Breakdown** (Fig. 8) provides curves for miscellaneous, loans & tax-deferred savings, along with federal taxes and Medicare premiums.
- **Asset Breakdown** (Fig. 9) provides curves for non-retirement funds, tax-deferred funds, and Roth funds.

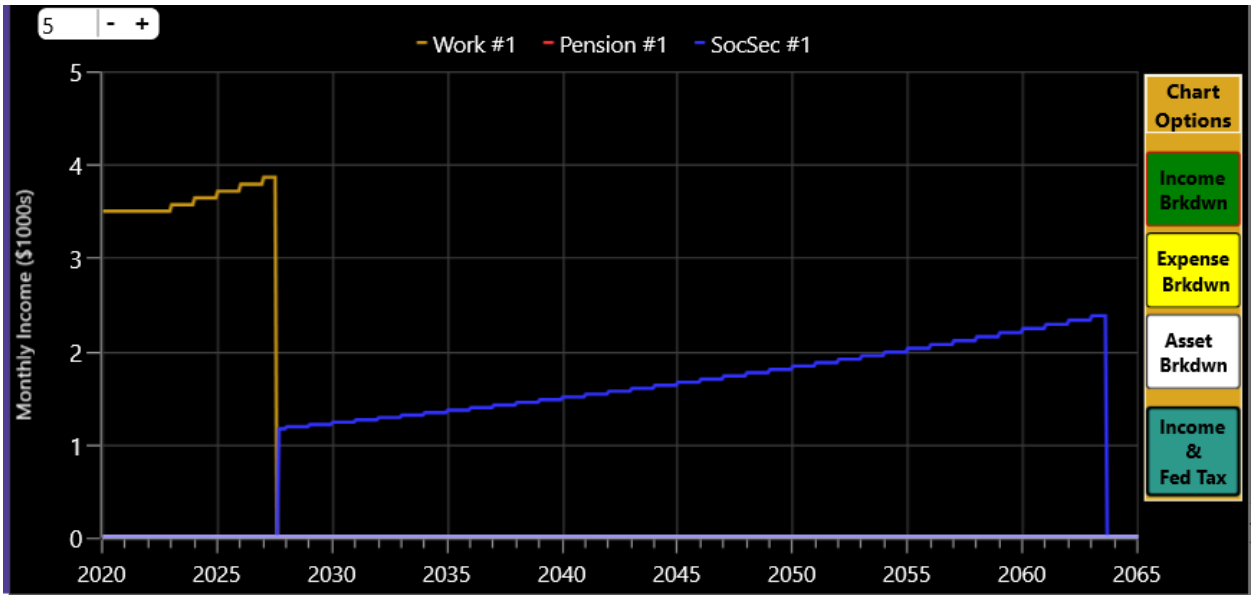


Fig. 7 – **Income Breakdown (Mary Lamb)**

In the *Income Breakdown* for Mary, her situation is quite simple – in 2027 her work income is partially replaced by Social Security.

In Mary's *Expense Breakdown* (Fig. 8), we see her loan and tax-deferred savings expenses drop off as first she completes her car loan, then stops IRA contributions with retirement, and finally pays off her mortgage. Federal taxes tend to rise with her salary increases (the increase in 2026 is due to the

expiration of the *Tax Cut and Jobs Act of 2017*), drop after she stops working, but then bump up slightly in 2029 when her non-retirement savings run dry and she has to increase IRA withdrawals until her mortgage is finished. Starting in 2030, when Mary turns 65, we see her Medicare Part B" premiums enter the picture. (As shown in Fig 2, the bottom app bar includes a check-box that enables the user to turn off those Medicare premiums if they so desire.)

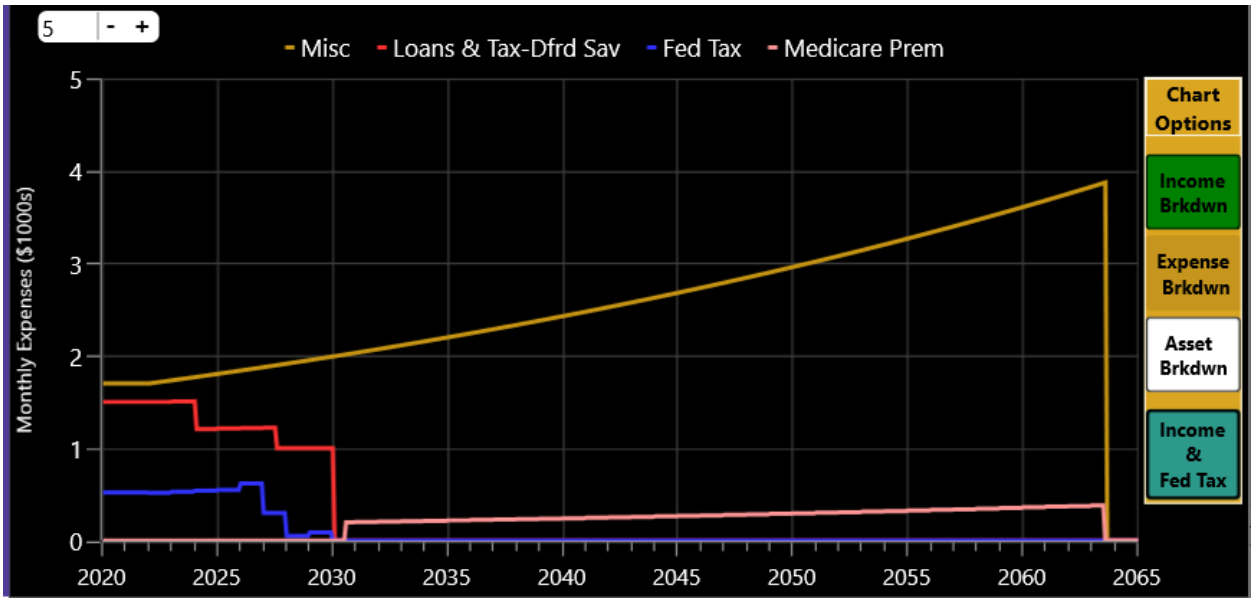


Fig. 8 – **Expense Breakdown (Mary Lamb)**

The last of the three breakdown charts is *Asset Breakdown* (Fig. 9). This chart shows Mary exhausting her non-retirement savings in 2028, about one year after her retirement, and then rapidly removing assets from her IRA until her mortgage is paid off. After that, the withdrawal rate is still high due to the gap between her income and expenses, but not high enough to create a federal tax liability.

Mary's asset situation is quite simple because she is single and has no Roth retirement assets. In general, however, the composition of financial assets will change over time for the following reasons:

- When expenses exceed income, the difference is made up by pulling from the asset accounts in the following sequence:
    - Non-retirement savings
    - Roth accounts
    - Tax-deferred account of the older individual (if considering a married couple) to minimize the chance of getting hit with an IRS early withdrawal penalty
    - Tax-deferred account of the younger individual
- When income exceeds expenses, the excess is added to the non-retirement savings
- When **R**equired **M**inimum **D**istributions (RMD) are required (i.e., an individual with a tax-deferred account who either reached age 70 ½ before 2020 or else turned 72 during or after 2020), any amount not needed to meet expenses is added to non-retirement savings.

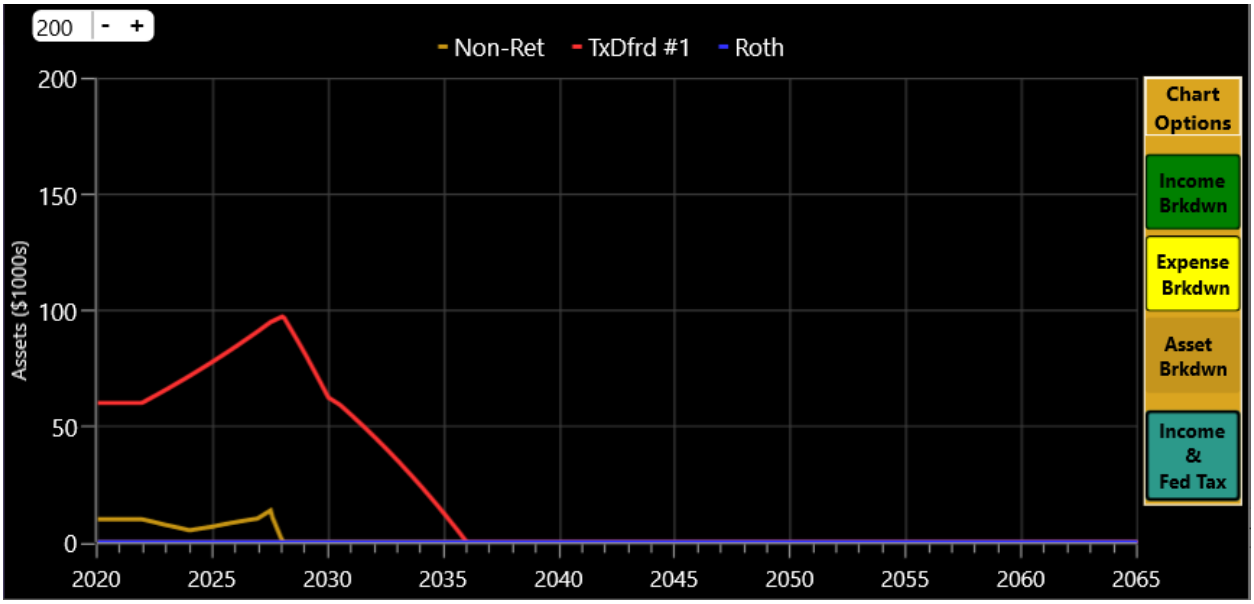


Fig. 9 – **Asset Breakdown (Mary Lamb)**

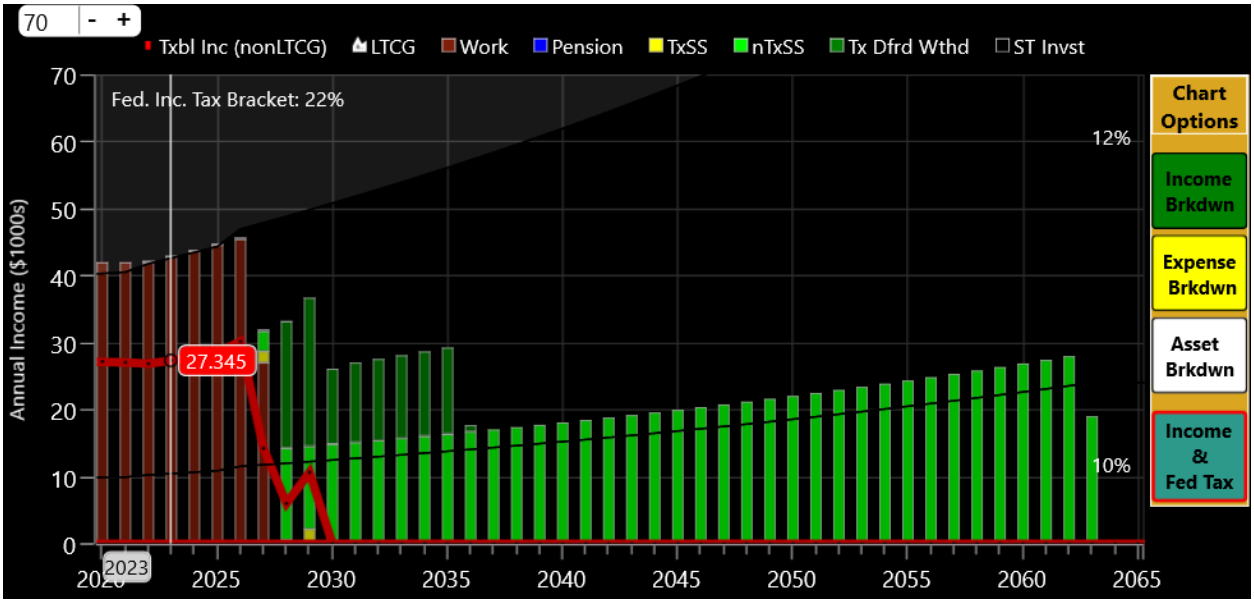


Fig. 10 – **Income & Federal Tax (Mary Lamb)**

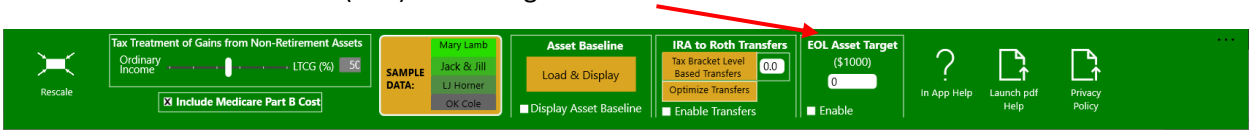
The final chart on the selection bar, **Income & Federal Tax**, is the most complex (Fig. 10). Its purpose is to show income relative to the federal tax brackets and the contribution levels of the various income sources. The heavy red line represents regular taxable income while **L**ong-**T**erm **C**apital **G**ains (LTCG; i.e., gains from assets held more than one year), if any, appear as a shaded white region above the taxable income line. (Returns on non-retirement assets are assumed to be split evenly between regular income items (e.g., interest, non-qualified dividends, short-term capital gains) and LTCG. (Note: Any portion of LTCG that falls within limits that roughly correspond to the current 10% or 12% tax brackets is tax-free.)

In Mary's particular situation, we see her work income lasting into 2027, and then a spike in IRA withdrawals in 2029 due to exhausting her non-retirement funds but still needing to pay on her

mortgage. After withdrawals have drained her IRA (2036), she is left with only her Social Security income.

It might be noticed that Figure 10 shows a white vertical cursor line. The year corresponding to that line is shown at the bottom and the value of the curve is shown where the mouse was pointed (Mary's taxable income in 2023 would be $27,345). That capability is available on all the plots and allows the user to obtain curve values at desired points in time.

Evaluating Retirement Options – SS&R allows Mary to quickly assess various options to improve her retirement situation. When assets are not sufficient to cover expected expenses, we might wonder how much expenses would have to be cut. A new feature of SS&R provides an answer. The bottom app bar now includes an End-Of-Life (EOL) Asset Target section.



If Mary simply leaves her asset target at 0, and then checks the Enable box, SS&R determines what monthly expense value achieves that target. In Mary's case, that value is $1274, a more than $420 reduction from her specified $1700 budget. The following steps progressively improve her budget situation:

1) Delaying SS until her Full Retirement Age of 67; Allowable budget: $1372
2) Delaying retirement to age 63: Allowable budget: $1478
3) Delaying retirement to age 64: Allowable budget: $1577
4) Delaying retirement to age 65: Allowable budget: $1674
5) Delaying retirement to age 66: Allowable budget: $1768

Each step adds roughly $100 to Mary's allowable budget and gets her to where she has a little cushion each month. Her updated screen is shown in Fig. 11. (If Mary goes back to a specified monthly budget of $1700, her expected end-of-life assets would be $149 K)

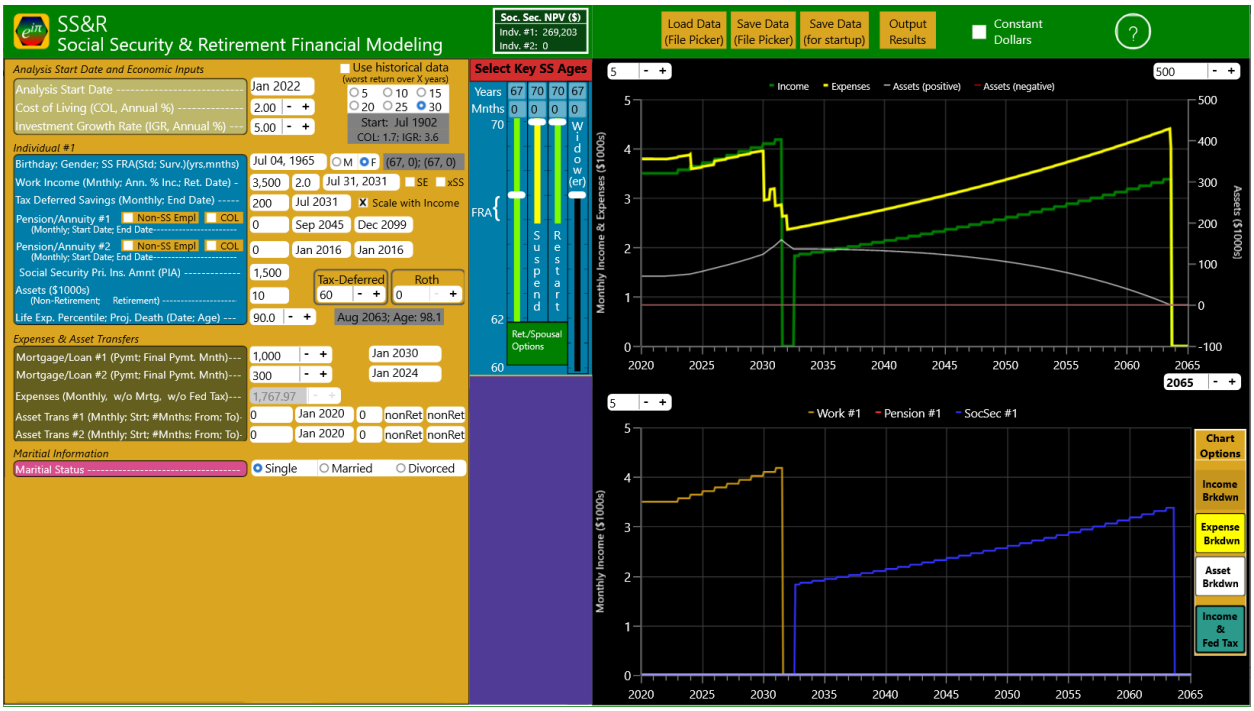


Fig. 11 –**Revised Screen (Mary Lamb)**

Mary's situation is not as bad as she had feared relative to retirement. By working until 66, and thus having her mortgage paid off and giving her retirement assets a little longer to grow, Mary can delay taking Social Security until 67. Perhaps, by working part-time after 66 doing that part of her job she likes the best (taking animals to schools), she thinks she may even delay collecting Social Security a bit longer.

Jack and Jill

Next, we consider the case of Jack (born 7/4/1956) and Jill (born 5/31/1956). They are a generally prudent couple who had been childhood friends. Having fallen out of contact after grade school, Jack bumped into Jill (after having tripped on his way to the bar) at a New Year's Eve party in 1979 and they were married a day-and-a-half later (1/2/1980). Jack retired from the water consulting business in 2018. Jill is employed in the same business and is currently still working. Between his pension ($1500, which has a spousal benefit of 75% if Jack should happen to die before Jill) and Social Security, which he began collecting when he turned 62, Jack thinks they can manage financially. He thinks that in part because Jill plans to keep working until she reaches her SS **F**ull **R**etirement **A**ge (FRA) of 66 years and 4 months.

Jill logged into her mySocialSecurity account (http://www.socialsecurity.gov/retire/estimator.html) and found her **P**rimary **I**nsurance **A**mount (PIA) is $1000. Jack's situation, however, is different. Since Jack has already started benefits, his PIA is not provided. What he can do is use a Social Security provided calculator (https://www.ssa.gov/oact/quickcalc/early_late.html) and input his birthdate and benefit start month. That calculator then provides the percent of PIA that he is receiving (73.75% for Jack). Jack can then divide his basic monthly benefit of $1328 (before any Medicare or tax deductions) by 0.7375 to get his PIA: $1800.

As mentioned earlier, Jack and Jill are generally prudent and, consequently, have managed to accumulate more than the typical US citizen in or near retirement. Jack has a 401k account with $300,000 but no Roth accounts. Jill has a traditional IRA currently valued at $100,000. (The average retirement savings, considering only those near-retirement households **with** retirement accounts, is $104,000; the average over all near-retirement households is only $14,500; *The Reality of the Retirement Crisis*, K. Miller, D Madland, and C. E. Weller, 1/26/15)

To finish off the picture of their current financial situation, Jack and Jill have non-retirement savings of $10,000, a mortgage of $1200 per month (final payment due in January 2024), and average monthly expenses (excluding mortgage and federal taxes) of $4700. Jack and Jill also estimate a reduction in monthly expenses of $1000 after the first one of them dies.

At this point, Jack and Jill have all the information needed to analyze their retirement situation using SS&R. After entering the data in the input section, it should appear as shown in Fig 12 (except for the red highlighting on a few of the inputs).

Analysis Start Date and Economic Inputs

Just like Mary, Jack and Jill are using Jan 2022 as the start date for their analysis and are keeping the default values for average annual cost-of-living increase (2%) and investment returns (5%).

Inputs

Due to the "Married" marital status, inputs for a second individual are made visible along with the four inputs highlighted with red in Fig. 12. When married, the fraction of a pension that would go to a spouse is a necessary input. The date of marriage is necessary since spousal benefits are only available after one year of marriage and widow(er) benefits after nine months. The additional expense input is to allow the user to specify a new value for miscellaneous monthly expenses after the death of one member of the marriage.

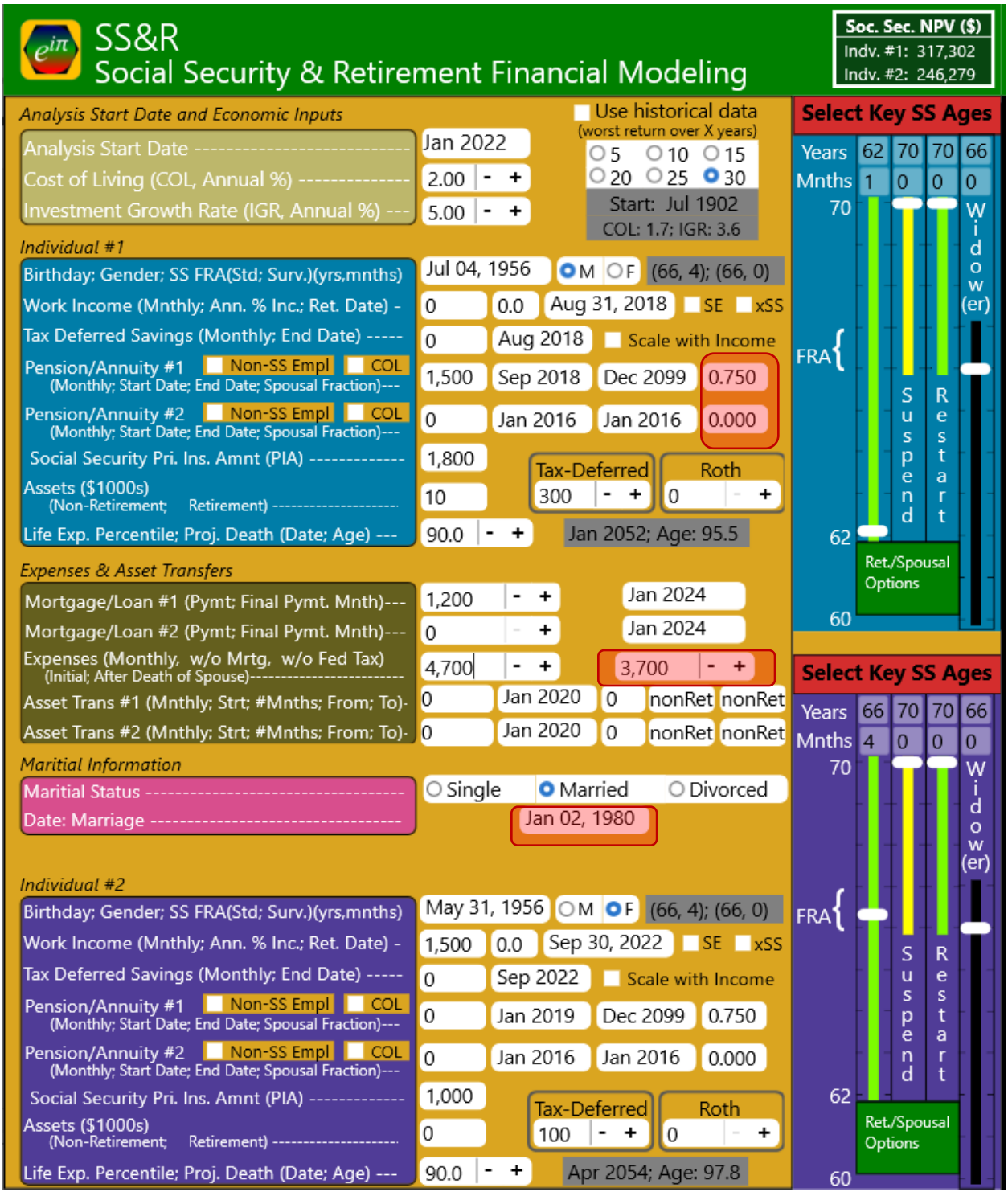


Fig. 12 – **SS&R Input Area (Jack & Jill)**

Sliders

While the last slider on the right (black) was of no interest to Mary Lamb, it potentially could be for Jack and Jill. That slider is used to specify the starting age for Widow(er) Insurance Benefits (WIB). WIB can be started as early as age 60 (subject, obviously, to the spouse being dead), and may be delayed to as

late as the survivor Full Retirement Age (which can be as much as four months less than the normal FRA and is designated as FRAs in the context of SS&R). Generally with Social Security benefits, delaying them as long as possible results in larger payments when they are started. That, however, is not always true with WIB due to a thing called the "**R**etirement **I**nsurance **B**enefit **– Lim**it" (RIB-LIM). The deceased spouse's RIB, which would have been reduced from his/her PIA if benefits were started before FRA, serves as a limit on the WIB (with some exceptions). In other words, Jill's survivor benefit will generally, but not always, be no more than what Jack would have been getting had he not died. The preceding is not the complete story of RIB-LIM, but it is enough to allow a return to the story of Jack and Jill.

Life Expectancy

If Jack and Jill were not so prudent, they might think that the best **L**ife **E**xpectancy **P**ercentile (LEP) estimate to use would be 50%. That would imply lives that would terminate at the date corresponding to when half the people of their age and gender would have died (starting from the Analysis Start Date). Thus, if we assume 2 million males in the country currently alive and born the same year as Jack, using 50% for the LEP value would imply Jack's life, along with his need for financial planning, would terminate on the day when the 1 millionth death occurred from among that group. Jack, being prudent, recognizes he may be among the lucky 50% who live a bit longer and, if so, does not want to have his good fortune tarnished by not having enough money to cover his needs.

So what LEP value should be used? Jack and Jill decide on 90%. However, they also want to see their financial projections showing stable or growing assets (just in case they exceed their specified LEP values), not resources diving towards zero shortly after the latter of their expected departure dates.

Social Security Benefit Options

Jack retired and started collecting his Social Security benefits when he turned 62. Jill plans to work until her Full Retirement Age (FRA) and then start collecting her benefits. This is done in SS&R by clicking on the RIB slider at the appropriate location (fine-tuning with the up and down arrows if need be) and moving the Suspend slider to its top. With that done, the **Summary** plot, always visible at the upper right in the SS&R window, should appear as shown in Fig. 13.

Over time, expenses grow due to inflation. Jack's pension, as is typical for those lucky enough to have one, does not increase with inflation. Jack and Jill's Social Security benefits increase with the cost-of-living, but not nearly fast enough to keep up with their expenses. As a result of the increasing gap between income and expenses, Jack and Jill's assets fall down the hill and turn negative in 2047. Not exactly what a couple in their early 90s wants to face!

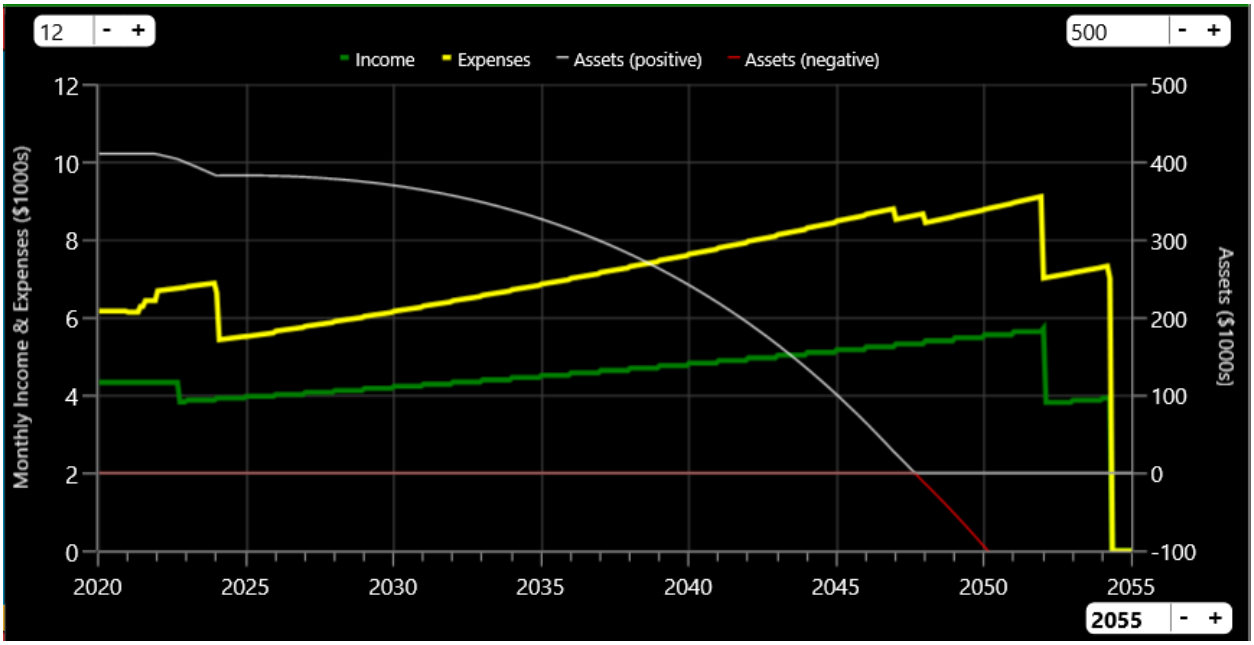


Fig. 13 – **Summary (Jack and Jill)**

The Income, Expense, and Asset Breakdown plots for Jack and Jill show the same information as they did with Mary Lamb, but now for two people. It should be noted that in the Asset Breakdown plot (Fig. 16), non-retirement funds for the two individuals are combined, as are Roth assets. Tax-deferred funds are kept separate to accommodate the determination of **R**equired **M**inimum **D**istributions (RMD).

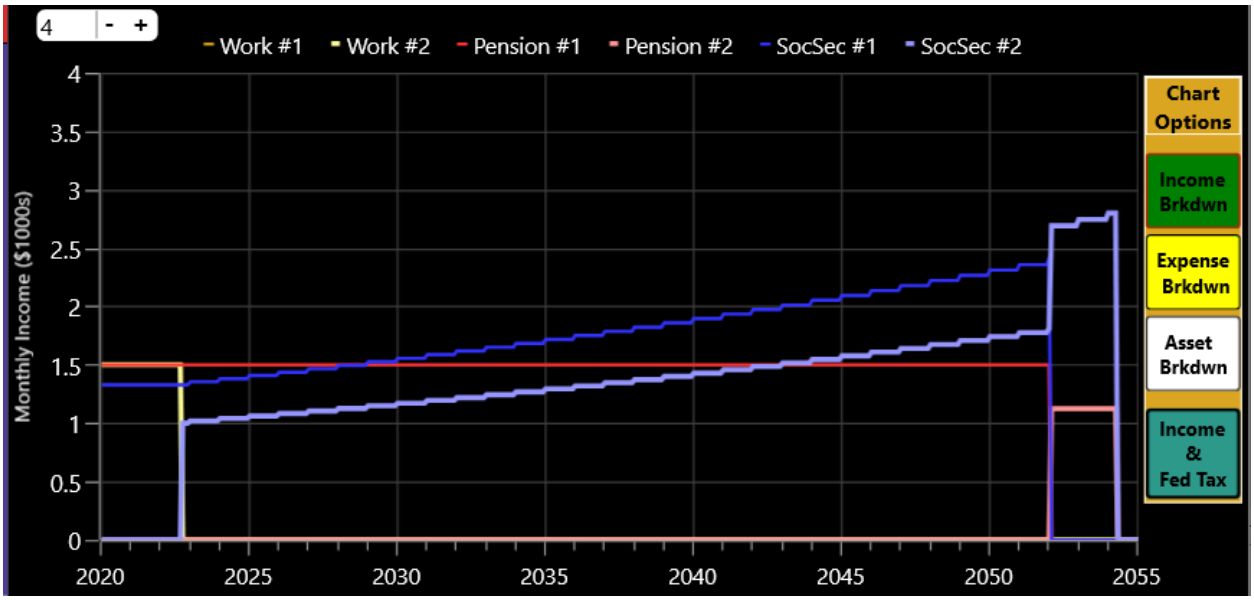


Fig. 14 – **Income Breakdown (Jack and Jill)**

In the *Income Breakdown* for Jack and Jill, there is one item worth noting. Specifically, if Jack departs as estimated in January of 2052, Jill's RIB payment will be replaced by the larger WIB (which will consist of her RIB plus the additional amount needed to provide the monthly WIB benefit). RIB-LIM, as discussed earlier, is nominally designed to limit a widow(er)'s benefit to the level that the deceased spouse was

getting or could have been getting. However, it also enables a benefit of up to 82.5% of the deceased's PIA if their actual benefit was smaller than that. In the particular situation of Jack and Jill, Jack was only receiving 74% of his PIA, so Jill's widow benefits would be greater than Jack's RIB (as can be seen at the right of Fig. 14)

In Jack and Jill's *Expense Breakdown* chart (Fig. 15), miscellaneous expenses, rising with inflation over the years, dominate total expenses. Their mortgage payment is relatively low and terminates in 2024, while federal taxes and Medicare Part "B" premiums are low but climb slowly with time. Federal income tax goes to zero the year after assets are depleted.

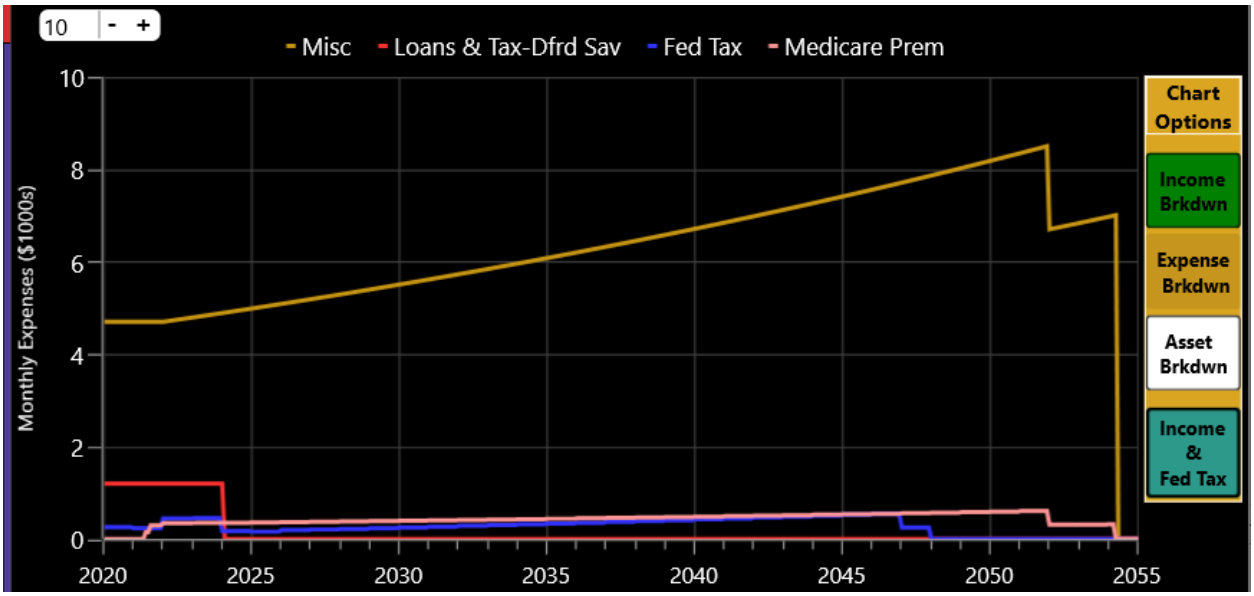


Fig. 15 – **Expense Breakdown (Jack and Jill)**

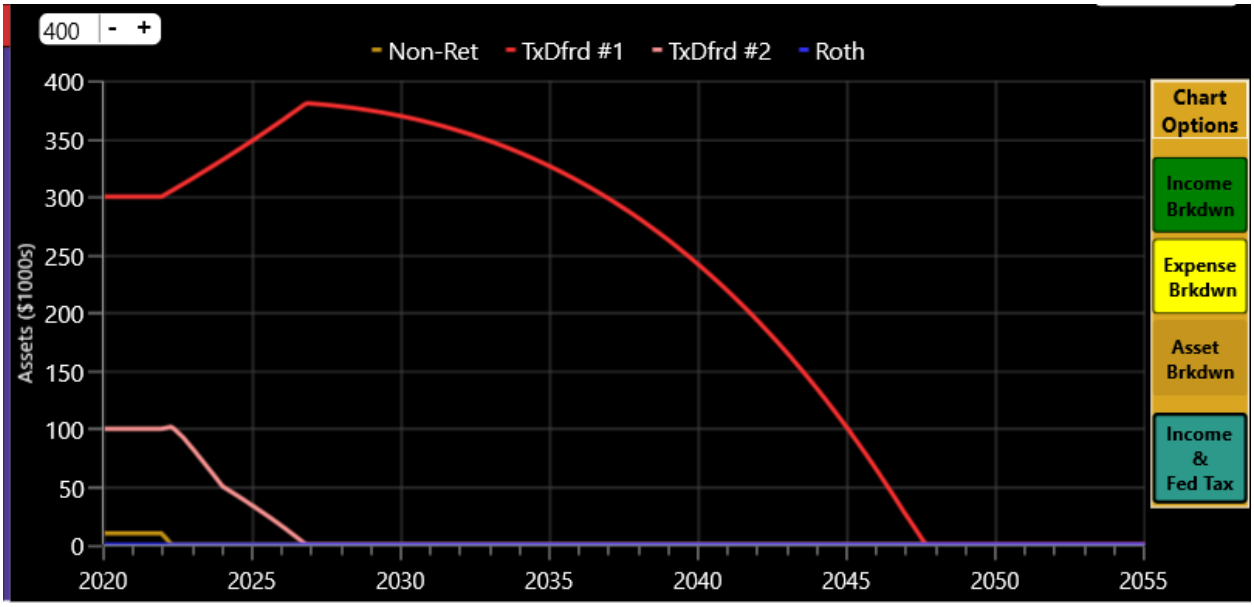


Fig. 16 – **Asset Breakdown (Jack and Jill)**

In their *Asset Breakdown* chart (Fig. 16), the progression is seen as the nominally $2000 per month gap between income and expenses causes them to consume their $10k of non-retirement savings just a few months into 2022. They then proceed to drain Jill's (since she is slightly older), and then Jack's, tax-deferred accounts. With their current retirement plan, they better hope a son or daughter will take them in when their money runs out.

When Jack and Jill look at their *Income & Federal Tax* chart (Fig. 17), it shows that they would be operating solidly in what are currently the 10% and 12% tax brackets (which roughly correspond to the 0% range for long-term capital gains). If they had enough non-retirement assets to generate some long-term capital gains they could have them tax-free, but they have too big of a gap between income and expenses to enable that to happen.

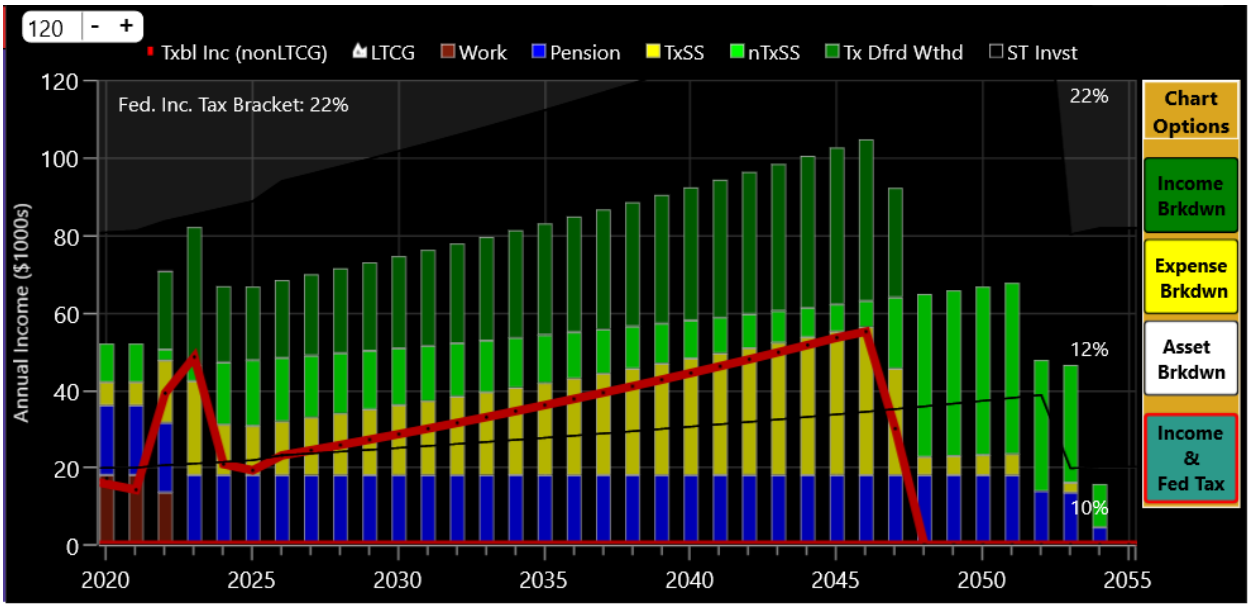


Fig. 17 – **Income & Federal Tax (Jack and Jill)**

Taking a More Prudent Approach – Jack and Jill, looking for a better retirement strategy, experimented with suspending (Jack) and delaying (Jill) their SS benefits, but that alone was not going to be sufficient. In one approach that helped, but was still not acceptable, Jack suspended his benefits between his **F**ull **R**etirement **A**ges (66 and 4mnths) and age 70. By doing so, he would build up Delayed Retirement Credits and ultimately get a larger benefit at age 70. Jill looked at simply waiting until age 70 to file and thus get the maximum possible benefit.

Before entering those changes, they first click" on the green bar across the bottom of the SS&R window to bring up the *Lower Application Bar*. By clicking on the "Load & Display" button under "Asset Baseline", the current *Asset* line will be retained in the display for reference. The adjusted slider positions and results are shown in Fig. 18.

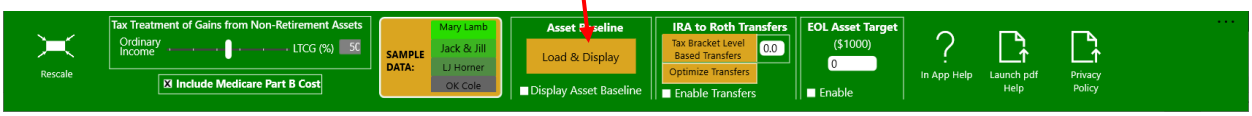


Fig. 18 – **Jill's RIB Slider at 70, Jack Suspends Benefits from FRA to 70**

Jack and Jill, looking for additional options to avoid falling down a declining asset hill, have one more area to investigate before accepting the need to cut expenses. The tax rates for the bottom two tax brackets, up through 2025, are just 10% and 12%. What if they were to move some of their tax-deferred assets to Roth accounts over the next few years, and thus avoid creating taxable income in later years when doing so could cause some of their Social Security payments to become taxable. Having noticed the "Optimize Transfers" button in the Bottom App Bar, they first update their asset baseline to its current position and then click the optimize button. (There is a more detailed discussion of Roth conversions in the next case study (L.J. Horner).

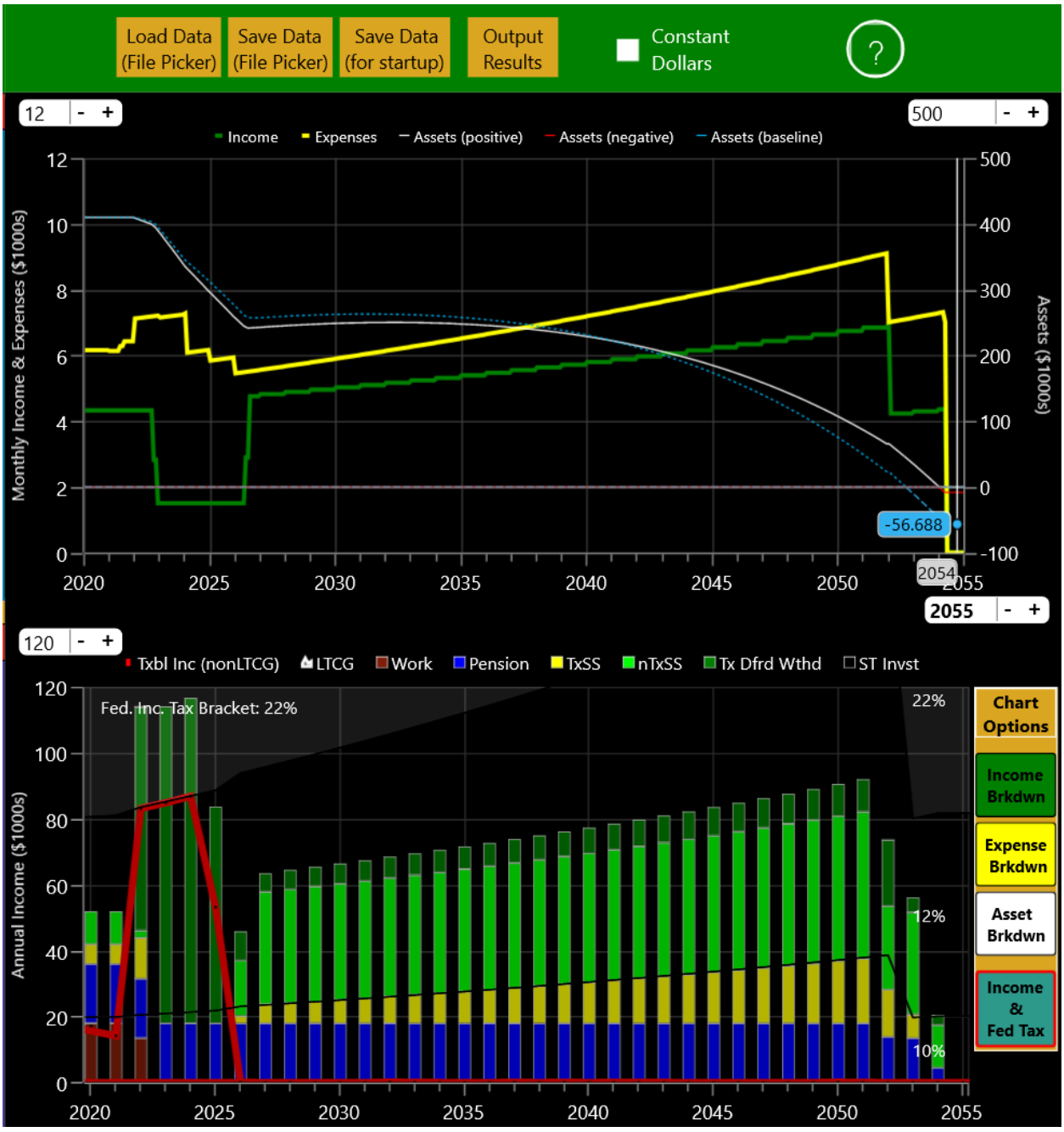


Fig. 19 **Jill's RIB Slider at 70, Jack Suspends Benefits from FRA to 70, Optimized Roth Transfers**

Jack and Jill are glad to see their end-of-life assets (Fig 19) are now only about $8,000 negative thanks to a nearly $50,000 improvement with the conversion of tax-deferred assets to Roth accounts. Nevertheless, they want to have positive end-of-life assets, with a comfortable cushion, so they take a look at cutting expenses. Fig. 20 shows the results of cutting expenses from $4700 to $4500 per month. They very much like that their assets now stay relatively flat through their anticipated lifetimes. The higher benefit level that results from their patience does a much better job of keeping up with the rising costs of living as they get deeper into their retirement years. (It might also be noted, in the box above

the sliders, that the NPV (Net Present Value) of their SS benefits increase by about $37,000 as a result of suspending/delaying collection of benefits; Fig.12 to Fig. 18)

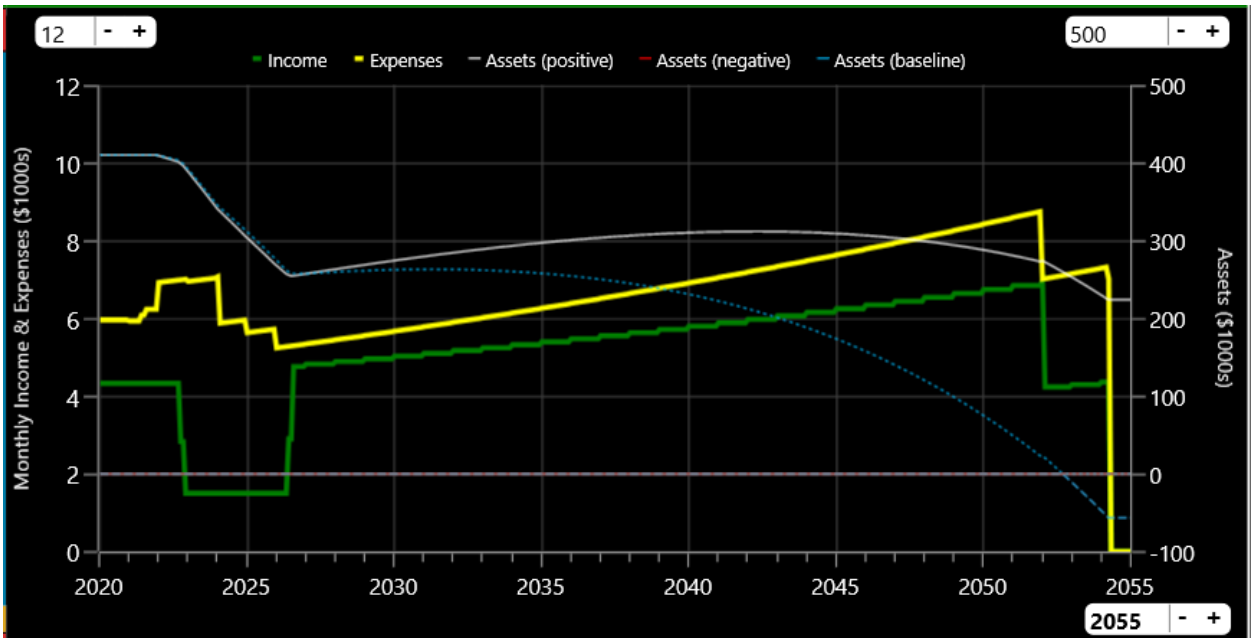
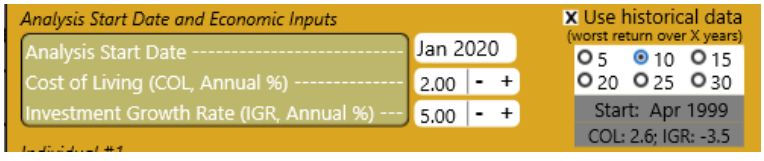


Fig. 20 - **Jill's RIB Slider at 70, Jack Suspends Benefits from FRA to 70, Optimized Roth Transfers and Expenses Cut by $200/Month**

Market Variation

Over the long term it may be reasonable to assume a 5% return on investments, but retirement assets invested in equities are NOT isolated from market fluctuations. To throw a splash of reality into SS&R's projections, the user has the option of replacing the assumed constant values of COL and IGR, specified in *Analysis Start Date and Economic Inputs*, with historical market data.



By checking the box for "Use Historical Data," the user can select any of six bad periods for the US stock market. Those six periods, ranging in duration from 5 to 30 years in 5-year increments, were determined based on Robert J. Shiller's market and cost-of-living data (http://www.econ.yale.edu/~shiller/data/ie_data.xls) over the period from 1871 to 2015. The periods were chosen such that the real return (i.e., after subtracting out inflation) was the worst since 1871 for the specified number of years. For the period selected, the start date (month and year) is listed below the radio buttons, along with the average annual **C**ost-**O**f-**L**iving (COL) change and **I**nvestment **G**rowth **R**ate (IGR) over the given duration.

Jack and Jill wonder what their financial future would look like if they didn't assume a steady 5% return on investments. After all, while they may get a constant return of about 1% by putting their assets into

long-term CDs, SS&R shows such a rate-of-return would not work well for their situation. They are looking at a 35+ year time horizon, so it is certainly reasonable, and prudent, to accept some short-term risk in exchange for the possibility of better long-term returns (i.e., have some assets in stocks). What they would like to know, however, is how dire might their situation become if equities really turned bad.

After checking the "Use Historical Data" box and cycling through the different durations, they find the worst case for them is to apply the ten-year period that started in April of 1999 (Fig. 21). If all their assets were in the stock market, the combination of bad market conditions and asset withdrawal would necessitate a modest reduction in expenses. Fortunately, in this scenario of suspended and delayed filing for Social Security benefits, they have a relatively small gap to deal with between income and expenses after age 70. Jack and Jill, however, in their prudence, would never be 100% invested in stocks. The results provided by SS&R serve to reinforce that prudent attitude.

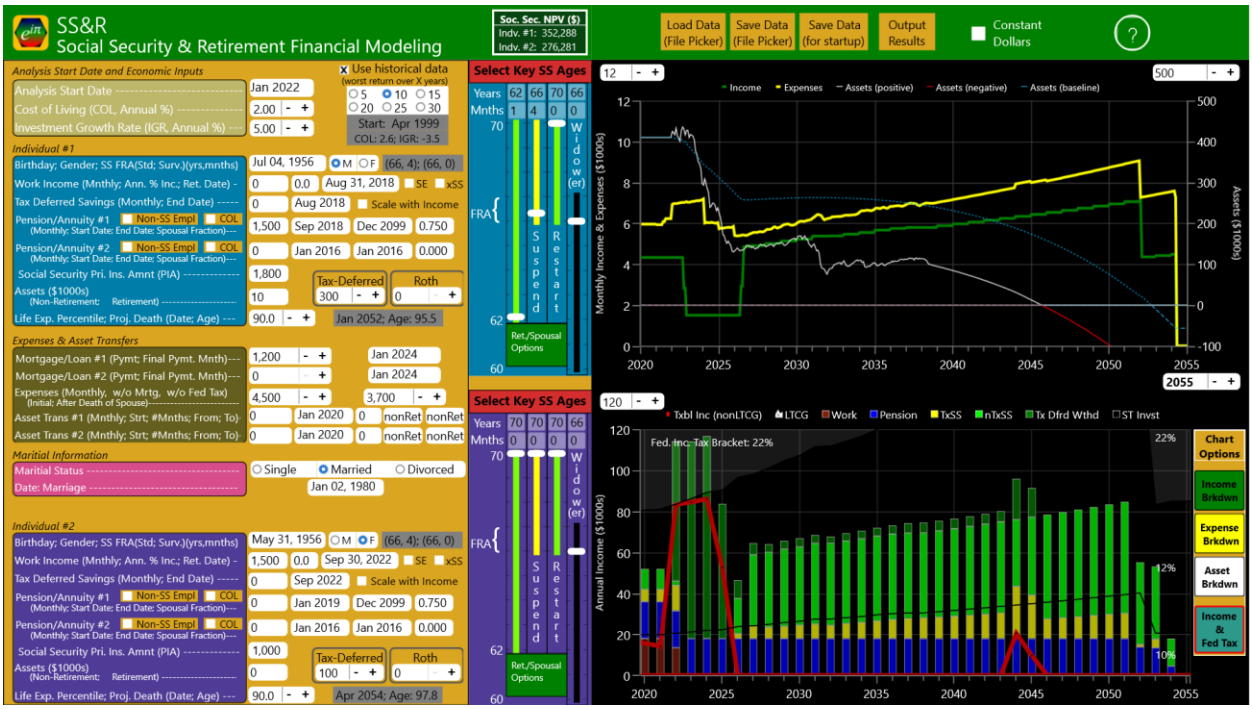


Fig. 21 – **Analysis Using Historical Data (Jack and Jill)**

Interesting Info

From Social Security's Program Operations Manual, section RS 00615.015 - How the Day of Birth Affects Benefits: "Retirement benefits can begin the first month a person is age 62 throughout the entire month. (See RS 00201.001C.) Social Security follows English common law wherein a person attains an age on the day before the birthday." If Jack had been born 2 days earlier, on 7/2/1956, Social Security would have considered him to turn 62 on 7/1/2018, thus 62 years old for the full month of July 2018, and therefore eligible for benefits that month. With benefits being paid the month following the month on which they are based, his first check could have been in August.

Mr. & Mrs. L.J. Horner

For our third case, we consider the Horners. Jack (born 4/30/1952) and Jackie (born 1/2/1956). They were married on December 14, 1982, and both worked as writers covering the financial industry. Jack retired in 2012 at the age of 60, but Jackie worked until age 66, retiring 12/31/2021.

Jack, when he retired, took some of their savings and purchased an annuity with cost-of-living adjustments and a 60% survivor benefit. As of the analysis start date, it is paying $2700/month. For current assets, the Horners have $50,000 in non-retirement assets, $200,000 in Jackie's IRA, and $100,000 in Jack's IRA. They don't currently have any money in Roth accounts. Lastly, their Social Security PIA numbers are $2500 (Jack) and $1800 (Jackie).

In regards to expenses, they have a $1500/month mortgage that ends in March 2024, and miscellaneous monthly expenses of $6600. After one of them dies, those miscellaneous expenses are expected to drop by $1200 per month.

As in the two previous case studies, the Horners are using Jan 2022 as the start date for their analysis and are keeping the default values for average annual cost-of-living increase (2%) and investment returns (5%).

At this point we need to diverge slightly from the Horner's particular case and attempt to describe some benefit options that are available for those old enough, like Jack, to take advantage of them.

The Spousal Slider (For those who attained age 62 in 2015 or earlier)

An additional slider is present for Jack Horner and all others born on or before 1/1/1954[2]. The spousal slider (pink, and only displayed for those to whom it applies) determines the start of spousal benefits (SIB). It has the same lower end as the RIB bar (age 62 and either 0 or 1 month) and an upper limit set at FRA. Unlike RIB, which can be increased by either delaying the start of benefits or suspending them after reaching FRA, there is no reason for those in this group to delay taking spousal benefits beyond FRA.

Spousal benefits cannot be obtained until both individuals have filed for benefits (except under certain conditions when "Individual #2" is an ex-spouse). Additionally, if one's spouse has already filed for benefits, and you have not yet reached your FRA, you are "deemed" to have filed for both RIB and SIB if you file for either one. Only after reaching FRA does one member of the marriage team, and only one, have the option of filing for Spousal Benefit Only (SBO). Jack could have waited and filed for SBO after reaching FRA, but that would have also required Jill to file so Jack could collect spousal benefits. In Jack's assumed situation, since he filed for his RIB benefits at age 62, the SBO option, while available, has no impact.

For those who attain age 62 in 2016 or later

As seen previously, because of the benefit options that don't exist for this younger group, their claiming choices are much simpler. When members of this group file for either their own retirement benefits or their spousal benefits, they are deemed by Social Security to be filing for both. Thus, the spousal benefit slider is no longer pertinent and is removed from the individual's data entry area of SS&R.

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[2] Because Social Security considers a person to have attained a given age the day before their actual birthday (Social Security POMS RS 00615.015, How the Day of Birth Affects Benefits), those born on January 1, 1954 are considered by Social Security to have turned 62 in 2015.

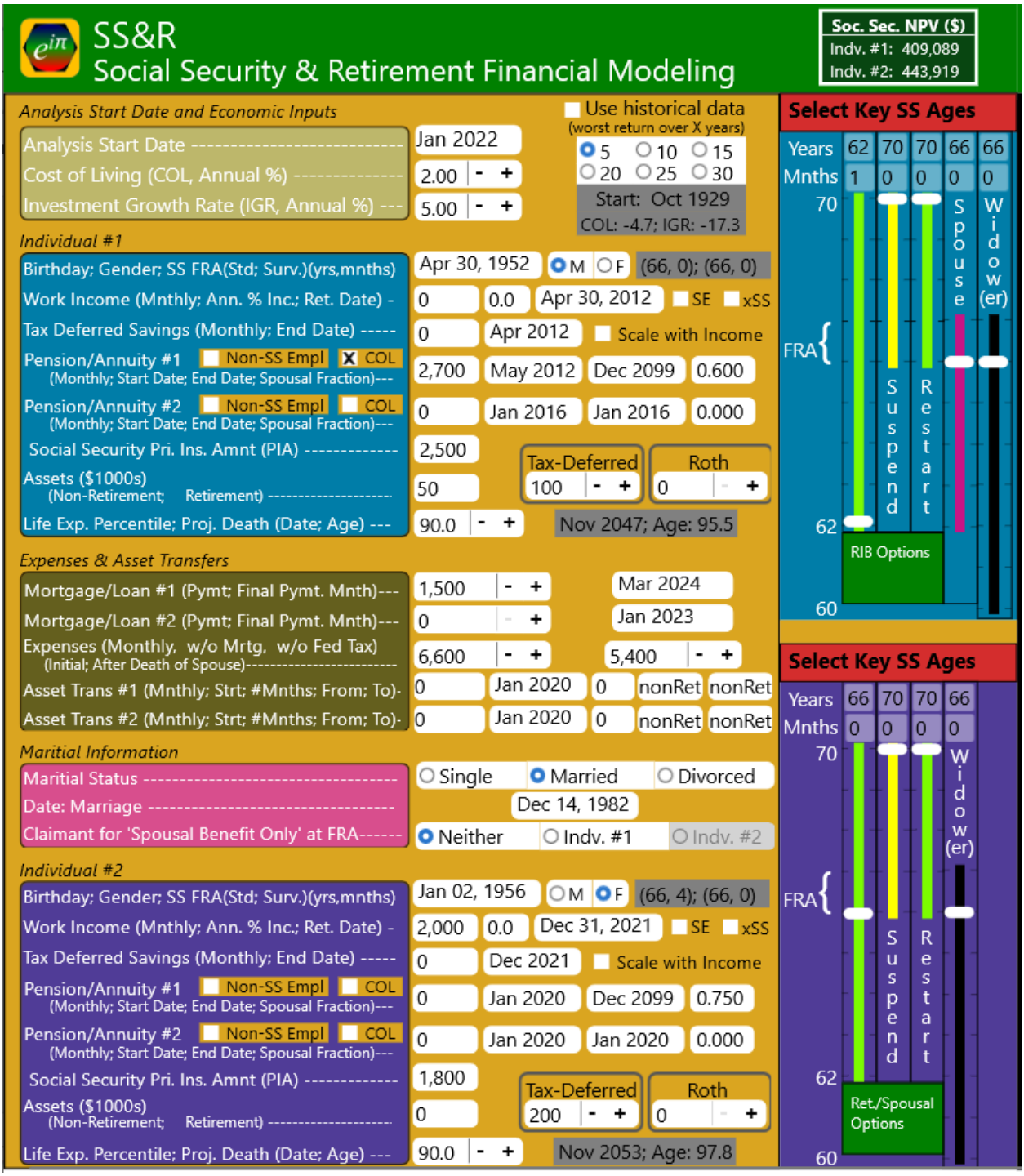


Fig. 22 – **SS&R Input Area (Horner)**

While those in the older group have no reason to wait after reaching their FRA to claim spousal benefits (for one member of the marriage team), that is not true for those in this younger group. First, for those marriages where the lower PIA is more than half of the higher PIA, no spousal benefits are ever available since each person's RIB payment is greater than their possible SIB payment. In all other marriages, where the lower PIA is less than half of the higher one, if the person with the higher PIA wants to delay

filing in order to receive a larger payment, that means the spouse must also wait, with no compensation for waiting, on their spousal benefit (unless there is a sufficient difference in age that the person with the higher PIA files before the person with the lower PIA reaches FRA).

Time to escape from the head-spinning rules of Social Security and get back to the specifics of our current case study…

The Horners (continued)

The Horners, as did those in the prior case studies, are using 90% for their life expectancy percentile (It seems everyone wants to "Live long and prosper" or, in Jack's case, have the plum of long life and still be able to eat). Jack started his benefits at 62 (actually at 62 and 1 month) and Jackie is starting hers at 66. However, when they plug their financial information into SS&R (Fig. 22), the Summary graph does not look very good (Fig. 23).

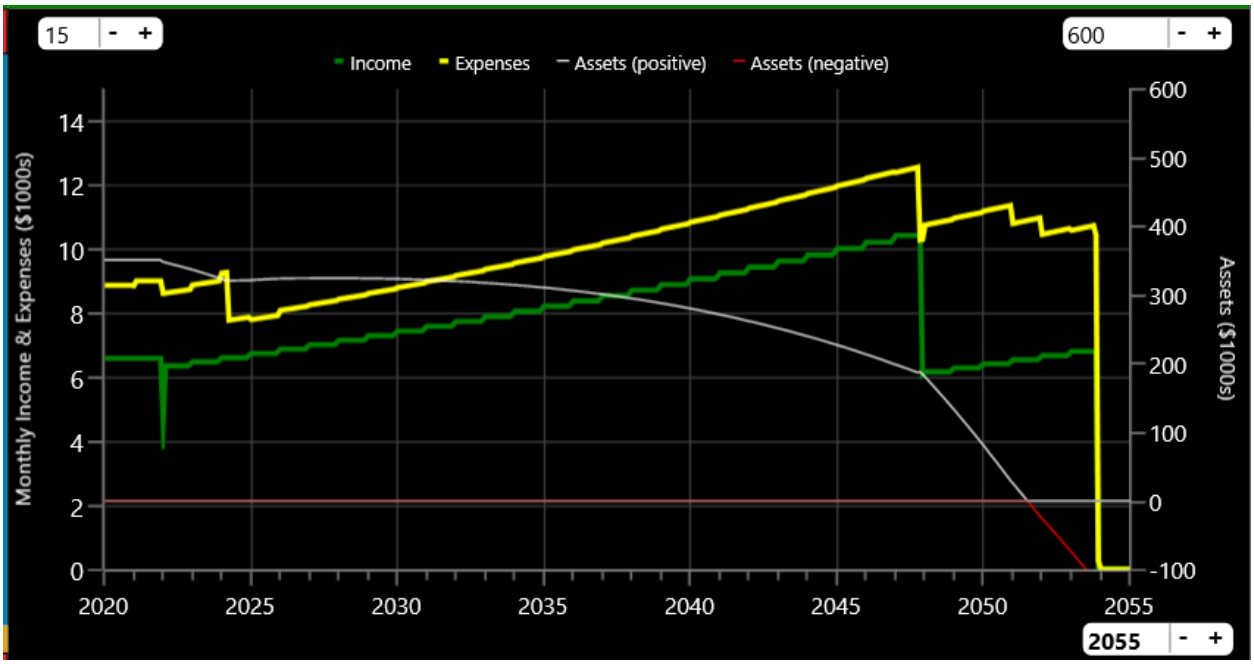


Fig. 23 – **SS&R Summary Display (Horners)**

One thing Jackie can do is delay her benefits until she turns 70, allowing them to grow 8% per year. Their Summary plot becomes what is shown in Fig. 24. Delaying Jackie's Social Security works in the given situation, but Jackie's real problem is the significant loss of income after Jack dies.

Fig. 24 – **SS&R Summary & Income Breakdown Displays (Horners, adjusted)**

Tax Strategies

Fig. 25 displays the Horner's income and federal tax situation. As do many people, the Horners pull assets out of their tax-deferred accounts either as needed or as required to satisfy RMD requirements. However, because of those RMD withdrawals, and earnings on regular assets (that have accumulated because of prior RMD withdrawals beyond what was needed to fund expenses), that incremental income causes a greater portion of their SS benefits to become taxable. For instance, in 2035, their $11,459 RMD withdrawal serves to increase their taxable SS from $32,083 (Fig. 26) to $42,517 (Fig. 25). Although they will be in the 15% tax bracket (the current 12% rate is scheduled to revert to 15% in 2026), their $11,459 of "extra" income (above their base income from pension and SS) results in an additional $3345 of federal tax, and thus an effective marginal rate of 29.2%!

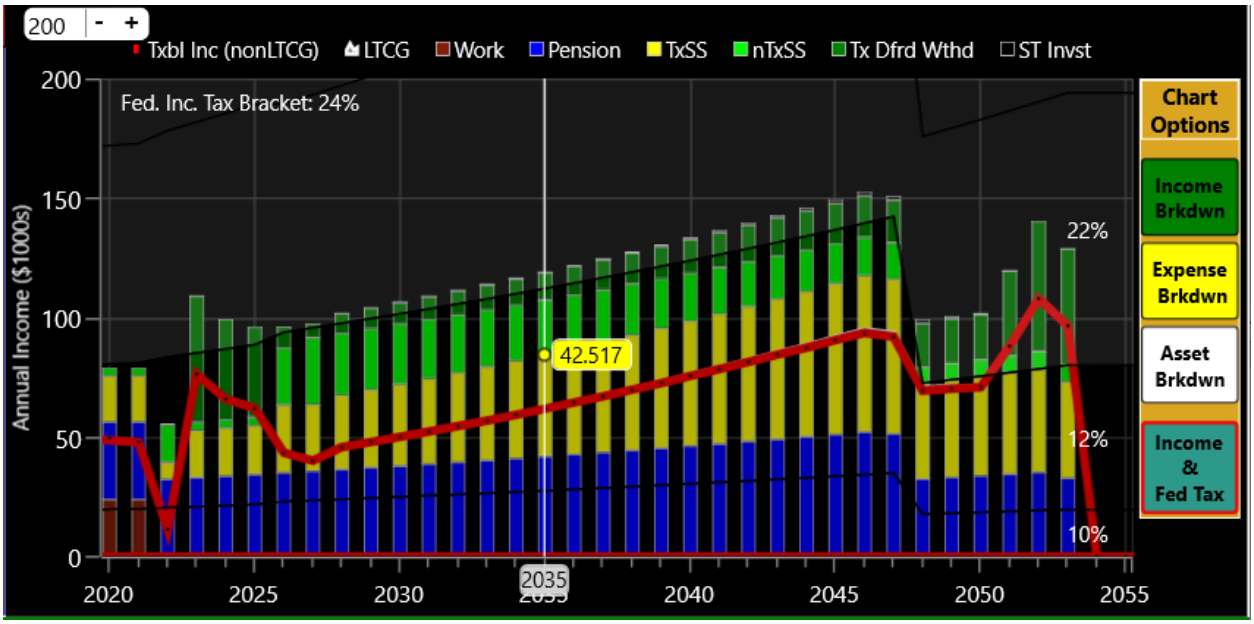
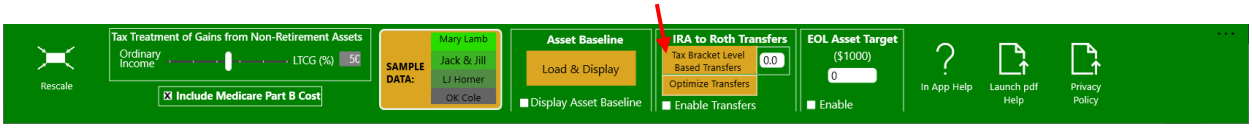


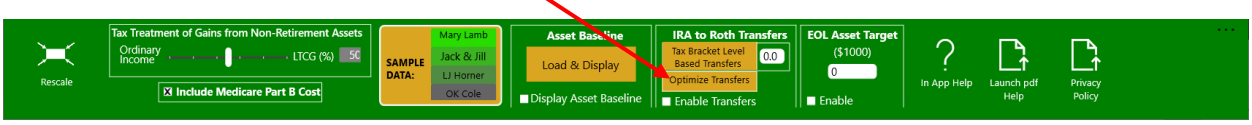
Fig. 25 – **SS&R Summary & Income Breakdown Displays (Jackie collecting SS at 70)**

What if the Horners were to perform a series of rollovers from their tax-deferred accounts to Roth accounts during their early retirement years? Doing so would generate increased tax liabilities in the near term, but would decrease taxes in later years by both reducing (or possibly eliminating) RMD withdrawals and creating investment gains in the non-taxable Roth accounts rather than on regular assets. In SS&R there are now two different means to evaluate rollover strategies. The first option involves two steps: Step 1) specify a tax bracket level that one is willing to go up to when moving tax-deferred assets into Roth accounts; Step 2) click on the "Tax Bracket Level Based Transfers" button.



For instance, with the first three tax brackets currently being 10%, 12%, and 22%, if the user specifies 1.0 as the bracket limit, assets will be converted as long as there is room to increase income without exceeding the first bracket. Alternatively, if the user were to specify 2.4 as the bracket limit, regular taxable income (not including long-term capital gains) would be allowed to rise through the second tax bracket (i.e., 12% tax) and 40% of the way through the third bracket. As a final example, specifying 1.7 would mean regular taxable income would be allowed to go as high as 70% of the way between the top of the first and top of the second brackets. If taxable income in any year is already above the specified level before any asset conversion, no conversion will be performed during that year.

The second option to use when evaluating the potential benefits of moving tax-deferred assets to a Roth account is to simply have SS&R evaluate a range of conversion strategies and display the best it finds. All the user needs to do is click on "Optimize Transfers" in the bottom app bar, and then give SS&R a couple minutes to do its work.



The optimization works to maximize end-of-life assets. In the process of doing that, tax-deferred assets are discounted by 20% to reflect, in some approximate fashion, their value deficit relative to tax-free (Roth) and non-retirement assets.

Getting back to the Horner situation specifics, let's try the first conversion evaluation option with a bracket level of 2.0. With the asset baseline reset to the improved asset curve shown in Fig. 24, the further improved situation is displayed in Fig. 26.

Fig. 26 – **SS&R Summary & Income/Tax Displays (Horners, bracket limited Roth conversion)**

As seen in the lower portion of Fig. 26, conversion of tax-deferred assets to Roth accounts is limited each year by taxable income (excluding LTCG) hitting the top of the second tax bracket. As already

stated, there is a near-term hit on taxes, but end-of-life assets increase from $46k (in tax-deferred accounts) to $136k (in a tax-free account).

Lastly, to see what SS&R can find relative to the best strategy for moving assets into Roth accounts, we click on the “Optimize Transfers” button. The results, shown in Fig. 27, indicate that an additional improvement of $5k in end-of-life assets can be achieved by converting all tax-deferred assets to Roth assets in the 2020 to 2024 time period. Does it make sense that the optimizer pushes income into the 22% tax bracket for 2020? When the alternative is to later pay effectively 29.2% on a portion of that money, the answer is “Yes”!

Fig. 27 – **SS&R Summary & Income/Tax Displays (Horners, optimized Roth conversion)**

We have managed to optimize the Horner's situation as given. However, SS&R is also indicating a serious fundamental problem that requires attention - too much of their income is dependent on Jack being alive. The relatively small gap between income and expenses, while he is alive, balloons to about $3000 after his death. If Jack dies young with their current finances, no amount of tweaking will save Jackie from the need to do significant cost-cutting. (Perhaps some life insurance on Jack would be appropriate. Try setting Jack's life expectancy percentile to 10%, and then using the asset transfer option to move money from an external source to Jill's non-retirement account the month after Jack's new death date.)

Mr. and Mrs. O. K. Cole

As in the previous case studies, the Coles (Mr. born 5/8/1945; Mrs. Born 8/14/1945) are using Jan 2022 as the start date for their analysis and are keeping the default value for average annual cost-of-living increase (2%). They are, however, only going to assume 3% for investment returns, and also specify that only 20% of gains from their non-retirement assets will qualify as long-term capital gains (recall that clicking on the green bar across the bottom of the SS&R window will bring up the bottom app bar where that 20% value can be specified). In regards to assets, Mrs. Cole has $10k in non-retirement funds and $300k in an IRA. Mr. Cole has $20k in non-retirement funds and another $20k in a Roth account.

The Coles, who were both teachers for a portion of their careers, lead a simple life. They occasionally take in a Bluegrass concert, but generally just enjoy practicing on their fiddles and reading good books about World War 2 and the US Space Program.

Given their lifestyle, and with their mortgage already paid off, their $2800/month expenses are covered by the combination of their teacher pensions ($1500/month for Mrs.; $600/month for Mr.) and their monthly Social Security checks. Expenses are expected to drop by $500 after one of them dies. While their Social Security PIA numbers are $500 and $1500 for Mrs. and Mr., respectively, there are reductions to their monthly checks because their pensions are from employment that was not covered by Social Security (thus the reason the “From Non-SS Empl” check-boxes have been checked for both of their pensions). As a result, Social Security’s Windfall Elimination Provision (WEP) and Government Pension Offset (GPO) both have an impact. WEP reduces a worker's Retirement Insurance Benefits (RIB) based on their own earnings (thus impacting both of the Coles), while GPO impacts the spousal and survivor benefits for Mrs. Cole. GPO does not impact Mr. Cole since his situation of having the greater PIA precludes any auxiliary benefits.

WEP results in a revised PIA calculation at age 62 for individuals with pensions from employment that was not covered by Social Security. However, if the individual has sufficient years of “substantial” SS-covered employment, the impact of WEP is reduced (>20 years) or eliminated (30 or more years). Consequently, if an individual has a pension from non-covered employment, but also spent part of their career in covered employment, they must determine the number of those covered years that qualify as “substantial” (see Fig. 28) and input the value into SS&R (Fig. 29). Mr. Cole has 25 years of “substantial” covered employment, which reduces the impact of WEP on his benefits by 50%. Mrs. Cole, however, with only 10 years of “substantial” covered employment, is thus fully impacted by WEP.

Year	Substantial earnings
1937–1954	$900
1955–1958	$1,050
1959–1965	$1,200
1966–1967	$1,650
1968–1971	$1,950
1972	$2,250
1973	$2,700
1974	$3,300
1975	$3,525
1976	$3,825
1977	$4,125
1978	$4,425
1979	$4,725
1980	$5,100
1981	$5,550
1982	$6,075
1983	$6,675
1984	$7,050
1985	$7,425
1986	$7,875
1987	$8,175
1988	$8,400
1989	$8,925

Year	Substantial earnings
1990	$9,525
1991	$9,900
1992	$10,350
1993	$10,725
1994	$11,250
1995	$11,325
1996	$11,625
1997	$12,150
1998	$12,675
1999	$13,425
2000	$14,175
2001	$14,925
2002	$15,750
2003	$16,125
2004	$16,275
2005	$16,725
2006	$17,475
2007	$18,150
2008	$18,975
2009–2011	$19,800
2012	$20,475
2013	$21,075
2014	$21,750

Year	Substantial earnings
2015–2016	$22,050
2017	$23,625
2018	$23,850
2019	$24,675
2020	$25,575
2021	$26,550
2022	$27,300

Fig. 28 – “**Substantial” Earnings relative to Social Security WEP calculations**

The Coles are financially sound. With expenses in line with income, assets are expected to provide a nice inheritance for their children. There is, however, some room for financial improvement relative to Required Minimum Distributions (RMDs) from Mrs. Coles IRA. Those RMDs, combined with their pensions, are causing most of their Social Security income to be taxable (lower half of Figure 30, yellow bars: TxSS).

The Coles try out SS&R’s Roth transfer optimization capability. By converting most of their IRA assets to Roth assets during the years 2022 to 2025, most of their Social Security in subsequent years becomes non-taxable and, consequently, their federal income tax drops to nearly zero after 2025 (Figure 31)! With the drop in taxes, their expected end-of-life assets bump up by about $25k. Perhaps more importantly, though, most of those assets will transfer to their heirs via the Roth account which can then continue to grow, tax-free, for several additional years.

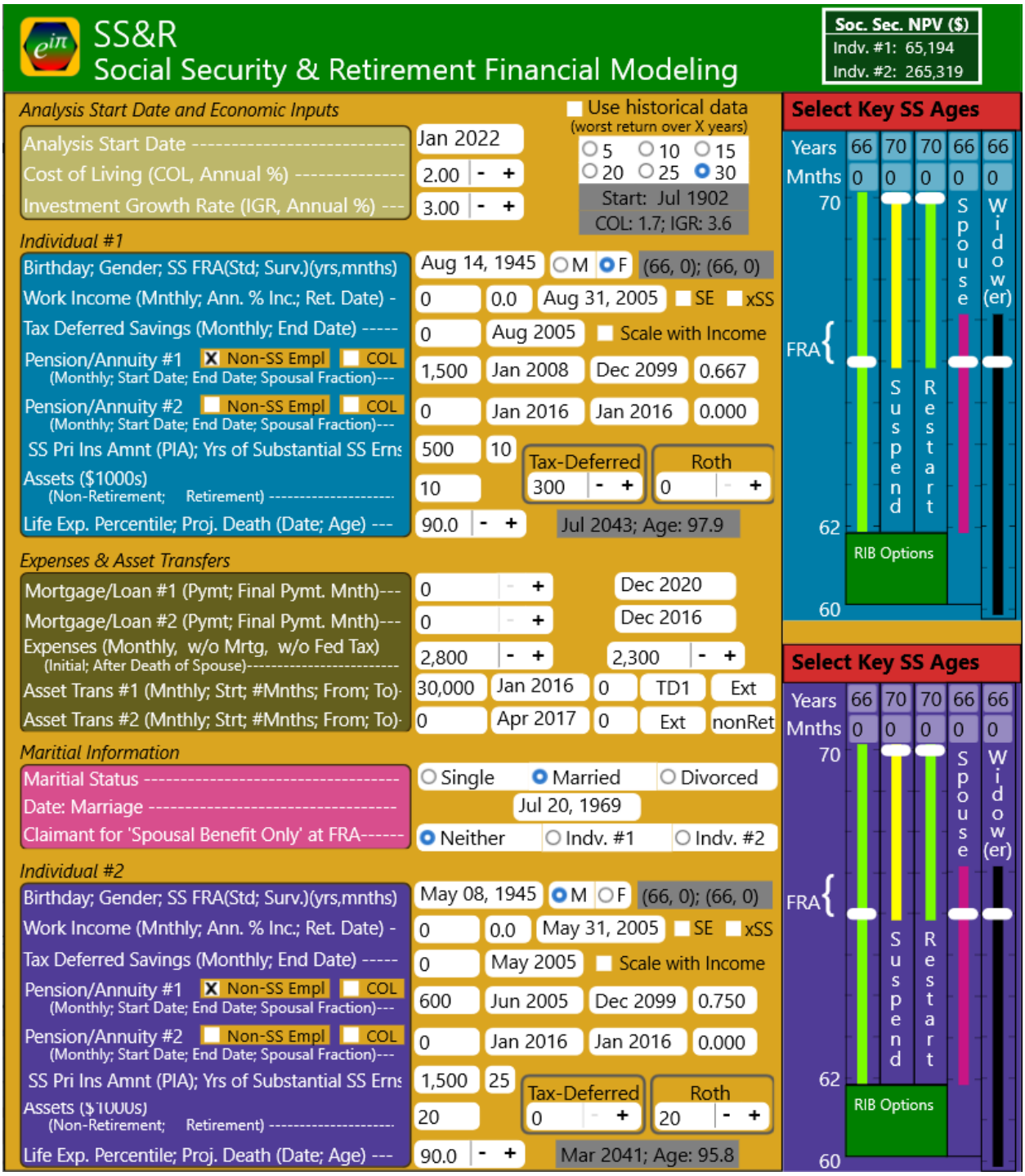


Fig. 29 – **SS&R Input Area (Cole)**

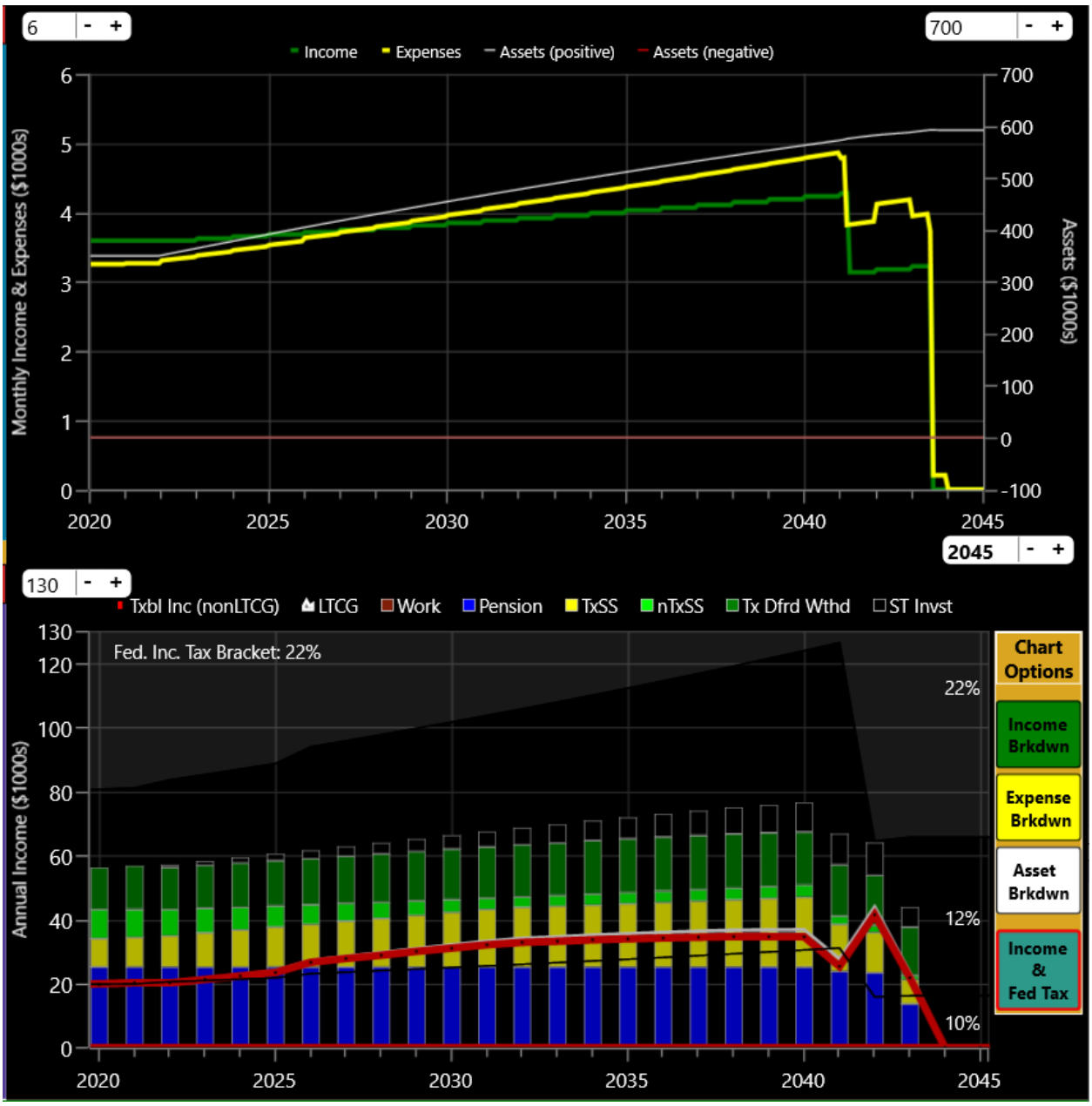


Fig. 30 – **SS&R Summary and Tax Plots (Cole)**

Fig. 31 – **SS&R Summary and Tax Plots with IRA to Roth Conversion**

Your Story

Now it's time. Gather up your information and let SS&R assist you in peering into the fog that always lies ahead. While we can never know with certainty what tomorrow may bring, a conscious effort to anticipate and prepare is always a prudent path to take.