

# Delay Social Security: Funding the Income Gap with a Reverse Mortgage

**Thomas C. B. Davison, MA, PhD, CFP®**

*NAPFA—Registered Financial Advisor*

*toolsforretirementplanning.com*

*tcbdavison@gmail.com*

Using Reverse Mortgage Line of Credit to fund the gap in income created by delaying Social Security can dramatically improve a retirement income plan. In a case study adding the reverse mortgage jumped the retirement plan's success rate from 12% to 89%. The case study was designed to show the improvement a reverse mortgage could make. One factor was the reverse mortgage draws are tax-free and the client's in a high tax bracket. This and other key factors are discussed to develop an appreciation of scenarios where it is particularly advantageous to include the reverse mortgage. An associated set of PowerPoint are available separately and included below.

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## Reverse Mortgage Case Study

As baby boomers are hitting their 60's the press is flooding us with articles about delaying Social Security. But many people claim as soon as they can, and less than 10% wait past age 66<sup>i</sup>. One reason may be that articles describe the long-term advantage gained by delaying Social Security but often don't help people find money to live on during the income gap that's created from age 62 to 70.

This case study was designed to show that a HECM<sup>ii</sup> can successfully fund the income gap. It shows a dramatic improvement to the client's plan. While cases could be engineered to show an even larger improvement, many client situations will show a smaller advantage from using the HECM to fund the income gap. A later section describes the factors that drive the HECM's impact to provide planners insight to help identify situations where it might work well or not so well.

A client is nearly 62 and wants to know if she should delay her Social Security or start now. She will start will start her pension at age 62, and her investment portfolio is in an IRA. She has full equity in her home, and is eligible for a \$200,000 HECM Line of Credit to tap her housing wealth. The next slide summarizes her situation, with a full description in a later section.

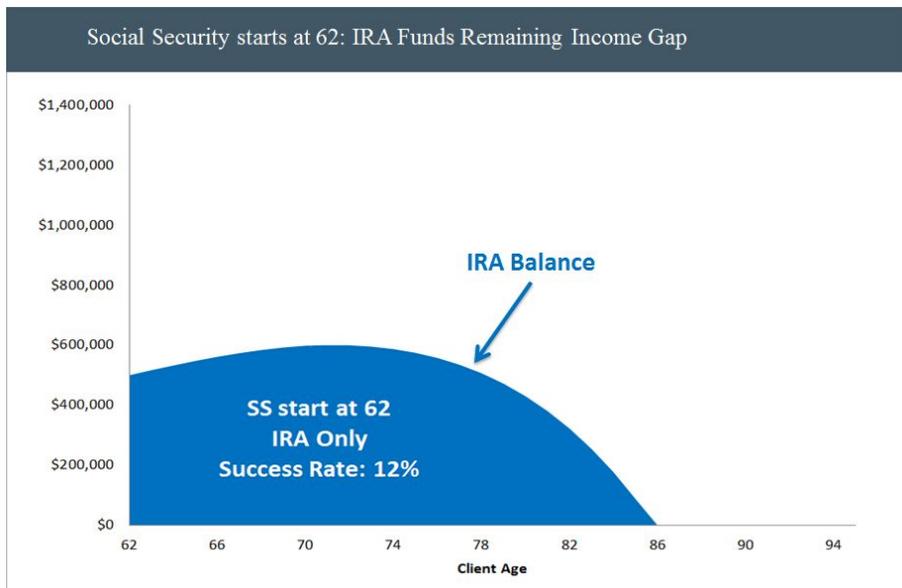
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Scenario Highlights

- Single woman retired, turning 62, expects to live to age 95
- Living expenses \$8,000/month
- Social Security benefit at FRA (age 66) is \$2,500/month
- Pension from age 62 is \$5,000/month
- \$500,000 investments in IRA
- \$200,000 Reverse Mortgage Line of Credit
- California resident; combined state and Federal tax bracket ~33%

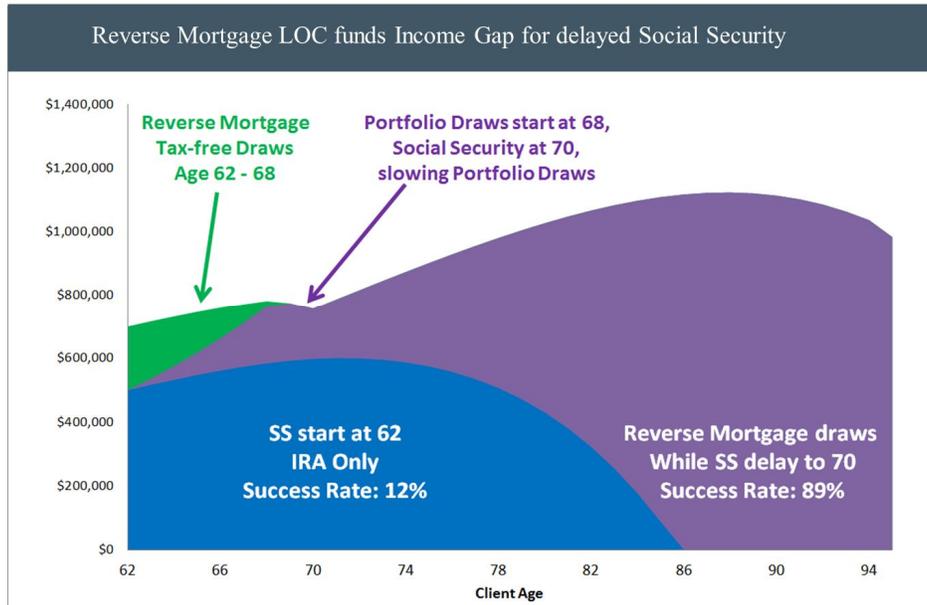
If she starts Social Security at 62 her benefit is \$1,875/month. With her pension she is \$1,125/month short of her \$8,000 spending goal. And she needs to pay state and Federal income taxes on her pension and IRA withdrawal.

This plan does not work! The next picture shows the linear projection of her plan with fixed investment results. Her long-term Monte Carlo simulation predicts she will run out of money in 88% of her projected lifetimes – in only 12% of the times did the investment portfolio had enough great returns to carry her through. On average her IRA grows slowly for several years, but then is rapidly depleted.



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A revised plan produces a sound plan. She delays her Social Security to age 70 and uses the HECM line of credit to fund spending starting at age 62. That lasts until she is 68. Then her IRA is tapped for two years, until she is 70 and her Required Minimum Distributions and Social Security start. If more money is needed for spending and taxes it comes from the IRA.



This plan works very well! The IRA starts to grow again, and the graph's linear projection with fixed investment returns shows her dying with nearly a million dollars. The Monte Carlo results, the more useful predictor lifetime outcomes, show an 89% success rate. She died with at least a dollar in 89% of the cases, considered a successful result. She's projected to need to adjust spending in only 11% of the projected lifetimes.

## Synergy among Reverse Mortgages, IRAs and Social Security Delays

In addition to the two scenarios on the graph above, three other scenarios were analyzed. Two were added to the table below.

- Perhaps not using the reverse mortgage and only delaying Social Security to age 70 is enough for this client, as she expects to live a long time.
  - Result: 8% Success Rate. The IRA is depleted so much in the first 8 years it is completely exhausted 92% of the simulated lifetimes.
- Perhaps starting Social Security at 62, but including the HECM LOC to supplement income would work better? The success rate was 70%. That might be enough for some clients, but certainly is not a robust approach. And it gives up the longevity protection delaying SS provides: she receives the maximum amount of guaranteed and inflation adjusted income into her oldest years, and is income she can't outlive.
- The last scenario, which is not on the following table, adjusts a different variable: the rate of return on the HECM LOC. The previous scenarios assumed the LOC grew at 4% annual compounding. The remaining scenario also delayed the Social Security start to 70 and funded

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early spending from the HECM LOC, but bumped the LOC's compounding rate to 8% from 4%<sup>iii</sup>. The faster LOC growth makes more money available, funding more of the early spending. The result was to boost the Monte Carlo success rate from 89% to 99%!

Synergy from Reverse Mortgage and Social Security Delay

Social Security	Reverse Mortgage Line of Credit	Success Rate	On Graph?
62	None	12%	On graph
70	None	8%	
62	Yes	70%	
70	Yes	89%	On graph

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## How and why did the Reverse Mortgage Strategy Work So Well?

### Why did Reverse Mortgage and Social Security Delay work so well?

- More assets to spend: \$200,000 home equity plus \$500,000 IRA
- Allowed Social Security delay by funding 6+ years of spending
- Investment Portfolio untouched until age 68
  - 6+ years of growth before withdrawals
  - Avoids “sequence risk” – withdrawals when bad returns hit early
- Investment Portfolio draws reduced after age 70 by largest possible SS
- \$1.00 of tax-free Reverse Mortgage has spending power of \$1.50 of IRA
  - Client in about the 33% tax bracket, combined state and Federal

The scenario was designed to show the advantage of the Reverse Mortgage (RM).

**Factors that together made using the RM LOC more to this client’s advantage than in many client situations:** Her RM LOC and SS benefit are both larger than many. Her tax rate is high, producing a large tax bite on IRA withdrawals. And the IRA is her only investment vehicle – she does not have a Roth or ordinary taxable investments. She has a fairly large pension that makes up a good part of her spending level, but still leaves significant requirement to fund spending from sources beyond the pension.

**Factors that made the RM LOC less to this client’s advantage than in many client situations:** the LOC compounding rate.

- Large RM size:
  - RM is \$200,000 or 40% of the size of the \$500,000 IRA – noticeable addition to the total spendable assets.
  - The RM was large enough to meet 6+ years of spending needs. Had her spending consumed the RM faster, that would have drained the IRA earlier and a lower lifetime success rate.
  - The \$200,000 RM initial balance was larger than many homeowners would have, but could have been larger – especially as this client lives in California! The RM could be near or even a bit over \$300,000 if her home were valued at least at \$625,500 (the cap that the RM could be based on).
- The RM line of credit (LOC) growth rate was small - which reduced the RM advantage.
  - The RM LOC unspent balance grows every month. Our case study used near-zero short-term interest rate giving a 4% compounding rate. The LOC would grow to a higher value if short-term interest rates were higher. The scenario had a success rate of 98% when it was rerun with compounding rate of 8%.

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- The 1-Month LIBOR is the commonly used short-term interest rate driving compounding of the RM LOC. It has averaged nearly 5% since it began in 1986. When short-term rates were around 3.75 to 4.5% the compounding rate would be 8%.
- RM draws are tax-free - they are loan proceeds. The client's high income tax rate magnifies the tax-free RM's benefit.
  - IRA withdrawals are fully taxable. At a 33% marginal rate, to spend \$1.00 it takes \$1.50 from an IRA. To spend \$1.00 it takes \$1.00 from a RM.
  - The client has about a 33% combined State & Federal tax rate.
    - The client's pension alone puts her in a Federal 25% tax bracket before any Social Security or IRA withdrawals are added on top, and her California tax rate is 9%+.
- Her investments are only in an IRA. (A taxable account was used if there were extra dollars left after RMDs in any years and was available for spending later).
  - The tax-free RM proceeds would not have been as big an advantage if the client's investment included taxable accounts with their relatively smaller tax burden on each dollar taken out.
- Her Social Security amount is near the maximum possible, so it is all that much more valuable to delay. The SS benefit started at age 70 is 76% larger than if started at age 62.
  - The greater the SS benefit, the greater the longevity protection from delaying: more money at the oldest ages that she can't outlive.
    - Social Security breakeven time for delaying is usually around age 81. This plan is to age 95. More affluent clients typically live longer than the US population, and women live longer than men. This is a healthy 62-year old woman.
  - More tax-free SS benefits: Her SS benefits are as large as possible, and lifetime benefits are much larger due to the long lifetime. Therefore the 15% of SS benefits that are not taxable are also as large as possible over her lifetime.
  - Of course, a client who died at young would not benefit from the SS delay, but would have met her planned style of living.
- This client was single and could not use a SS "claim some early, claim more later" strategy as a couple can, producing an interim social security benefit between age 66 and 70. As this single woman has zero SS benefit before age 70 she has a proportionally larger gap to fill. This helped show a big impact of using RM LOC to fund early years.
- Delaying start of the IRA withdrawals reduces the "sequence of returns risk" resulting from withdrawing funds from the IRA early.
  - A six year delay in starting withdrawals reduces the impact of bad investment returns early on.

Note that there are other ways to combine SS and HECMs. Here are two examples:

- There was no attempt to optimize the scenario for this client. For example, withdrawing a small amount from the IRA in the years between 62 and 70 might have worked better.
- A common strategy for clients who have low tax bracket before RMDs start is to fill those brackets up to the level they expect after age 70.5. That way the lower brackets are fully used.

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## Case Study Details

- Single woman, age 62. She is in good health and fully expects to live to age 95
- California resident with high state tax rates
- Social Security at 66, her Full Retirement Age, is \$2,500/month.
- Pension \$60,000 a year, starting at age 62. No annual adjustments.
- \$500,000 Traditional IRA. No basis; withdrawals are 100% taxable
- Expenses \$96,000/year. No deductions other than state income tax.
- Inflation 3% annually, driving growth of her expenses, SS benefits, and tax brackets.
- \$200,000 RM line of credit balance available for spending
  - LOC compounds at 4% a year simple interest (approximately the lowest possible rate)
- Required minimum distributions allocated to spending; any extra is invested in a taxable account with same rate of return parameters as IRA
- Investment portfolio: Diversified Conservative asset allocation: Arithmetic return 8.64%, standard deviation 7.10%.
  - Note: compounded returns are always smaller than arithmetic returns. Most multi-year investment returns are shown as are compounded returns, which describe how much an investment balance actually grows. Monte Carlo simulations do the compounding for you by varying the returns each year, so the proper simulation input is the arithmetic or simple average annual return.
- Success rates come from a Monte Carlo simulation using Naviplan financial planning software, running 1,000 lifetimes. The simulation varies investment returns randomly according to the mean and standard deviation of the portfolio.
- The client has a 34.7% combined state and Federal marginal tax rate for early years when spending IRA. Naviplan computes actual tax bills each plan, so marginal tax rates can change year by year.

## Other Candidates to Fund the Income Gap

This document examines funding the income gap with a RM. It is important to recognize there may be better candidates, depending on the client's overall situation.

- Working longer, perhaps part-time.
- Early withdrawals from retirement accounts. This is particularly useful when the client's income tax rate is lower in years before starting Required Minimum Distributions at age 70.5.
- For clients who other financial resources: purchase a source of predictable income: e.g., a ladder of CDs or bonds, or fixed annuity. If purchased when they retire at age 62 that's a fairly short investment timeframe, so they should expect low returns on these predictable income sources.
- Start SS benefits for one spouse, likely the one with lower benefits or already near age 70.
- Cash out of a whole life insurance policy that's no longer needed.
- Certain company pensions can be started before age 65 without reducing benefits.
- And approaches can be combined, such as part-time work a RM.

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## Note on Graphs and Success Rates

The graphs are for “linear” projections where the rates of return do not vary from year to year. Linear projections look better than reality once investment returns are allowed to vary, as they do in Monte Carlo projections. That’s why for example the purple graph with delayed Social Security shows sizable value at age 95, but less than 100% success rate. The median wealth in the Monte Carlo results will be lower than the wealth shown by the graph from fixed annual returns.

An example of variation in return:

- Average return is 0%. Return can be -50% one year, up 50% another year. Average is 0%
- \$1000 down 50% is 500 after year 1. After going up 50% in year 2 your balance is \$750.
- If the return is just the average each year, that’s 0%. \$1,000 after a year is \$1000, and after year 2 is \$1,000. No volatility gives better results than the same average but with volatility.

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<sup>i</sup> Haaga, Owen and Richard W. Johnson, March 2012. Social Security Claiming: Trends and Business Cycle Effects. The Urban Institute, The Program on Retirement Policy, Discussion Paper 12-01.

<sup>ii</sup> HECM is a Home Equity Conversion Mortgage. These mortgages follow the regulations and procedures laid out by the U.S. Department of Housing and Urban Development (HUD), and are insured by the Federal Housing Administration (FHA).

<sup>iii</sup> Both the maximum credit line limit and the loan balance on the withdrawn funds grow monthly at a compounding rate. So the higher the compounding rate, the faster the credit line limit grows, and the more funds that can be withdrawn.

The rate has three components: a variable rate that is the 1-month LIBOR, and the two fixed components: Mortgage Insurance Premium (MIP) and the lender’s spread, which is set when the loan is taken out. The compounding rate in the other scenarios was 4%, which is close to the minimum amount possible as it includes a very low 1-month LIBOR – perhaps 0.25%.

In the history of 1-month LIBOR since 1986 it has averaged nearly 5% and has been over 10%. A compounding rate of 8% corresponds to a LIBOR around 3.75 to 4.5%.

The projection was done with annual, rather than monthly, compounding, which would reduce somewhat the impact of the LOC in the plan. It would have made more difference if the LOC were used over the entire plan rather than the earlier years.