The Retirement Age Math

Testing 55 vs. 65 vs. 70 — and what the math doesn't care about

A companion guide by Sam · not financial advice, just the numbers

Retirement age feels like a mood decision. It isn't. It's the visible result of three inputs colliding: how much you've saved, how many years you let it compound, and how much you plan to spend. This guide walks through the exact math behind three retirement ages, the hidden risk that changes everything, and the framework to run your own numbers.

The Three Scenarios

Same person. Same $500,000 saved at 45. Same $1,500/month contribution. Same 6% real (inflation-adjusted) annual return. The only variable that changes is patience.

Retire at	Years growing	Portfolio at retirement	4% annual withdrawal	Social Security
55	10 yrs	~$1.15M	~$46,000/yr	Not yet eligible
65	20 yrs	~$2.1M	~$84,000/yr	Full benefit
70	25 yrs	~$3.0M	~$120,000/yr	+24–32% bonus

Ten more years of patience (55 → 65) doesn't just add a decade of contributions — it nearly doubles annual income for the rest of your life, because the final years of compounding do more work than all the years before them combined.

Why the Math Always Favors Later

Retiring later pulls three separate levers in your favor at once, not just one:

- **More growth years.** The portfolio compounds for longer before you touch it.
- **A bigger guaranteed check.** Delaying Social Security past full retirement age adds roughly 8% per year, up until age 70.
- **A shorter withdrawal period.** The money has to last fewer years, so it can be drawn down faster and safer.

The Stress Test: Sequence-of-Returns Risk

Run the same three plans through a 25% market crash in the first three years of retirement — the kind that hit people retiring around 2000 or 2008 — and the outcomes split hard.

Retiring at 55: withdrawing from a shrinking account with nothing refilling it. This is sequence-of-returns risk, and it is most dangerous early, when a bad decade hits a smaller portfolio with the most years left to survive. Under a rough model, this plan carries a real risk of running dry in the 80s.

Retiring at 70: the same crash barely dents the plan, because contributions and growth are still happening during the downturn instead of withdrawals. Time is still on the portfolio's side.

The takeaway isn't that early retirement is impossible — it's that early retirement removes your biggest safety net (the ability to keep working through a bad market) at the exact moment a bad market does the most damage.

The Trade-Off the Calculator Can't Show You

Later retirement maximizes dollars. It does not maximize time — and time is the actual resource retirement was always supposed to buy back. Health and mobility tend to decline gradually starting in the 60s, and more sharply after 75, for a meaningful share of people. Money you can't spend because your health won't cooperate isn't wealth. It's just a bigger number in an account.

So the real question was never *which age produces the most money*. It's *which age produces the most money you can actually use.*

The Framework: Three Inputs, Not One Age

Retirement age isn't really the decision — it's the visible result of three numbers colliding. Two people can both retire at 65 and land in completely different places, depending on:

- **How much you've saved** — your current starting base.
- **How long you let it compound** — the growth years still ahead of it.
- **How much you plan to spend** — the number your income actually has to hit.

If You're Set on Retiring Early

- Save aggressively enough, early enough, that your portfolio reaches “20-years-of-growth-sized” money well before a 20-year timeline has passed — effectively compressing decades of contributions into fewer years.
- Build in a real buffer against sequence-of-returns risk specifically: extra cash reserves, a flexible spending plan, or part-time income for the first few years. That first decade of early retirement is the most fragile stretch of the entire plan.

If You're Leaning Toward Retiring Later

The upside isn't just more money. It's the most forgiving version of the entire math problem: more growth years, a bigger guaranteed Social Security check, and a shorter withdrawal period. It's the version of this equation where almost nothing has to go right for the plan to work, because time is doing most of the heavy lifting instead of returns.

Run Your Own Numbers

Don't ask “when should I retire” like it's a mood. Ask what your number actually needs to be for the age you want, and run it honestly:

- Write down your current savings, monthly contribution, and expected real (after-inflation) return.
- Calculate your portfolio at 55, 65, and 70 using compound growth — use the companion calculator to do this instantly.
- Apply a 4% withdrawal rate to each to see the annual income each age actually produces.

- Decide honestly: is the trade-off — more free years versus more financial cushion — one you're willing to make?

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