

Coast FIRE math is often touted as a simple formula for early retirement: save aggressively early on, then "coast" on compounding returns without adding more money. If you grasp the power of compounding returns combined with a long time horizon of 30 years or more, this strategy shines. But like all financial concepts, understanding the underlying numbers — especially expected value — separates realistic plans from hype.

Expected Value: The Real Dividing Line

The sign in front of the number matters more than anything else. When discussing investments or trading strategies, many people slack off and just talk about "risk" or "reward" without quantifying it through expected value (EV). Expected value is the average return you should anticipate given the probabilities of gains and losses.

Consider two very different worlds:



- **Positive EV in Broad Equity Ownership:** The stock market historically generates positive expected returns near 7-8% annually after inflation over decades.
- **Negative EV in Casino Games or Certain Trading Strategies:** Many casino games and short-term trading approaches like weekly options selling often have negative expected value due to built-in costs and unfavorable odds.

Coast FIRE relies on the power of positive EV compounding over the long term, which grows wealth relatively predictably for patient investors.

Compounding Returns Over Decades

The magic of compounding is simple but relentless. Imagine you save a lump sum and invest it in a broadly diversified equity fund with an average annual return of 7%.

Years Growth of \$10,000 at 7% CAGR 10 \$19,671 20 \$38,697 30 \$76,123 40 \$149,745

Notice the nonlinear growth between years 20 to 30 and beyond — this is compounding in action.

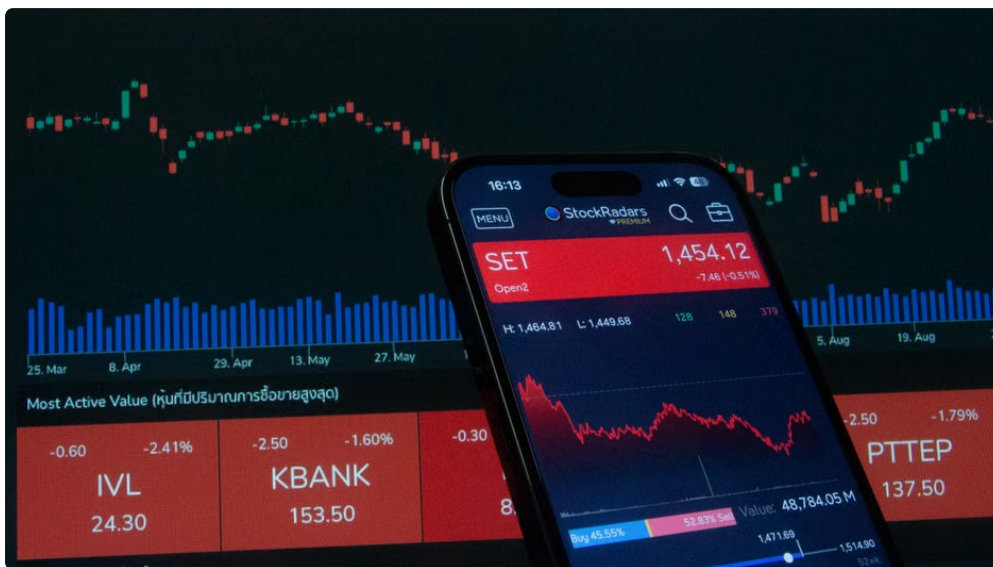
Why Time Horizon of 30 Years is Crucial

Coast FIRE math depends heavily on starting early and letting decades pass without withdrawing. The law of large numbers smooths out volatility over this long period. The "sign in front of the number" reminds us that even a modest positive expected return compounds dramatically over 30 years, [behavioral finance triggers trading](#) but this only holds if you avoid major drawdowns or negative return traps.

The volatility is inevitable; the key is that your time horizon is long enough to absorb fluctuations and recover. It's why short-term speculative trading or frequent options trading with weekly expirations can destroy your capital instead of building it.

Why Using Brokerage Apps for Weekly Options is Risky for Coast FIRE

Let's connect this to a practical investing question: brokerage apps now let you buy weekly options with simple interfaces and flashy visuals. But these products come with complex mechanics:



- **Theta Decay:** Options lose value over time. This decay works against buyers and benefits sellers, who collect premiums but face assignment risk.
- **Assignment Risk:** If assigned, you might have to fulfill the contract unexpectedly, locking in losses or obligations.
- **Spreads and Commissions:** These hidden costs quietly reduce returns. Unlike a published RTP (return to player) in a casino game, brokerage apps don't transparently show these fees embedded in bid-ask spreads or commissions.

To put it bluntly: Most weekly options strategies have a negative expected value after costs. Trading these to "bootstrap" early retirement is similar to playing a casino game where the house edge works against you relentlessly over many trades.

Transparency: Published RTP vs Hidden Trading Costs

One huge advantage in casino math education was clarifying expected return or RTP upfront. In contrast, financial markets are not as transparent:

- Brokerage apps gamify trading but often hide the "sign in front of the number" – the actual cost impact of commissions, bid-ask spreads, and theta decay.

- Long-term investors in index funds get an implicit published expected value: average 7-8% yearly return.
- Frequent traders or options sellers implicitly pay a "house edge" through hidden costs that chip away at EV over time.

Understanding hidden costs allows realistic evaluation of whether a trading approach fits your Coast FIRE plan.

Summary: Stick with Positive EV and the Long Game

Coast FIRE math is simple only if you respect the sign in front of the number and accept long-term compounding rules:

1. Start early and save aggressively to build your principal.
2. Invest in broadly diversified equity funds with positive expected value.
3. Ignore flashy short-term trading products that have negative EV after costs (like weekly options on retail apps).
4. Let decades pass to harness the power of compounding returns and the law of large numbers.
5. Watch out for hidden costs that erode your expected returns.

Without a long time horizon of 30 years or more and a positive EV strategy, Coast FIRE remains a fragile illusion. But with discipline and understanding, it can turn into a robust path to financial independence.