Compounding

What is 1.1 + 50? You had it before you finished reading: 51.1.

Now what is 1.1^{50}? That one does not happen in your head. It is about 117.

Linear math is easy for the brain. Exponential math is not. This is the core reason we tend to underestimate the power of compounding.

That 1.1 is a 10 percent return, which is about what the S&P 500 has returned per year over the long run. In a taxable account you keep less of it: dividends are taxed every year and gains are taxed when you sell, call it 8 percent after both. Save $10,000 a year at that rate. By year 50 it holds about $5.7 million.

What if you compounded tax free?

Untaxed, the full 10 percent compounds. The same saver ends with about $11.6 million. The difference is more than everything the taxable account ended with. (In the US, a Roth IRA is one way to compound tax free.)