

Compound Growth: The Eighth Wonder of the World

Why starting early matters more than how much you save

You are 22 years old and you decide to save **\$2,000 a year** — about \$40 a week. You save the \$2,000 for just **10 years** and then stop. You never add another dollar. Instead, you leave the money invested to earn interest, dividends and capital gains until you retire at age 65.

Let's assume an average return of 10% a year. **How much money do you think you will have at 65?** Make a guess before you read on.

Watch it grow

Age	Opening balance	Contribution	Earnings (10%)	Closing balance
22	\$0	\$2,000	\$200	\$2,200
25	\$7,282	\$2,000	\$928	\$10,210
28	\$16,974	\$2,000	\$1,897	\$20,872
31	\$29,875	\$2,000	\$3,187	\$35,062
32	\$35,062	—	\$3,506	\$38,569
37	\$56,468	—	\$5,647	\$62,115
42	\$90,943	—	\$9,094	\$100,037
47	\$146,464	—	\$14,646	\$161,110
52	\$235,882	—	\$23,588	\$259,470
57	\$379,890	—	\$37,989	\$417,879
62	\$611,817	—	\$61,182	\$672,998
64	\$740,298	—	\$74,030	\$814,328

Contributions are made at the start of each year, from age 22 to 31 (ten payments, shaded row = last one). Returns compound annually. Figures are rounded to the nearest dollar, and selected years are shown.

At age 65 you have **\$814,328**. You contributed only **\$20,000**; the other \$794,328 came from compound growth.

The late starter

Now meet your friend, who waits until age 32 to start. Your friend saves the same \$2,000 a year, but for **33 years**, every year right up to 65, and earns the same 10%.

	Early saver	Late starter
Years of saving	Ages 22–31 (10 years)	Ages 32–64 (33 years)
Total contributed	\$20,000	\$66,000
Value at 65 (10% return)	\$814,328	\$488,953
Value at 65 (7% return)	\$275,724	\$254,518

Your friend contributed more than three times as much money and still finished about **\$325,000 behind**. Even at a more conservative 7% return, the early saver comes out ahead with less than a third of the contributions. **Time in the market is the most powerful ingredient you have, and it is the one ingredient you can never buy back.**

A limited-time offer

Here is the deal. I will give you a signed cheque **today for \$1 million**, or I will write you a cheque in 30 days for **one cent, doubled every day** for 30 days. Which do you take?

Day	Value	Day	Value	Day	Value
1	\$0.01	11	\$10.24	21	\$10,485.76
2	\$0.02	12	\$20.48	22	\$20,971.52
3	\$0.04	13	\$40.96	23	\$41,943.04
4	\$0.08	14	\$81.92	24	\$83,886.08
5	\$0.16	15	\$163.84	25	\$167,772.16
6	\$0.32	16	\$327.68	26	\$335,544.32
7	\$0.64	17	\$655.36	27	\$671,088.64
8	\$1.28	18	\$1,310.72	28	\$1,342,177.28
9	\$2.56	19	\$2,621.44	29	\$2,684,354.56
10	\$5.12	20	\$5,242.88	30	\$5,368,709.12

The penny is worth **\$5,368,709.12** on day 30, more than five times the \$1 million cheque.

What are the five most important days?

The last five. On day 25 the penny is worth only \$167,772.16, far less than the \$1 million you turned down. Then, in the final five days, it grows by more than **\$5.2 million, about 97% of its final value.**

Investing works the same way. The biggest gains come at the very end, but only if you start early enough and leave the money alone long enough to reach them. Delay by a few years, or cash out early, and it's days 26 to 30 you give up.

Start early. Stay invested. Let time do the heavy lifting.

The examples are hypothetical and for illustration only. A 10% average annual return is not guaranteed; actual returns vary from year to year and can be negative. Taxes, fees and inflation are ignored for simplicity. This article is not personalized financial advice.