

# The Miracle of Compounding Interest.

By Alan Jay Kaplan

**Compound interest** is the concept of adding accumulated interest back to the principal, so that interest is earned on interest from that moment on. The act of declaring interest to be principal is called compounding (i.e. interest is compounded).

Interest rates must be comparable in order to be useful, and in order to be comparable, the interest rate *and* the compounding frequency must be disclosed. Since most people think of rates as a yearly percentage, many governments require financial institutions to disclose a (nominally) comparable yearly interest rate on deposits or advances. Compound interest rates may be referred to *Annual Percentage Rates*, *Effective Annual Rate*, and by other terms. When a fee is charged up front to obtain a loan, APR usually counts that cost as well as the compound interest in converting to the equivalent rate. These government requirements assist consumers to more easily compare the actual cost of borrowing.

Compound interest rates may be converted to allow for comparison: for any given interest rate and compounding frequency, an "equivalent" rate exists for a different compounding frequency.

Compound interest may be contrasted with *Simple Interest*, where interest is not added to the principal (there is no compounding). Compound interest predominates in finance and economics, while simple interest is used infrequently (although certain financial products may contain elements of simple interest).

The effect of compounding depends on the frequency with which interest is compounded and the periodic interest rate which is applied. Therefore, in order to define accurately the amount to be paid under a legal contract with interest, the frequency of compounding (yearly, half-yearly, quarterly, monthly, daily, etc.) *and* the interest rate must be specified. Different conventions may be used from country to country, but in finance and economics the following usages are common:

Periodic rate: the interest that is charged (and subsequently compounded) for each period. The periodic rate is used primarily for calculations, and is rarely used for comparison. The periodic rate is defined as the annual nominal rate divided by the number of compounding periods per year.

Compound interest has been called the eighth wonder of the world. And with good reason. It magically turns a little bit of money, invested wisely, into a whole lot of cash. Even Albert Einstein is said to have called it one of the greatest mathematical concepts of our time, the eighth wonder of the world.

But you don't need to be a genius to harness the power of compounding. Even the most average Joes can use it to make money. Trust me. This is *so* much easier than the theory of relativity.

Here's the gist: When you save or invest, your money earns interest or appreciates. The next year, you earn interest on your original money *and* the interest from the first year. In the third year, you earn interest on your original money and the interest from the first *two* years. And so on. It's like a snowball, roll it down a snowy hill and it just builds on itself to get bigger and bigger. Before you know it you have an avalanche!

Here are three steps to help you make the power of compound interest or compound earnings work for you. And when I say "work FOR you," I mean it. Once you set up an account, you don't have to do much else. Just sit back and wait for the money to roll in.

**1.** When you're in your twenties and thirties, your best friend is time. Start rolling your snowball at the top of the hill and you'll have a much bigger mass at the bottom than someone who started halfway down. But don't worry when you start, just start it.

**2.** Don't think you have enough money to start investing? You can get into a good fund for as little as \$50 a month.

Let's say a 20-year-old stashes \$50 a month into a fund earning 10% annually. He'd have \$528,000 by age 65. Not bad for practically starting with pocket change! See if you can find room in your budget to get started.

A little bit can make a difference elsewhere in compounding, too. For example, if someone earned 9% annually instead of 10%, he or she would amass only \$373,000 in the same period of time. That seemingly small 1% difference in performance resulted in 29% less money over the long haul.

**3. Leave it alone.** The prospect of making a lot of money without doing anything sounds good on paper. But, admittedly, in practice, it can be maddening. Every time you receive your account statement, you watch your balance s-l-o-w-l-y inch up -- or even drop. How on earth are you ever going to get rich at this pace?

Investing is a lot like Heinz ketchup: Good things come to those who wait. You must be patient for compounding to work its awesome power. Remember that as your money earns more, it'll earn even *more*. But you will get rich if you start young, invest wisely and leave it alone.

If you invest or save in a regular, taxable account, Uncle Sam will want his share. So make sure you factor that into your savings goal. However, you can invest in tax-sheltered or tax-free accounts and keep more of the money to yourself. My favorite is the Equity Indexed Universal Life Policy because it offers the best of both worlds, downside protection and compounding interest features as well as tax-free distributions, if set up correctly. And what about inflation? True, \$1 million won't have the same purchasing power in 40 years as it has today, but that's all the more reason to start saving now! The examples above use flat contributions -- \$50 per month, for example. But over the years, your income will rise, too. If you increase your savings with each increase in your pay, you'll give your money more fuel to compound, and you'll certainly boost your spending power down the road.

Start as soon as you can and save what you can to let compounding work its magic.