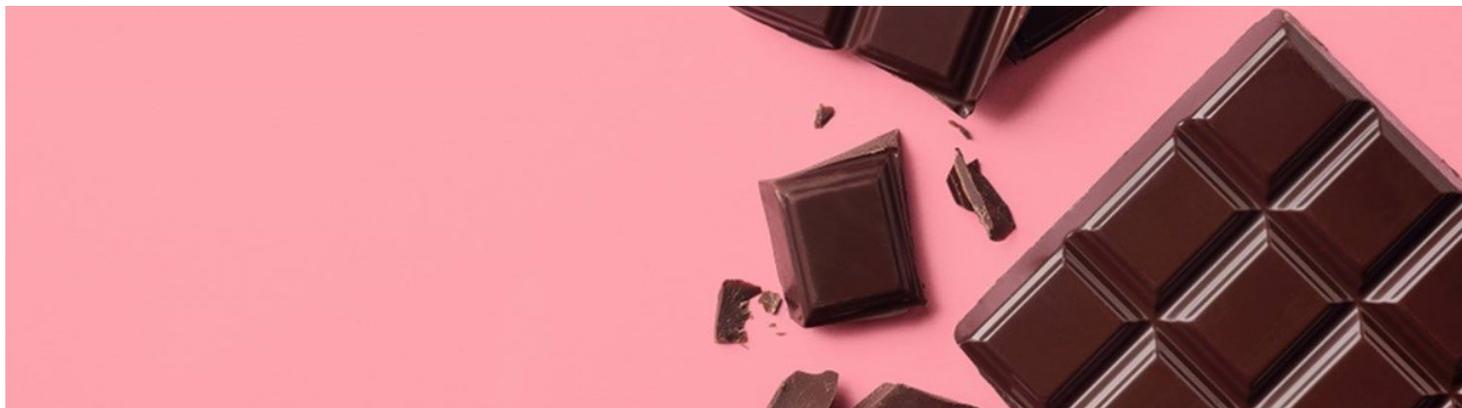


# COMPOUNDING EXPLAINED



PERPETUAL  
04/03/2020

Forget about the magic art of 'tidying up', let's talk the magic art of compounding. In many ways, it can be considered life changing knowledge. Let me show you why.

## Okay, so what is compounding?

Very simply, compounding is what happens when you take a number and increase it over and over again by a percentage (such as 10% annual growth), opposed to increasing it by a fixed number (such as 10 each year).

Okay, so maybe you're not convinced (yet) so let's bring chocolate into the equation.

Let's say you eat 100 chocolate bars a month (no judgement here, #same) and one day your fairy choc-mother shows up and tells you she's granting you your lifelong wish: that your chocolate supply will increase by 10% of the total every month.

So, we know that 10% of 100 chocolate bars is 10. Some people may **assume** it 'works' like this:

Day 0 (when you start): 100 chocolate bars  
Month 1:  $100 + 10 = 110$   
Month 2:  $100 + 10 + 10 = 120$   
Month 3:  $100 + 10 + 10 + 10 = 130$   
Month 4:  $100 + 10 + 10 + 10 + 10 = 140$   
Month 5:  $100 + 10 + 10 + 10 + 10 + 10 = 150$   
TOTAL *extra* chocolates after 5 months = **50**

But that's not how compounding works. It's better, you **do not** get an additional 10 of your original 100 chocolates every month – rather, you get *an additional 10% of your total number of chocolates* every month (rounded in the example below, no one wants part of a chocolate bar, am I right?)

Day 0 (when you start): 100 chocolate bars

Month 1:  $100 + (100 \times 10\%) = 110$

Month 2:  $110 + (110 \times 10\%) = 121$

Month 3:  $121 + (121 \times 10\%) = 133$

Month 4:  $133 + (133 \times 10\%) = 146$

Month 5:  $146 + (146 \times 10\%) = 161$

TOTAL extra chocolates after 5 months = **61**

And abracadabra, you end up with more choccies when the number is compounded, that's big-energy magic mathematics.

Yep, okay, got it. **But what does compounding have to do with my money?**

When it comes to your money, compounding will likely come into play in two ways: in the form of compound returns and compound interest.

### Compound interest

As the name suggests, compound interest occurs when you're earning interest on your money. Most people will have a savings account, where the average interest on an Australian savings account sits around 1.0%, which means the money you have in the account will increase by 1.0% each year.

It's also important to note that compounding can work against you too. This will most likely come into play when you **owe** compound interest on your debt. For example, if the annual interest rate on your credit card sits around the current national average of approximately 16.58%<sup>1</sup>, then the amount of debt you **owe** will increase by 16.58% every year.

### Compound returns

Compound returns are relevant when we talk about investing (learn everything about investing [here](#)). In this case you aren't earning interest (which, as we've discovered above, is a promised, steady amount of returns) here, you're potentially earning investment returns, which as you may guess are not guaranteed and definitely not steady. But they can be quite powerful.

Here's a detailed explanation on [how investments can make money](#). To cut a long story, short, when the value of your individual investments (like [shares](#) and [bonds](#)) goes up (or down), that makes the balance in your investment account go up (or down). As long as you leave the difference invested, then your returns have the opportunity to compound on previous returns over time.

So, if the markets were to go up for a big chunk of time you had your money invested, compounding would work in your favour. And yes, that absolutely goes the other way too if the markets decline. That's why we talk so much about risk in investing. However, the longer you let compounding work it's mathematical magic, the more likely you are to have overall positive returns (**at least, that has been the case historically**). Thus, shares typically form part of the riskier part of an investment portfolio but, in saying that, the share market's average total annual return (since 1900) in Australia has been 11.8%<sup>2</sup>, which is a strong return and that certainly brings me joy. But remember, compounding returns on shares generally works better as a long-term play.

Every day you wait is a day you miss out on the opportunity to start compounding.

Getting started as soon as possible is an important factor (as is your account balance) and the longer your money is invested, the more opportunity it has to compound over time (and again, I know, broken record, but this can work against you if markets do not perform).

1. <https://www.canstar.com.au/credit-cards/aussies-pay-24-billion-average-interest-over-four-years/>

2. Perpetual Investments and Bloomberg 1900 to 2019.

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