

Williams Financial
group



Manulife Securities



INVESTING 101

TRAINING GUIDE

MODULE 3:

COMPOUNDING INTEREST

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WELCOME TO MODULE 3

The long term effect of compound interest is incredible. Albert Einstein once famously said that compound interest is the most powerful force in the universe.

Compound interest is a really simple concept in theory- it allows you to earn interest on your interest compounding over time, assuming you don't withdraw your money. This results in your money growing at an ever-accelerating rate, allowing your money to work for you.

If you allow compound interest to work in your favour, it can do magical things.

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"Compound interest is the eighth wonder of the world. He who understands it, earns it. He who doesn't, pays it."

-ALBERT EINSTEIN



COMPOUND INTEREST

The Magic of Compounding

You're probably already familiar with the basic concept of earning interest: You put \$1,000 in the bank, and the bank pays you a little bit of interest in return, such as 2% per year. At the end of the year, you've earned \$20.

Compound interest refers to earning interest on the interest you've already earned. If you keep holding your money in the bank, you'll continue to earn interest not only on your original \$1,000 but also on the \$20 you earned. That means the amount of interest you earn will increase each year. In the second year, for example, you'll earn \$20 and 40 cents.

The magic of compounding is that your money grows at an increasing pace. That extra 40 cents may not sound like much but over time and with big-enough numbers, compounding delivers mighty results.



COMPOUND INTEREST

Would You Rather: \$10,000 vs. \$0.01

Would you rather receive \$10,000 a day, every day for a month or one penny that doubles each day for a month? (*Hint: Yes, it's a trick question!*)

Thanks to the amazing math of compounding, at the end of one month, the doubling penny will have earned you \$10,737,418 compared with \$310,000 if you had collected \$10,000 per day. Put another way, the doubling penny earns you 35 times what the \$10,000-a-day option does. *For illustration purposes only.*

This is an incredible example of compounding interest but -let's get real here- the reason the penny example delivers such big results is that it uses an absolutely massive interest rate. Doubling your money every day (meaning a 100% daily interest rate) is nowhere near the annual interest rate on a typical investment account. However, any starting amount of money could potentially grow into a giant pile of money using compounding interest, it just needs more time than the penny example. Let's look a real world case study to show the power of compound interest with a typical interest/return rate.



COMPOUND INTEREST CASE STUDY



Megan, Age 19

Goal: Save 10% of what she earns

Total Saved: \$2,000 per year into her Tax Free Savings Account

Timeframe: Megan saves \$2,000 per year for 7 years until she is 26 years old, then doesn't end up saving another penny.

**Megan started saving at age 19
and saved \$2,000 for 8 years =
\$16,000**

**TOTAL PORTFOLIO AT
AGE 65:
\$1,035,106**



Sarah, Age 26

Goal: Save \$2,000 per year

Total Saved: \$2,000 per year into her Tax Free Savings Account

Timeframe: Sarah saves \$2,000 per year diligently for the next 39 years until she is 65 years old.

**Sarah started saving at age 26
and saved \$2,000 for 39 years =
\$78,000**

**TOTAL PORTFOLIO AT
AGE 65:
\$883,185**

For illustration purposes only

Both women earned an average of 10% per year on their investments, but the extra time that Megan's investments had to grow and compound, ended up earning her an additional \$150,000 by age 65! Even though Sarah was extremely dedicated and saved an additional \$62,000 more than Megan, it still doesn't compare to the extra time Megan's money had to compound from an earlier age. That's the power of compound interest!*

*1. FV of \$2000 PMT, 8 N @ 10% = \$22,871.78. FV of \$22,871.78, 39 N @ 10% = \$941,054.31, FV of \$941,054.21, 1N @10% = \$1,035,106.46
2. FV of \$2000 PMT, 39 N @ 10% = , FV of \$802,95.56, 1N @10% = \$883,185.11

FINAL THOUGHTS



Rest assured, even if you have only recently started saving by "Paying Yourself First" or even if you haven't started saving yet, we can still do similarly powerful things with compound interest over a shorter term, you'll just want to start as soon as possible to maximize the benefits. The numbers prove that if you have the discipline to make regular deposits paired with the patience not to touch your money, you can turn a little into a lot.

The true takeaway from this module is that it doesn't matter how much you start with—just that you start as early as possible. There is an expression, "The best time to plant a tree was 20 years ago, the second best time is now," and the same applies for compound interest. The earlier you start, the more powerful your savings become. Even if you start with only a few dollars out of every paycheck, it can significantly change your life down the road if invested properly. Starting as soon as possible will maximize your long-term growth.

Using the power of compound interest is an integral part of wealth building where your money can really work for you.

KEY TAKEAWAYS

- Start saving as soon as possible to maximize the benefits of compound interest
- To enjoy the benefits of compounding, you have to reinvest and not spend what you earn.
- To increase your money's compounded growth even more, try to invest more money, let your money grow for a longer period of time, and find the best return rate you can.
- Compounding can boost the growth of your savings account, but it's also relevant to investments, which typically earn more.

NOTES

NEXT UP: MODULE 4: BUYING GOOD COMPANIES



You're successfully learned about "Paying Yourself First", saving for wealth generating assets and now you understand the power of compound interest. Next we will discuss which generating assets you should invest in to build your wealth!

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