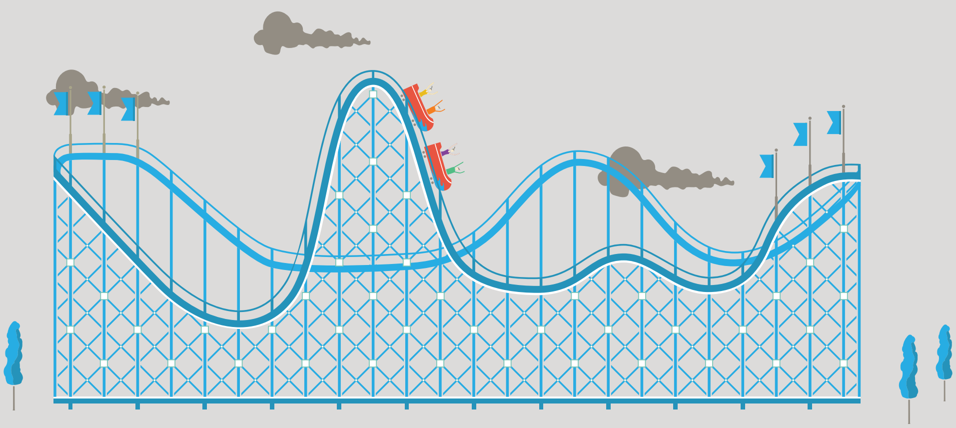
VOLATILITY AS A TAX



Investing is an exercise of probabilities filled with uncertain outcomes. Over long enough time frames, various asset classes are expected to deliver returns that are somewhat commensurate with their long-term averages for return and risk. However, these returns can be subject to wild swings along the way. These wild swings (or volatility) in asset classes within a portfolio can act like a tax that punishes investors to varying degrees depending on their exposure to the offending asset classes and whether they are in the process of accumulating or spending their savings.

THE IMPACT OF VOLATILITY ON COMPOUND RETURNS

The steep and dramatic sell-off and recovery that markets experienced in the first half of 2020 was a stark reminder that volatility is a challenge that investors must overcome in order to achieve their goals.

However, the consequences of volatility can be more severe than simply causing anxiety and challenging investors' resolve to stick with their strategy and plan. Volatility can also be seen as a tax that can deplete investors of their wealth.

For example, over the past 10 years, the S&P TSX Composite Index has had the following annual returns:

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
17.61%	-8.71%	7.19%	12.99%	10.55%	-8.32%	21.08%	9.10%	-8.89%	22.88%

Source: S&P Dow Jones Indices. (https://www.spglobal.com/spdji/en/idsenhancedfactsheet/file.pdf?calcFrequency=M&force_download=true&hostIdentifier=48190c8c-42c4-46af-8d1a-0cd5db894797&indexId=5457755). As at August 26, 2020.

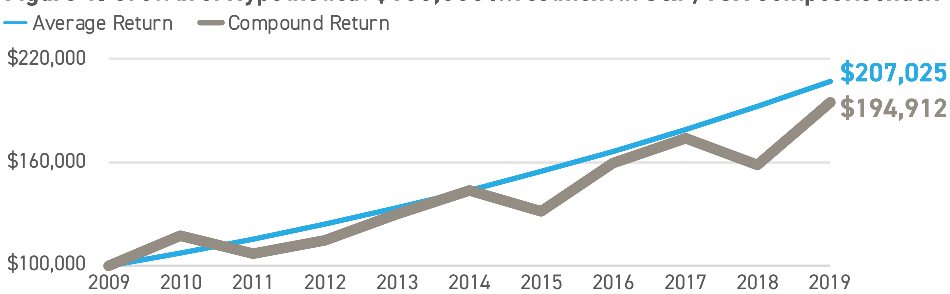
Adding these up, you get a total return of 75.48%, or an average return of 7.55% per year. Based on this average return, a hypothetical investment of $100,000 could have grown to **$207,025**[1], representing a gain of $107,025 (assuming no fees, costs or expenses that may be attributed to an investment).

However, if you calculate the compound returns of the S&P/TSX Composite Index, a hypothetical $100,000 investment made 10 years ago, you would see a growth of **$194,912**, for a gain of $94,912, or a compound return of 6.90% (see Figure 1 below).

The $12,113 difference between average return and compound return in Figure 1 is due to the volatility of the S&P/TSX Composite Index's returns. Because investment returns in any one year are linked to one another, volatility causes investments to compound less efficiently, reducing the amount of wealth investors can accumulate.

In other words, volatility could be viewed as a a tax that reduces the long-term growth of an investment portfolio.

Figure 1. Growth of Hypothetical $100,000 Investment in S&P/TSX Composite Index



Source: S&P Dow Jones Indices. (https://www.spglobal.com/spdji/en/idsenhancedfactsheet/file.pdf?calcFrequency=M&force_download=true&hostIdentifier=48190c8c-42c4-46af-8d1a-0cd5db894797&indexId=5457755).

[1] Based on Picton Mahoney Asset Management's calculations, as at August 26, 2020. The rate of return shown is used only to illustrate the effects of the compound growth rate and is not intended to reflect future values of an investment fund or asset allocation service or returns on investment in the investment fund or from the use of the asset allocation service.

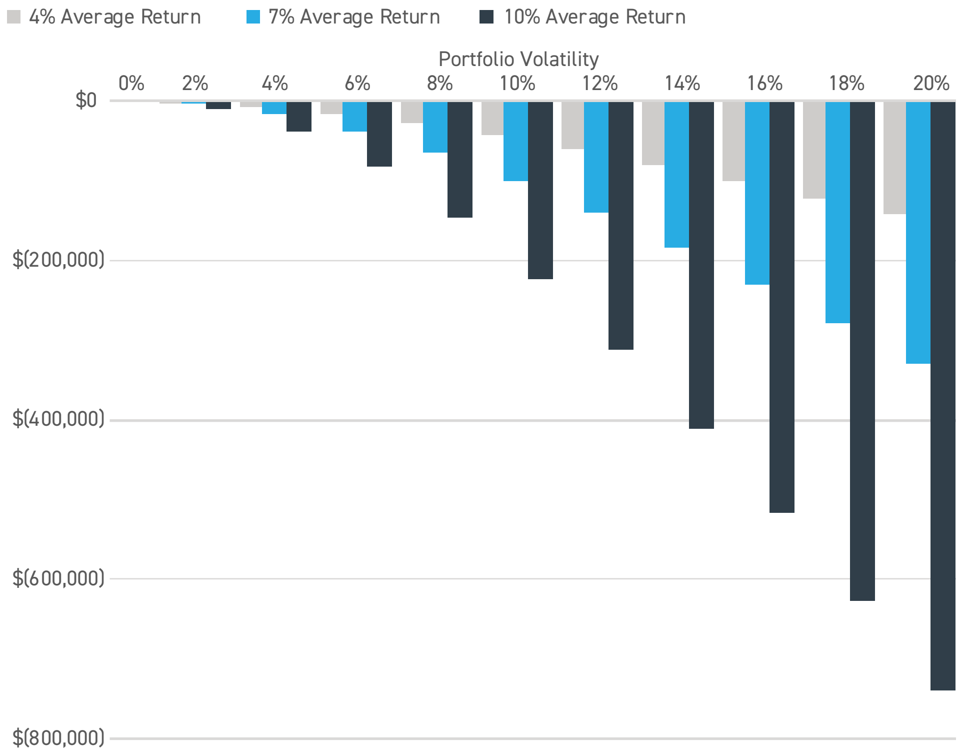
HOW TO ESTIMATE HOW MUCH "VOLATILITY TAX" YOU ARE PAYING

A rule of thumb for estimating how much volatility could be taxing your portfolio is to subtract half of the variance of your return from your average annual return.

Looking back to the S&P/TSX Composite Index, the standard deviation of returns over the past 10 years has been 11.41%, so the variance (standard deviation squared) has been 0.013. Taking half of that, we get a "volatility tax" of 0.0065, or 0.65%, which is the same as the difference between the average return (7.55%) and the compound return (6.90%).

Over time, the drag that volatility has on the growth of portfolios accumulates, giving rise to an increasingly meaningful impact on potential investment returns. The chart to the right shows the estimated negative impact volatility has on the growth of a hypothetical $100,000 investment portfolio earning 4%, 7% and 10% average returns over a 30-year time period (Figure 2).

Figure 2*. Impact of Volatility on the Growth of a Hypothetical $100,000 Portfolio over a 30-Year Time Horizon



* The impact of volatility is calculated by taking the expected future value in thirty years' time of thirty three $100,000 portfolios whose arithmetic returns are 4%, 7% and 10% per year respectively and which have volatilities ranging from 0% to 20% and calculating the shortfall relative to the expected future value in thirty years' time of three $100,000 portfolios with the same arithmetic returns of 4%, 7% and 10% but with volatility of 0%.

HOW TO REDUCE THE VOLATILITY TAX YOU PAY

The good news is that, just as effective tax planning can reduce the amount of income tax you pay, effective portfolio construction can reduce the amount of volatility tax impacting a portfolio.

Consider the following tactics:

1. Focus on quality of return and not just quantity of return: make it your goal to maximize risk-adjusted returns.
2. Diversify across a broad range of asset classes and strategies to build more stable and resilient portfolios.
3. Reduce volatility by incorporating alternative strategies into your portfolio that are less dependent on the level or general direction of the market.
4. Invest in strategies that have additional tools for mitigating risk, such as hedging or shorting.

By diligently managing volatility in your investment portfolio, not only will you be able to sleep better at night, you will also have created the potential to achieve your goals sooner and with greater certainty.

HOW CAN WE HELP?

PORTFOLIO CONSTRUCTION CONSULTATION SERVICES (PCCS)

We believe that portfolio construction is one of the great differentiators in the Canadian investment industry. Through PCCS , advisors get access to unique data, analytics and insights to help design portfolios that aim to achieve better outcomes and help clients stay invested in all market conditions.

Your Model Portfolio + **Our Risk Factor, Stress Testing & Scenario Analysis** = **Risk Awareness & Insights**

We help advisors clearly define their investment goals, diagnose unintended risks, and design portfolios that offer the potential to more efficiently and consistently achieve desired outcomes.

Our experienced portfolio consulting professionals are a multi-disciplinary team with backgrounds in asset allocation, risk management, quantitative research and portfolio management.

Our analytics focus on four key areas:

- Strategic asset allocation
- Tactical asset allocation
- Factor analysis
- Evaluation for alpha sources

GET STARTED.

Contact Robert Wilson to request a review.

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