Understanding Risk: Not All Risk Is Created Equally

For many investors, risk is not a well understood concept. What is risk? How is it measured? And, how much risk is acceptable in a portfolio? Broadly speaking, risk is any uncertainty which can negatively impact your financial well-being. All investments involve some level of risk; without which there are generally diminished rewards. Consequently, striving to avoid investment risk can itself create risk – the risk of not creating sufficient wealth to meet your objectives (i.e., saving for retirement or funding an education). As a result, there is a trade-off between risk and reward and, generally, the greater the risk associated with an investment, the greater the potential reward.

Measuring risk

There are many ways to measure risk in investing. Included among the more common measures are:

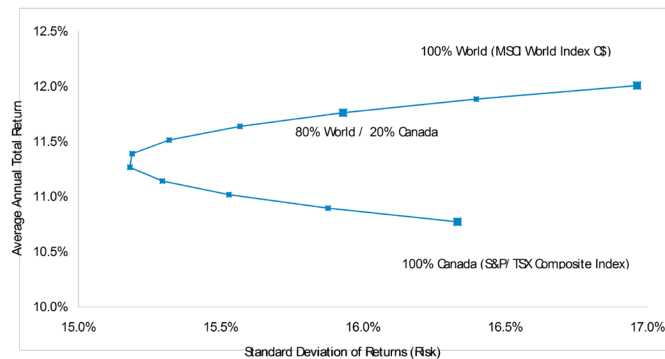
- **Standard deviation** measures the variability of an investment's returns from its average expected return. The greater the standard deviation, the increased volatility and risk of the investment;
- **Beta**, or systematic risk, is used to measure the volatility of a security, generally a stock, relative to the market or a specific index.
- **Duration** is the measure of a bond's sensitivity to changes in interest rates. In general, rising interest rates will trigger bond prices to fall, and falling interest rates will cause them to rise.

Depending on the type of investment, the risks associated with it and an investor's return expectations may differ. For passive investments, such as index funds, it's important that tracking error is minimized – the difference between the investment's return and its respective benchmark – and that the investor earns a return similar to the applicable benchmark. On the other hand, an active investment – such as a Canadian equity fund – which tries to add value above its benchmark (such as the S&P/TSX Composite Index) on an absolute or risk-adjusted basis, can exhibit a risk / return profile that differs from its benchmark; either positive or negative. Consequently, an investor owning an active investment is looking to be compensated for incurring a greater risk than owning an index fund.

Context is important

Generally, investment risk can be viewed from two standpoints: first, the risk associated with an individual investment; and second, the risk of the portfolio as a whole. While these two concepts are quite different, it's important to understand how the first interacts with the second; that is, how correlated the individual investments are within a portfolio. Correlation is a measure of the degree to which two investments interact with each other. Although it may seem counterintuitive, adding a more risky investment to a conservative portfolio may actually reduce the portfolio's overall risk profile if the investment has a lower correlation to the other investments in the portfolio. For example, as illustrated in **Figure 1**, between 1960 and 2013, international equities were more volatile than Canadian equities during this period. However, allocating a portion of a Canadian equity portfolio to international equities would have actually reduced the volatility of the portfolio while improving returns.

Figure 1: Impact of International Equities for Canadian Investors 1960–2013



Source: Bloomberg

Consequently, when reviewing an investment opportunity it should be evaluated within the context of the overall portfolio. Depending on the portfolio's current holdings and its correlation to a specific investment opportunity it may, in fact, improve the return potential and/or decrease the overall risk. For example, if an investor owns a passive portfolio of exchange-traded funds tracking a particular index, and wants to add an individual stock to their portfolio that currently represents 3.5% of the tracked index, they may actually be increasing their portfolio's risk. By adding the stock, not only is the investor increasing their exposure to the company in question, but also their exposure to the sector in which it operates. However, this risk – known as idiosyncratic risk – might be acceptable if the investor has a bullish view on the company or the sector as a whole.

Understanding your risk tolerance

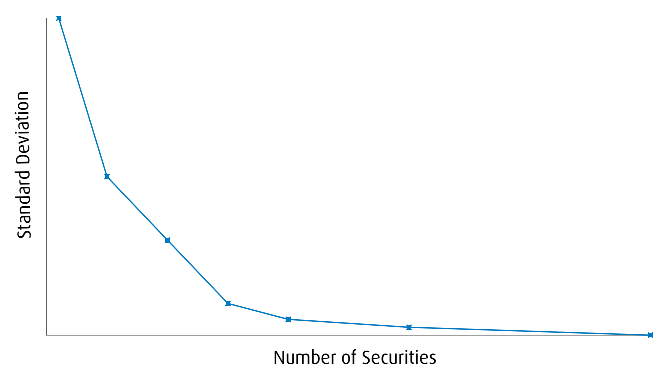
How much risk an investor should assume depends on many factors; therefore, it's important to start with an understanding of your investment objectives, time horizon and tolerance for risk.

Age, which generally dictates an investor's time horizon, plays an important role in determining one's risk tolerance. Younger investors, in the process of growing their nest-egg over the long-term, generally have a greater tolerance for risk than those nearing retirement. However, some younger investors will have near-term objectives, such as purchasing a home, and may be more risk adverse. Conversely, older investors, who are closer to retirement and will soon draw on their investments to fund their retirement, will typically tolerate less risk. However, these investors cannot completely take risk off the table as both inflation and longevity risk – the risk of outliving your investments – are important considerations.

The importance of diversification

When it comes to diversification the old saying, "Don't put all your eggs in one basket," still holds true. Portfolios can be diversified on a number of different levels, including: the number of stocks; asset class; sector; geographic region; style (growth vs. value); and market capitalization (large-cap vs. small-cap). **Figure 2** shows how increasing the number of securities in a portfolio lowers its overall risk by broadening its base and reducing its idiosyncratic risk.

Figure 2: Security-Specific Risk Reduction through Portfolio Diversification



Source: BMO Private Client Research

Shifting market leadership

Understanding diversification, risk appropriateness, correlation, and how risk is measured are all vital to the understanding of risk and risk management; however, it's also important to understand that market leadership is continuously changing over time. As illustrated in **Figure 3**, during the period from 2007 to 2016, equity classes delivering the strongest returns shifted considerably. As a result, maintaining a diversified portfolio that included several of these equity classes over this period could have improved portfolio returns and reduced its overall volatility.

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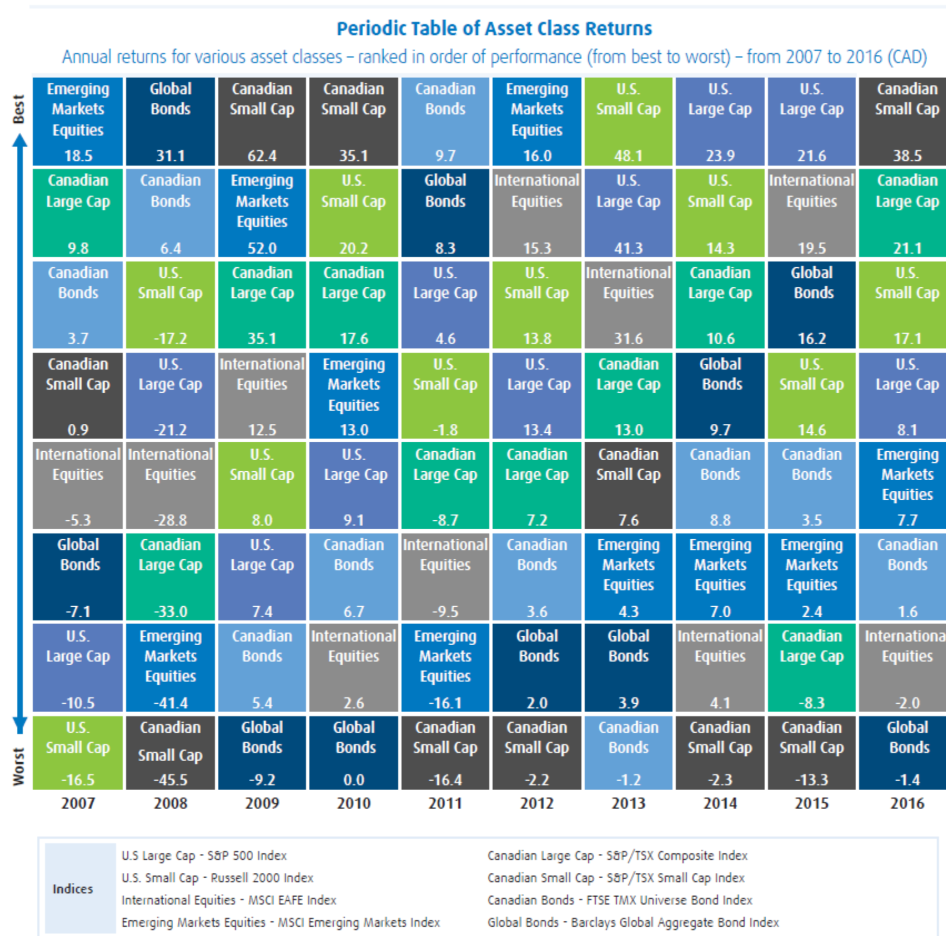
Figure 3: Leadership Rotation — Asset Classes Performance from 2007-2016



Periodic Table of Asset Class Returns

Annual returns for various asset classes – ranked in order of performance (from best to worst) – from 2007 to 2016 (CAD)

Rank	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Best	Emerging Markets Equities 18.5	Global Bonds 31.1	Canadian Small Cap 62.4	Canadian Small Cap 35.1	Canadian Bonds 9.7	Emerging Markets Equities 16.0	U.S. Small Cap 48.1	U.S. Large Cap 23.9	U.S. Large Cap 21.6	Canadian Small Cap 38.5
	Canadian Large Cap 9.8	Canadian Bonds 6.4	Emerging Markets Equities 52.0	U.S. Small Cap 20.2	Global Bonds 8.3	International Equities 15.3	U.S. Large Cap 41.3	U.S. Small Cap 14.3	International Equities 19.5	Canadian Large Cap 21.1
	Canadian Bonds 3.7	U.S. Small Cap -17.2	Canadian Large Cap 35.1	Canadian Large Cap 17.6	U.S. Large Cap 4.6	U.S. Small Cap 13.8	International Equities 31.6	Canadian Large Cap 10.6	Global Bonds 16.2	U.S. Small Cap 17.1
	Canadian Small Cap 0.9	U.S. Large Cap -21.2	International Equities 12.5	Emerging Markets Equities 13.0	U.S. Small Cap -1.8	U.S. Large Cap 13.4	Canadian Large Cap 13.0	Global Bonds 9.7	U.S. Small Cap 14.6	U.S. Large Cap 8.1
	International Equities -5.3	International Equities -28.8	U.S. Small Cap 8.0	U.S. Large Cap 9.1	Canadian Large Cap -8.7	Canadian Large Cap 7.2	Canadian Small Cap 7.6	Canadian Bonds 8.8	Canadian Bonds 3.5	Emerging Markets Equities 7.7
	Global Bonds -7.1	Canadian Large Cap -33.0	U.S. Large Cap 7.4	Canadian Bonds 6.7	International Equities -9.5	Canadian Bonds 3.6	Emerging Markets Equities 4.3	Emerging Markets Equities 7.0	Emerging Markets Equities 2.4	Canadian Bonds 1.6
	U.S. Large Cap -10.5	Emerging Markets Equities -41.4	Canadian Bonds 5.4	International Equities 2.6	Emerging Markets Equities -16.1	Global Bonds 2.0	Global Bonds 3.9	International Equities 4.1	Canadian Large Cap -8.3	International Equities -2.0
Worst	U.S. Small Cap -16.5	Canadian Small Cap -45.5	Global Bonds -9.2	Global Bonds 0.0	Canadian Small Cap -16.4	Canadian Small Cap -2.2	Canadian Bonds -1.2	Canadian Small Cap -2.3	Canadian Small Cap -13.3	Global Bonds -1.4

Indices

- U.S Large Cap - S&P 500 Index
- U.S. Small Cap - Russell 2000 Index
- International Equities - MSCI EAFE Index
- Emerging Markets Equities - MSCI Emerging Markets Index
- Canadian Large Cap - S&P/TSX Composite Index
- Canadian Small Cap - S&P/TSX Small Cap Index
- Canadian Bonds - FTSE TMX Universe Bond Index
- Global Bonds - Barclays Global Aggregate Bond Index

Source: BMO Private Client Research

Managing risk

Risk cannot be eliminated and it is a part of investing. However, you can help mitigate risk within a portfolio. By ensuring that the risk you assume in your investing is appropriate for your risk tolerance and investment goals, as well as monitoring the relationship between risk and reward can help maximize your return versus the amount of risk taken. And, having a properly diversified portfolio is a key priority in reducing your overexposure to any one risk.

Your BMO financial professional can assist you structuring a diversified portfolio consistent with your risk profile to ensure that you meet your investment objectives.

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