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**Portfolio, Action
& Research Team**

Investing Handbook

**Understanding the Three
Major Asset Classes:
Cash, Bonds and Stocks**

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Table of Contents

Introduction	2
Historical Returns	3
Treasury Bills Provided Steady Returns	3
Bonds Provided Superior Returns	4
Equities Have Been More Volatile	5
Foreign Equities Have Outperformed	7
Risk.....	10
Managing Risk with Diversification	16
Historical Performance of Benchmark Portfolios	21
Benchmark – Income Investor Portfolio	22
Benchmark – Balanced Investor Portfolio	24
Benchmark – Growth Investor Portfolio	26
Benchmark – Aggressive Growth Investor Portfolio	28
Taxation	30
Appendix A: Performance of Asset Classes.....	33
Appendix B: Asset Allocation Review and Benchmark Changes.....	35
Appendix C: Performance of Benchmark Portfolios.....	36
Appendix D: Annual Total Returns.....	37
Appendix E: Benchmark Portfolio Returns	39



Introduction

Stéphane Rochon, CFA, Equity Strategist

Welcome to the 2014 edition of the BMO Nesbitt Burns Investing Handbook. The purpose of Investing Handbook is to help you understand the three major asset classes — cash, bonds and stocks — and to inform your discussions as you work on your financial plan with your BMO Nesbitt Burns Investment Advisor.

Asset allocation explains approximately 90% of the return and volatility experienced in a portfolio, so an understanding of the historical behaviour of the three asset classes enables you to better assess your own tolerance for risk, and whether your return objectives are realistic in the context of that risk tolerance.

We believe that the primary motivator for investors is not return but the minimization of remorse. When markets are rising, we punish ourselves for having too little invested; and when markets are falling, we punish ourselves for having too much invested. Unfortunately, we can know only in hindsight if our remorse has been minimized. Investing is a forward-looking activity. Since we cannot minimize remorse before the fact, what can we do?

We can look at the historical return and volatility of various asset classes to give us a sense of what may happen, and guide ourselves accordingly. This is where the Investing Handbook comes in.

In this handbook, you will find 54 years of historical data on returns and risk factors for the three major asset classes. While past performance is not necessarily representative of future performance, the data we show will give you a good sense of what to expect, and enable you to assess your own investment objectives and tolerance for risk.

In addition to returns for our benchmark portfolios, we present historical performance for our benchmark portfolios over 20-year investing horizons. We believe that this is more representative of typical investor experience, in that most of our clients invest and save over time, rather than on a lump-sum basis. This will give you a good sense of a more typical investing experience and the likely range of investment returns over an extended period of time.

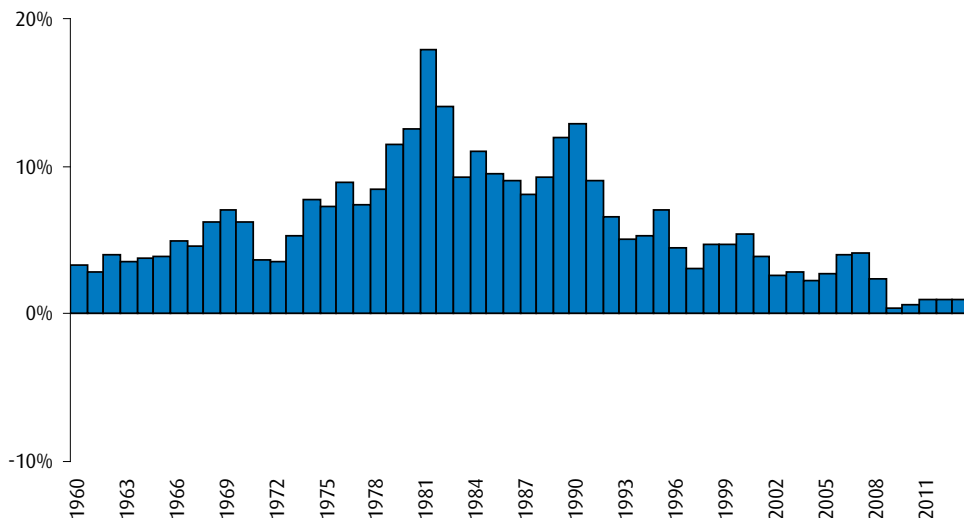
We hope you will find Investing Handbook to be a helpful source of information and perspective as you work with your BMO Nesbitt Burns Investment Advisor to craft an investment strategy that will help you achieve your financial goals.



Historical Returns¹

Treasury Bills (T-Bills) Provided Steady Returns

Figure 1: Government of Canada (GoC) Three-month T-Bills: Annual Total Returns

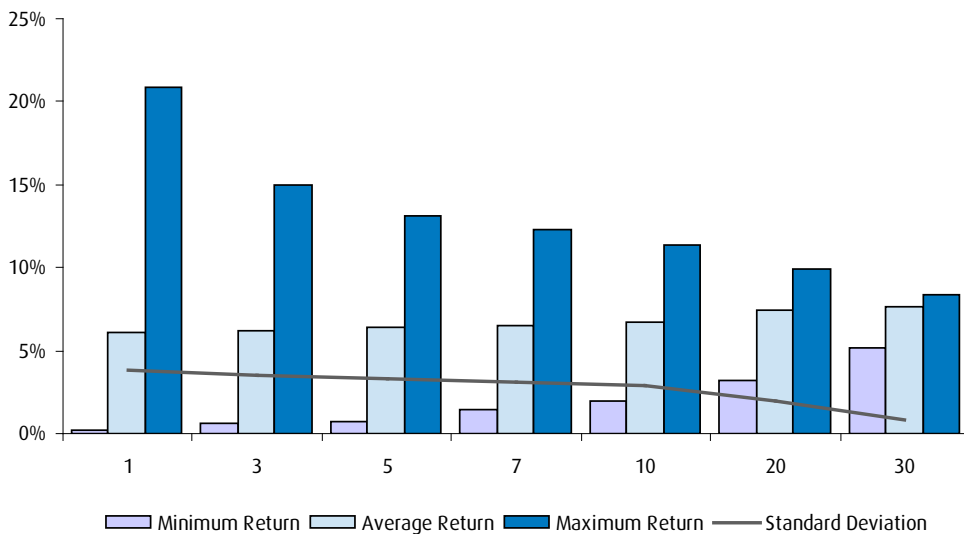


T-Bills have provided investors with steady, positive nominal (before inflation) returns.

- Average annual compound total return since 1960: 5.9%
- Number of calendar years with a loss: 0

Source: Bank of Canada

Figure 2: GoC Three-month T-Bills 1960–2013 (Rolling Returns): Annualized Performance



While T-Bill nominal returns have always been positive, they have also varied widely.

- Best: 20.8% for the 12 months ending September 1982
- Worst: 0.17% for the 12 months ending February 2011

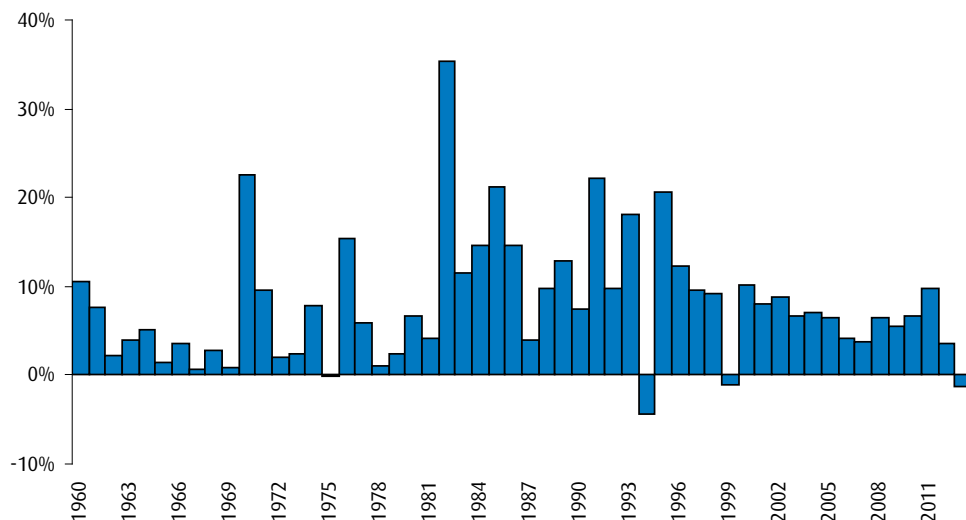
Note: For periods greater than one year, return is compound annual rate of return
Source: Bank of Canada

¹ All returns discussed in Investing Handbook are nominal terms (i.e., not adjusted for inflation) unless otherwise noted.



Bonds Provided Superior Returns

Figure 3: Canadian Bonds: Annual Total Returns

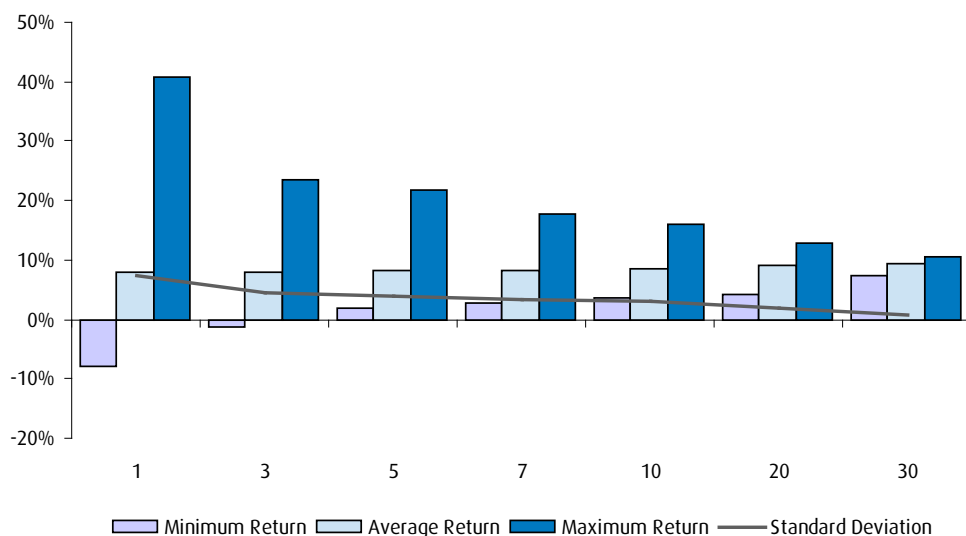


Compared to T-Bills, bonds provided superior returns. However, these returns came with an increase in volatility.

- Average annual compound total return since 1960: 7.8%
- Number of calendar years with a loss: 4

Source: PC Bond

Figure 4: Canadian Bonds 1960-2013 (Rolling Returns): Annualized Performance



Over longer periods of time bond returns have been positive. However, over shorter time periods the returns have been quite variable. Bonds can produce negative total returns when interest rates rise.

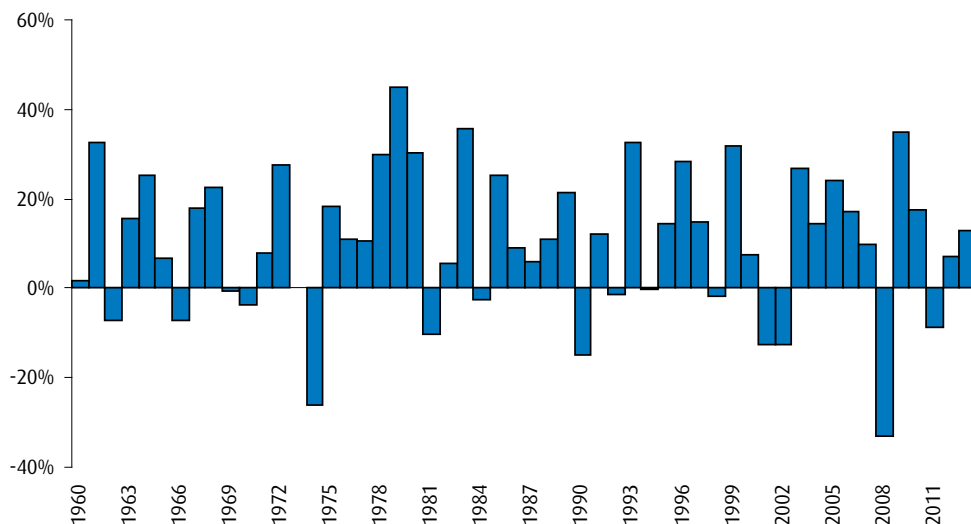
- High: 40.8% for the 12 months ending June 1983
- Low: -7.9% for the 12 months ending July 1981

Note: For periods greater than one year, return is compound annual rate of return
Source: PC Bond



Equities Have Been More Volatile

Figure 5: S&P/TSX Composite Index: Annual Total Returns

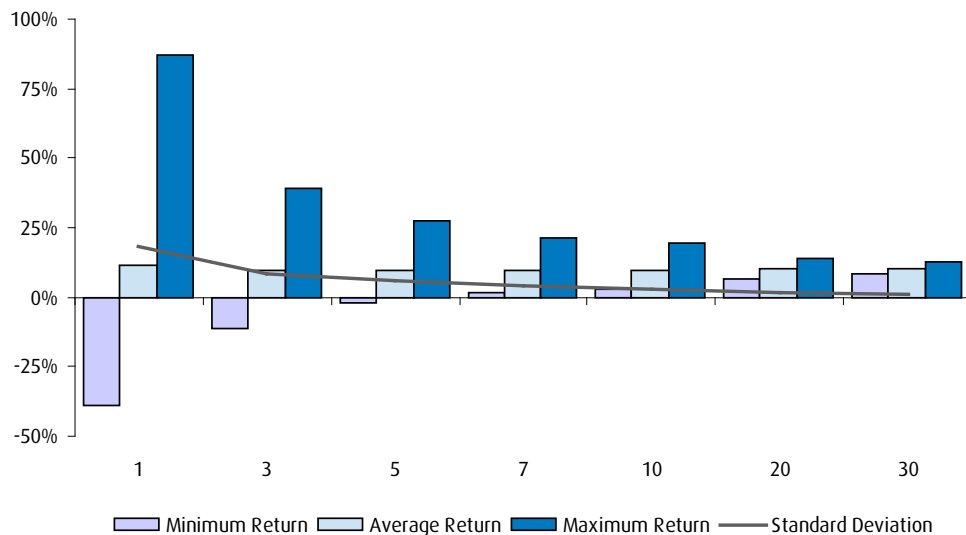


Compared to T-Bills and bonds, Canadian equities have provided the best long-term returns. However, they also experienced the greater volatility.

- Average annual compound total return since 1960: 9.5%
- Number of calendar years with a loss: 15

Source Bloomberg

Figure 6: S&P/TSX Composite Index 1960–2013 (Rolling Returns): Annualized Performance



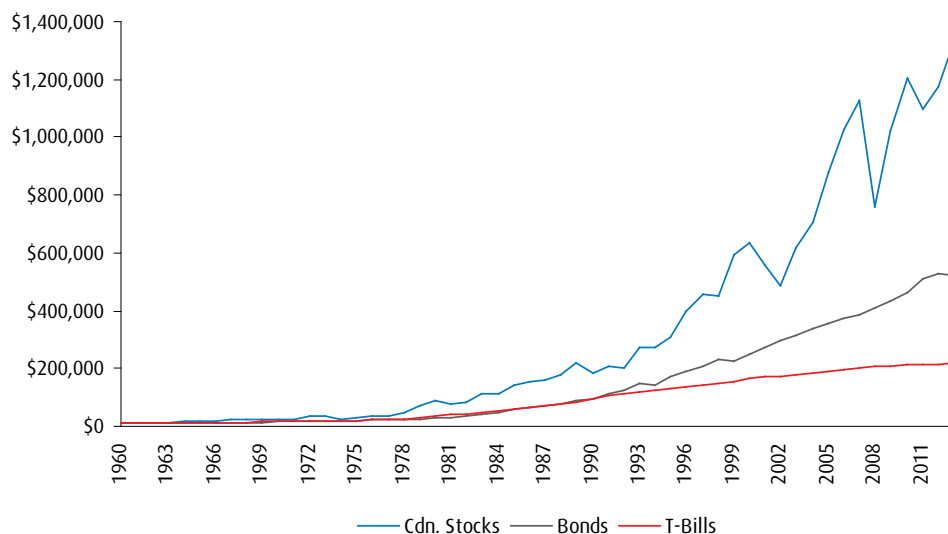
As illustrated, equities can provide stunning returns in some years and disheartening results in others. Returns for equities can vary widely and be negative for more than one consecutive year.

- High: 86.9% for the 12 months ending June 1983
- Low: -39.2% for the 12 months ending June 1982

Note: For periods greater than one year, return is compound annual rate of return
Source: Bloomberg



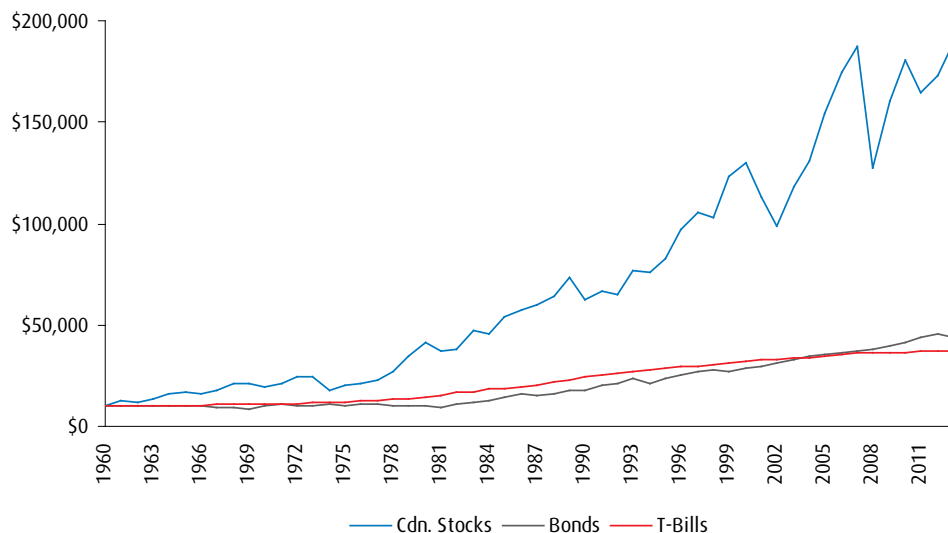
Figure 7: Historical Returns for Canadian Asset Classes (December 31, 1960 = \$10,000; Based on Total Returns)



Over the long run, stocks have provided the highest returns compared to bonds and T-Bills.

Source: Bloomberg, PC Bond, Bank of Canada

Figure 8: Historical Returns for Canadian Asset Class after Taxes (December 31, 1960 = \$10,000; Based on After-Tax Total Returns)



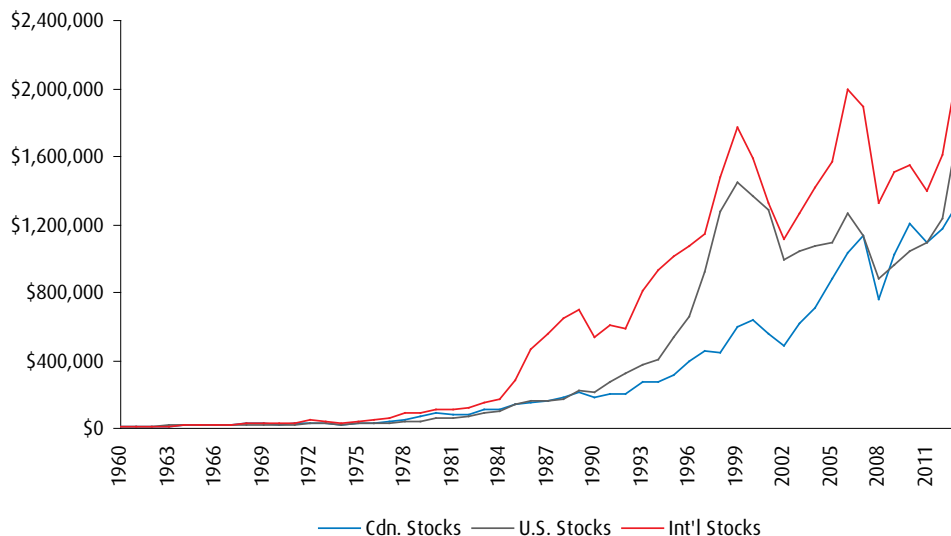
On an after-tax basis, the gap between returns on stocks and other asset classes (bonds and cash) increases significantly. Since 1960, on an after-tax basis, stocks have outperformed cash and bonds by a factor of more than three.

Source: Bloomberg, PC Bond, Bank of Canada



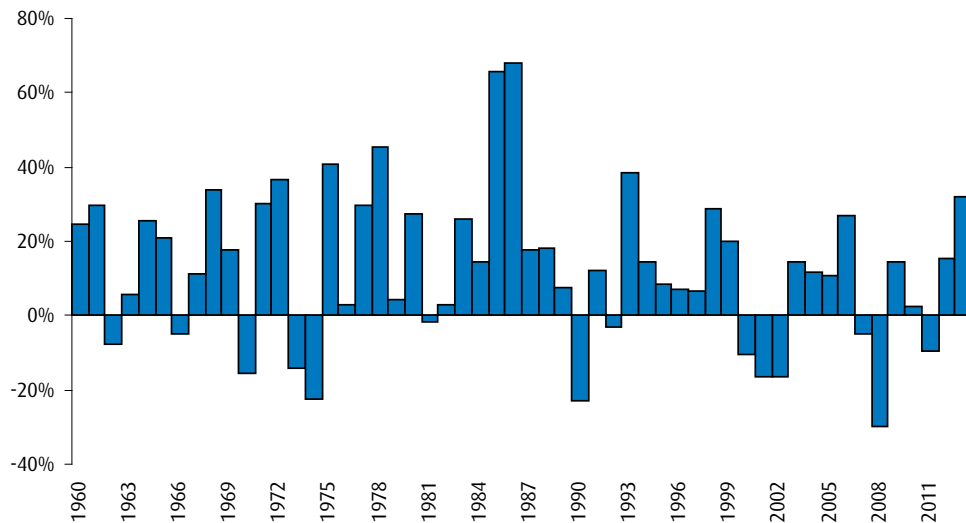
Foreign Equities Have Outperformed

Figure 9: S&P/TSX Composite Index, S&P 500 Index and Morgan Stanley Capital International Europe, Australasia and Far East (MSCI EAFE) Index Canadian Dollar Total Returns (December 31, 1960 = \$10,000)



Source: Bloomberg

Figure 10: MSCI EAFE Index: Annual Total Returns



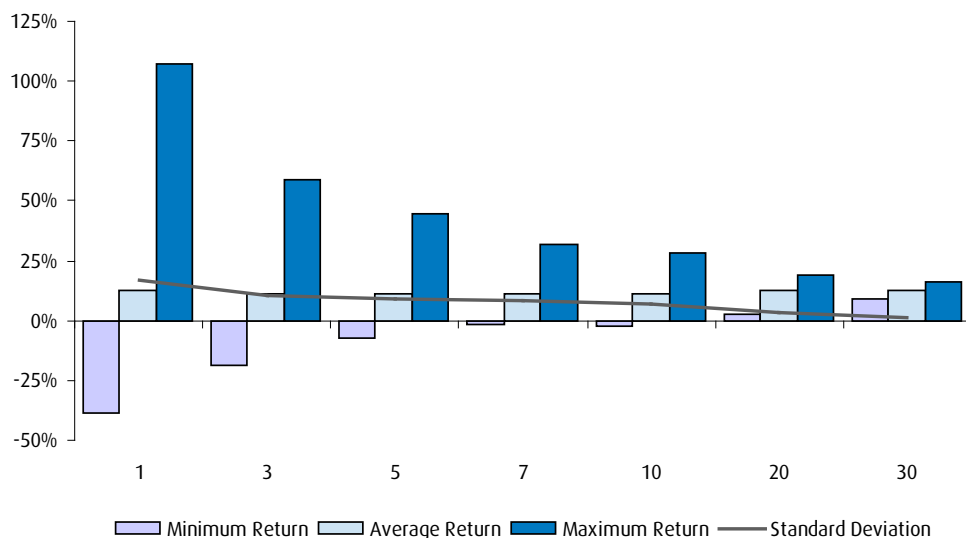
International equities represent one of the more volatile asset classes. However, investors have been rewarded with higher long-term returns relative to Canadian stocks, bonds and T-Bills.

- Average annual compound total return since 1960: 10.1%
- Number of years with a loss: 14

Source: Bloomberg



Figure 11: MSCI EAFE Index 1960–2013 (Rolling Returns): Annualized Performance

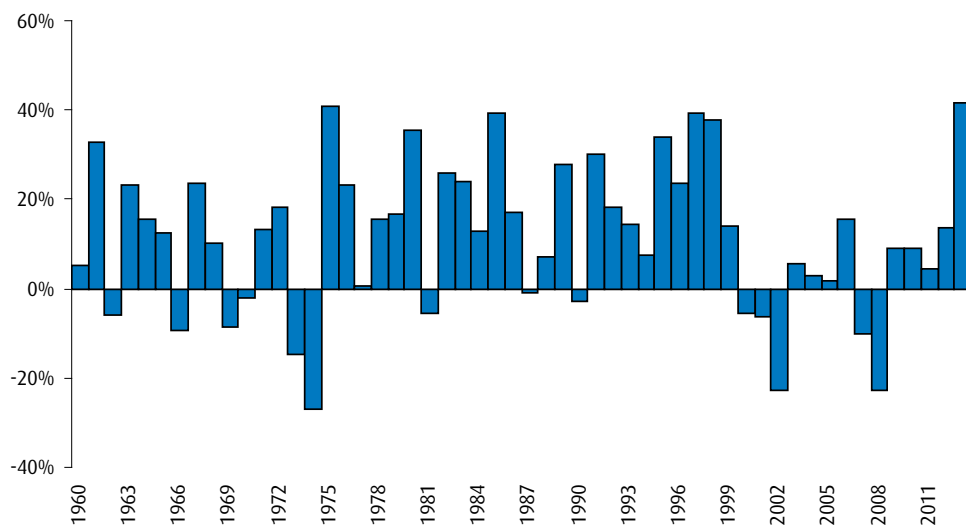


As was the case with Canadian equities, international equities can produce stellar returns in some years and deeply disappointing results in others. International equity returns can also vary widely and may be negative for more than one consecutive year.

- Best: 106.9% for the 12 months ending August 1986
- Worst: -38.4% for the 12 months ending October 1974

Note: For periods greater than one year, return is compound annual rate of return
Source: Bloomberg

Figure 12: S&P 500 Index: Annual Total Returns



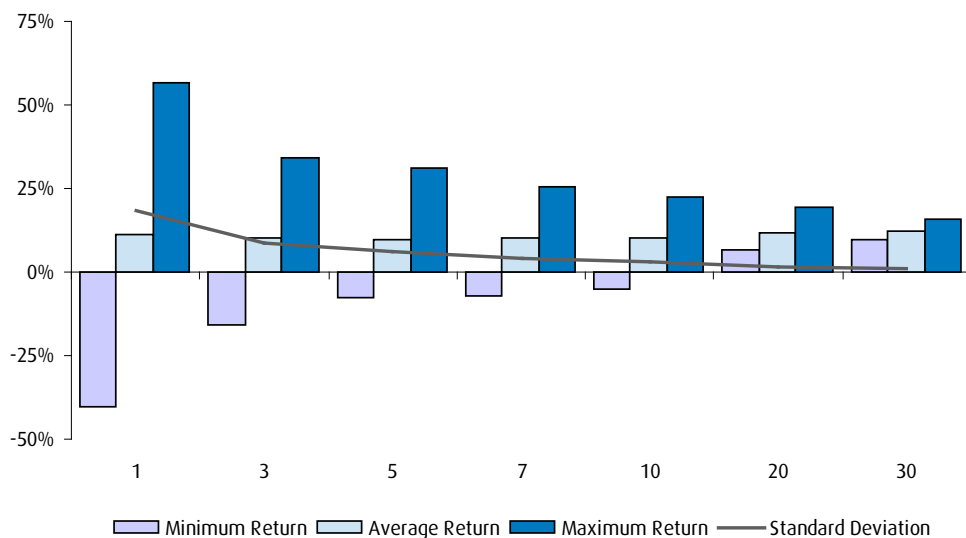
Since 1960, U.S. stocks have produced negative total returns in 14 years, which compares to 15 and 14 down years for Canadian and EAFE equities, respectively. As in the case with Canadian and international equities, U.S. equities have rewarded investors over the long term.

- Average annual compound total return since 1960: 10.1%
- Number of years with a loss: 14

Source: Bloomberg



Figure 13: S&P 500 Index 1960–2013 (Rolling Returns): Annualized Performance

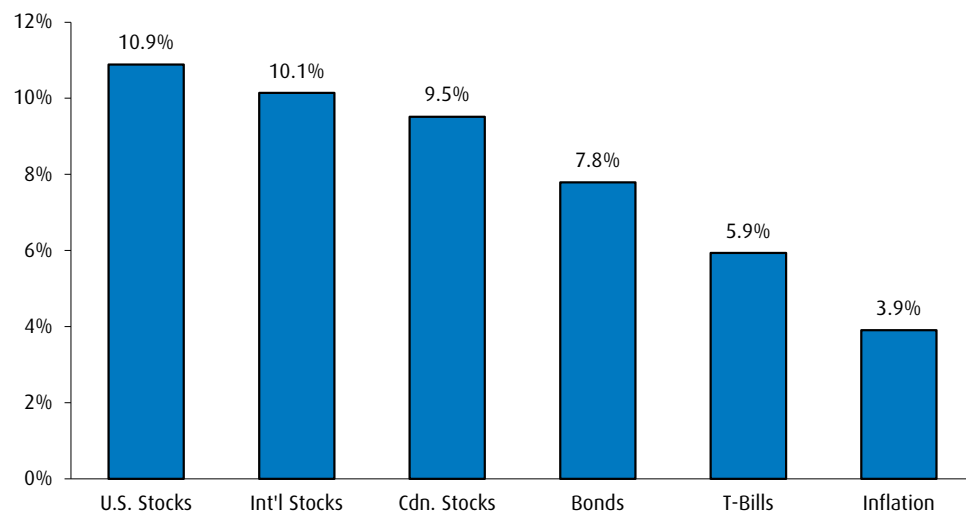


As is the case with equity investments, returns can vary widely and can be negative for more than one year.

- Best: 56.8% for the 12 months ending July 1983
- Worst: -40.1% for the 12 months ending September 1974

Note: For periods greater than one year, return is compound annual rate of return
Source: Bloomberg

Figure 14: Average Annual Total Returns 1960–2013



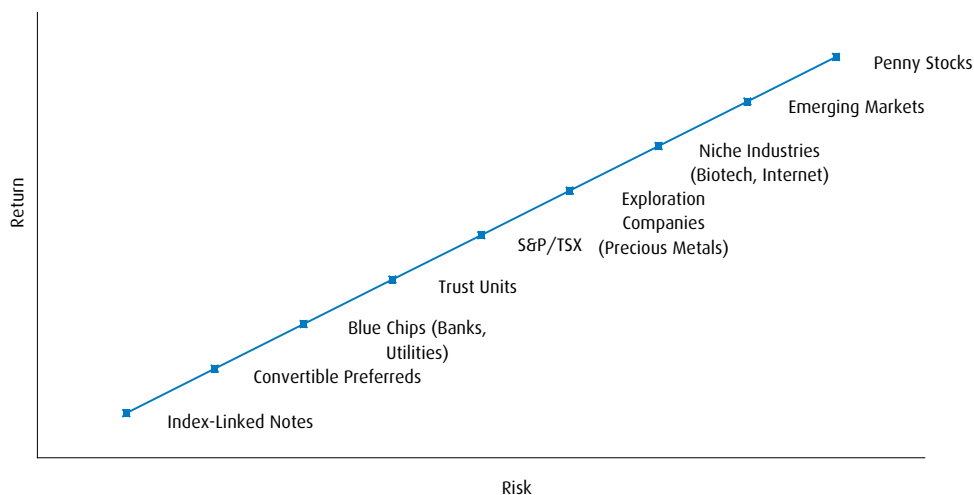
On average, stocks have provided the highest total returns over the long term.

Source: Bloomberg, PC Bond, Bank of Canada, BMO Capital Markets Economic Research



Risk

Figure 15: Some Equities are Riskier than Others

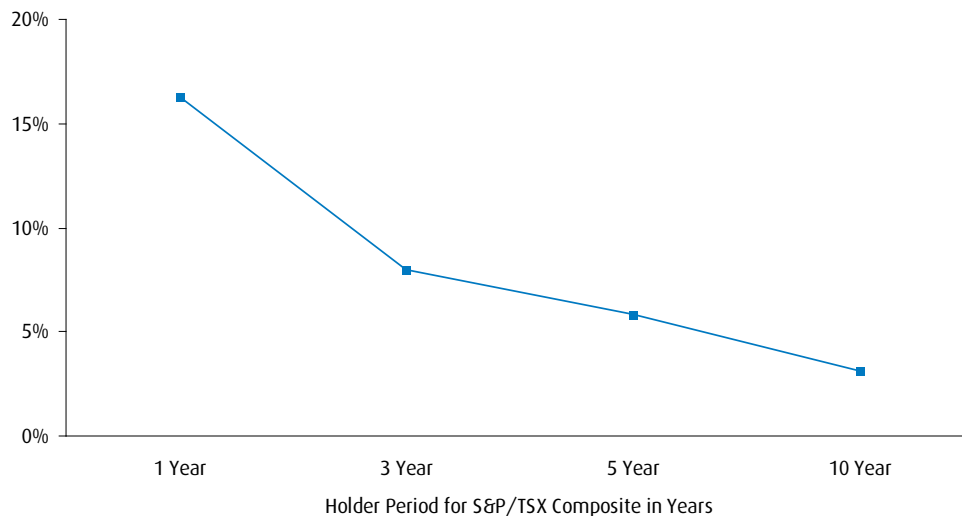


Source: BMO Private Client Research

Each investor defines risk their own way. For some it can include the following:

- Volatility of returns due to market fluctuations;
- The loss of purchasing power due to inflation;
- Capital risk resulting from a decline in the market value of a security;
- Interest rate risk resulting in reduced income due to reinvesting at lower interest rates; and
- Credit risk — the risk that the issuer of a debt security is unable to make timely payment of principal and/or interest.

Figure 16: Volatility Decreases with Time

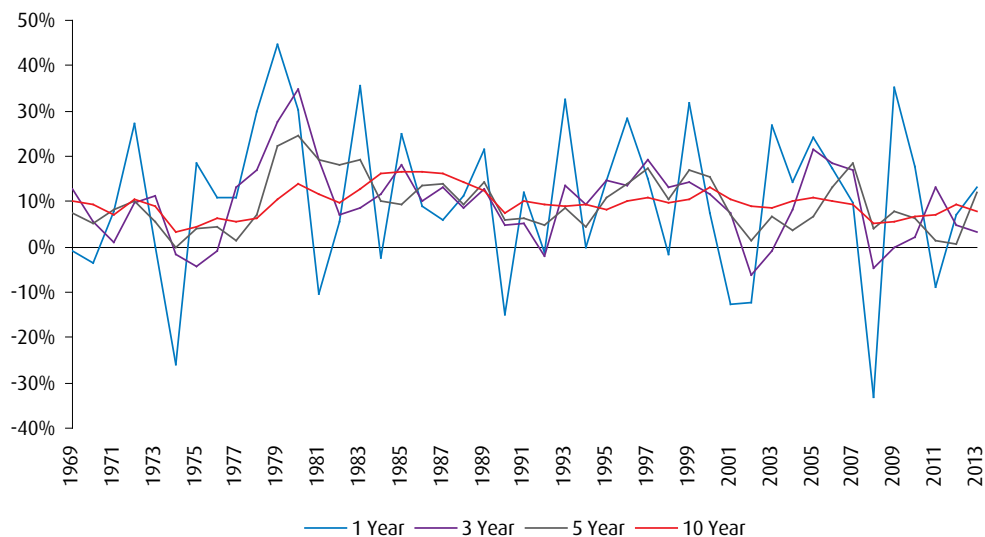


Source: Bloomberg

With any investment there is a trade-off between risk and return. In general, the greater the risk associated with an investment the greater the potential return. While risk cannot be eliminated, it can be controlled.



Figure 17: Volatility Decreases with Time: S&P/TSX Composite Index Annualized Total Returns

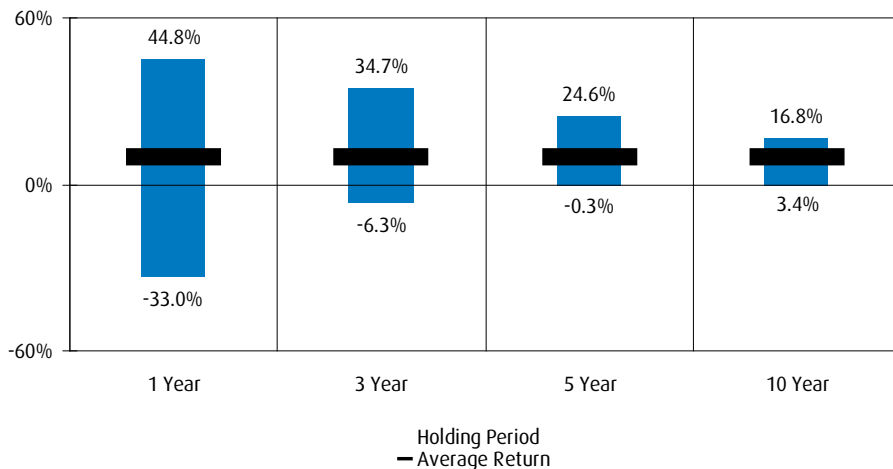


Figures 16, 17 and 18 illustrate the impact of time on the volatility of returns.

The average volatility of equity returns is reduced with time. A minimum time horizon of five to seven years is recommended for equity investments.

Source: Bloomberg

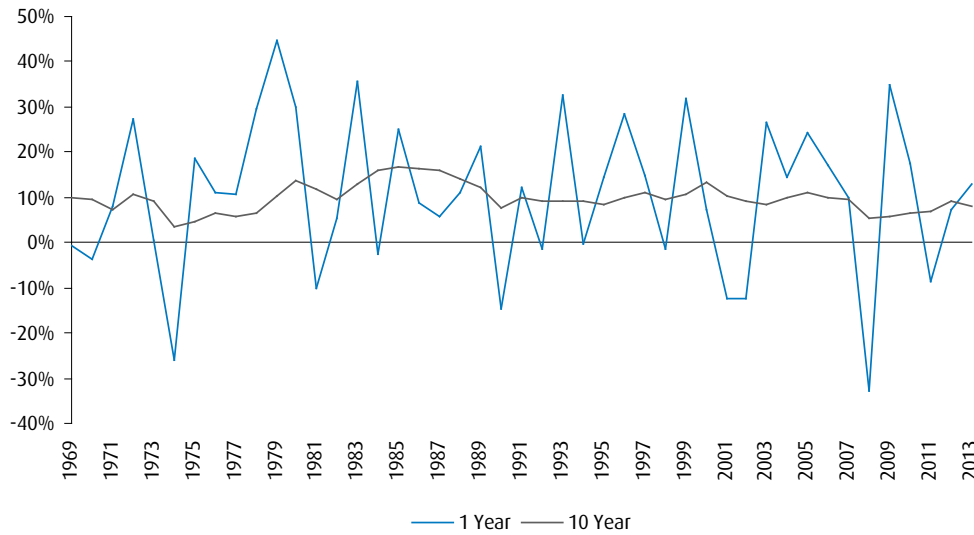
Figure 18: Historical Volatility: S&P/TSX Composite Index Average Annual Compound Returns



Source: Bloomberg

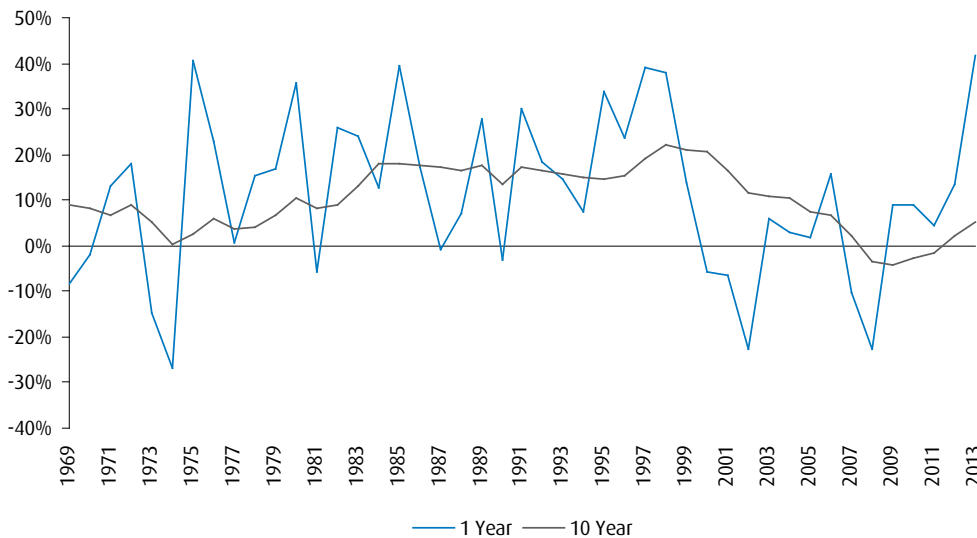


Figure 19: S&P/TSX Composite Index: Compound Average Returns for One-Year and 10-Year Holding Periods



Source: Bloomberg

Figure 20: S&P 500 Index: Compound Average Returns for One-Year and 10-Year Holding Periods



Source: Bloomberg

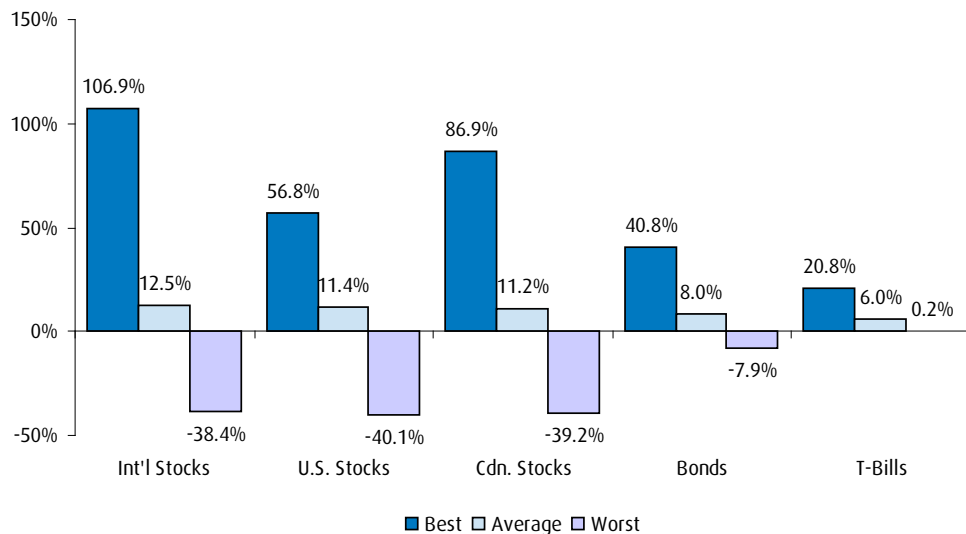
Using the S&P/TSX Composite and the S&P 500, Figures 19 and 20 demonstrate how the volatility of returns is reduced with longer holding periods.

While these Figures clearly indicate that longer holding periods can reduce the volatility associated with equity investments, they do not provide greater certainty with respect to returns. The total return becomes more uncertain the longer the investment time horizon.

For this reason, we recommend that investors include a variety of asset classes in their portfolios and review the asset mix on a regular basis to ensure it continues to reflect their individual risk tolerance and investment goals.



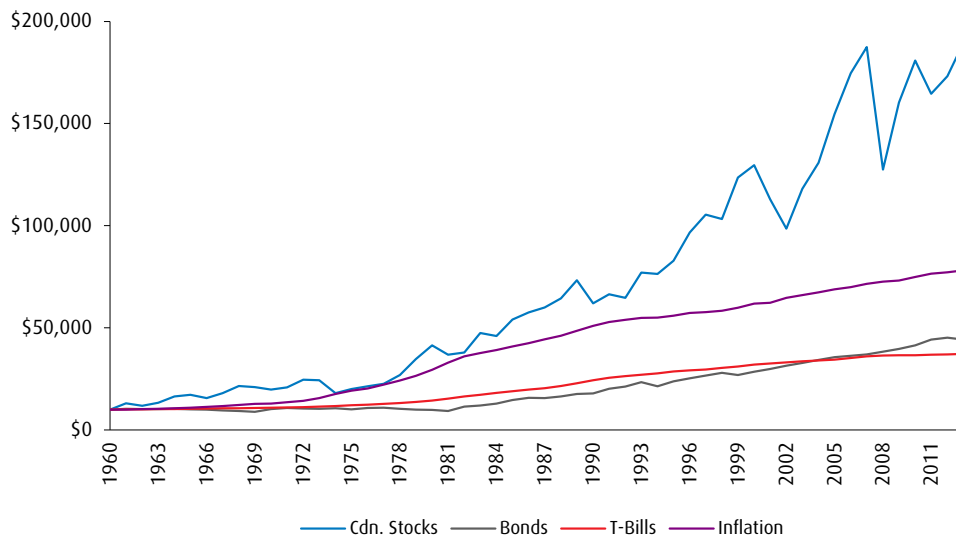
Figure 21: Asset Class Returns 1960–2013: 12-Month Total Returns (Rolling Returns)



Stocks have experienced the most volatile returns and can present the risk of capital loss. Bonds and T-Bills have provided more stable returns than stocks but expose investors to the risk of eroding purchasing power due to the impact of inflation (and taxes). These risks can be managed with asset mix by combining different asset classes in a portfolio.

Source: Bloomberg, PC Bond, Bank of Canada

Figure 22: Keeping Pace with Inflation and Taxes (December 31, 1960 = \$10,000; Based on After-Tax Total Returns)

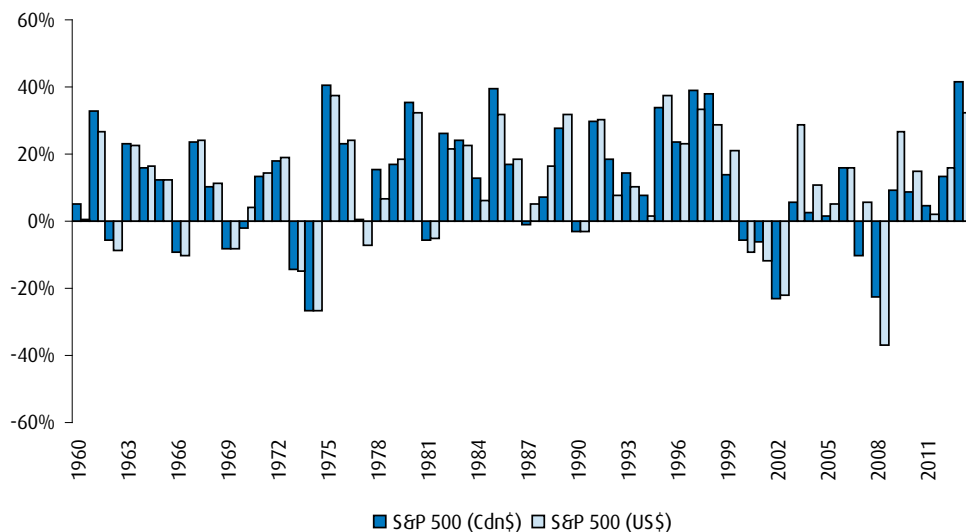


Historically, equities have offered the best purchasing power protection, and equities are the only asset class to exceed inflation on an after-tax basis.

Source: Bloomberg, PC Bond, Bank of Canada, BMO Capital Markets Economic Research



Figure 23: S&P 500 Index Annual Total Returns: Currency Fluctuations Impact Returns



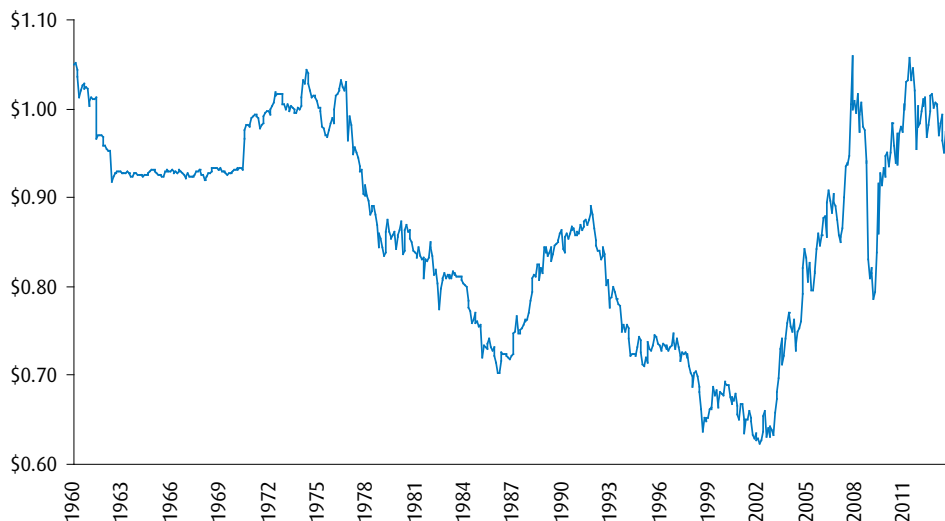
Source: Bloomberg

Recent experience has demonstrated how currency movements can also work against investors.

The fluctuation in U.S. and Canadian dollar exchange rates since hitting parity in November 2007 have led to volatility in returns on U.S. dollar investments for Canadians.

A stronger Canadian dollar in 2009–2010 resulted in significant erosion in the returns on U.S. dollar investments, while Canadian dollar depreciation led to strong relative returns in 2008 and 2011. The Canadian dollar inched higher in 2012, leading once again weaker relative returns on U.S. dollar investments but this changed dramatically in 2013 with Canadian dollar weakening dramatically against its U.S. counterpart.

Figure 24: Canadian Dollar versus U.S. Dollar: Currency Risk an Unpredictable Factor



Source: Bank of Canada

Currency risk is an added unpredictable factor in foreign investing. However, Canadian investors can benefit from currency fluctuations if the Canadian dollar depreciates relative to the currency of the investment.

This was the case for Canadian investors in the U.S. stock market for much of the 1990s.



Figure 25: Bond Price Volatility

Assume there are two bonds from identical issuers, both yielding 6%

	Coupon	Term	Yield	Price
Bond A	6%	3-Year	6%	\$100
Bond B	6%	30-Year	6%	\$100

If the market yield on these bonds rises to 7%, what happens to the price of the bonds?

	Coupon	Term	Yield	Price	Price Change
Bond A	6%	3-Year	7%	\$97.33	-2.7%
Bond B	6%	30-Year	7%	\$87.52	-12.5%

If the market yield on these bonds fall to 5%, what happens to the price of the bonds?

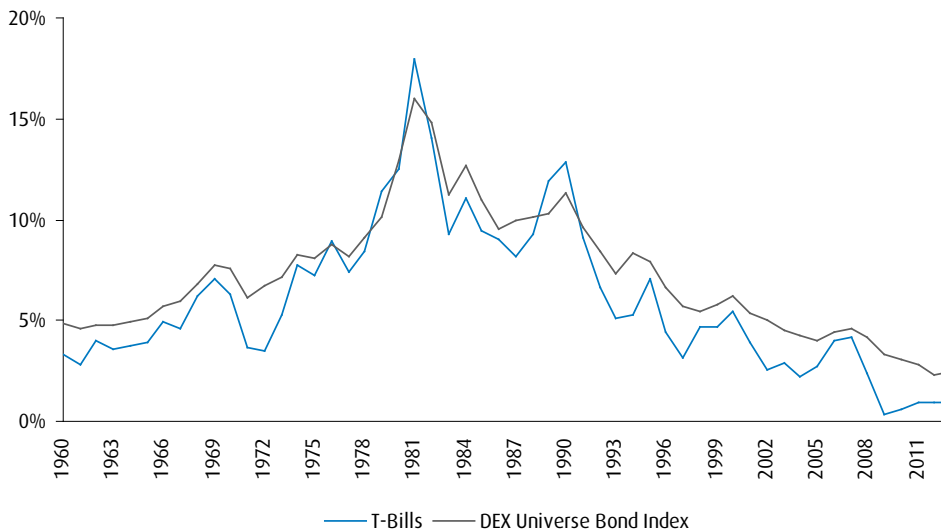
	Coupon	Term	Yield	Price	Price Change
Bond A	6%	3-Year	5%	\$102.75	2.8%
Bond B	6%	30-Year	5%	\$115.45	15.5%

Source: BMO Private Client Research

The price of a bond (and most fixed income investments) moves inversely with interest rates because its coupon rate is fixed until maturity.

A bond will become more valuable if market yields (interest rates) fall and less valuable if yields rise. All else being equal, the longer the bond's term to maturity, the more sensitive its price to yield change.

Figure 26: Yields on Canadian Fixed Income: Average Annual Yield



Source: Bank of Canada, PC Bond

In a declining interest rate environment, fixed income investors face re-investment risk. This results in reduced total return due to re-investment at lower interest rates.

Figure 27: Standard & Poor's Issuer Credit Ratings

Rating	Description
AAA	The issuer has an extremely strong capacity to meet its financial commitments.
AA	
A	
BBB	The issuer has adequate capacity to meet its financial commitments.
BB	
B	The issuer is currently vulnerable and dependent upon a number of factors in order to meet its financial obligations.
CCC	
CC	
C	
R	The issuer is under regulatory review owing to its financial condition.
SD/D	Selective default or default: the issuer has failed to make timely payments of interest and/or principal on one or more of its debt obligations, or the issuer has filed bankruptcy petition.

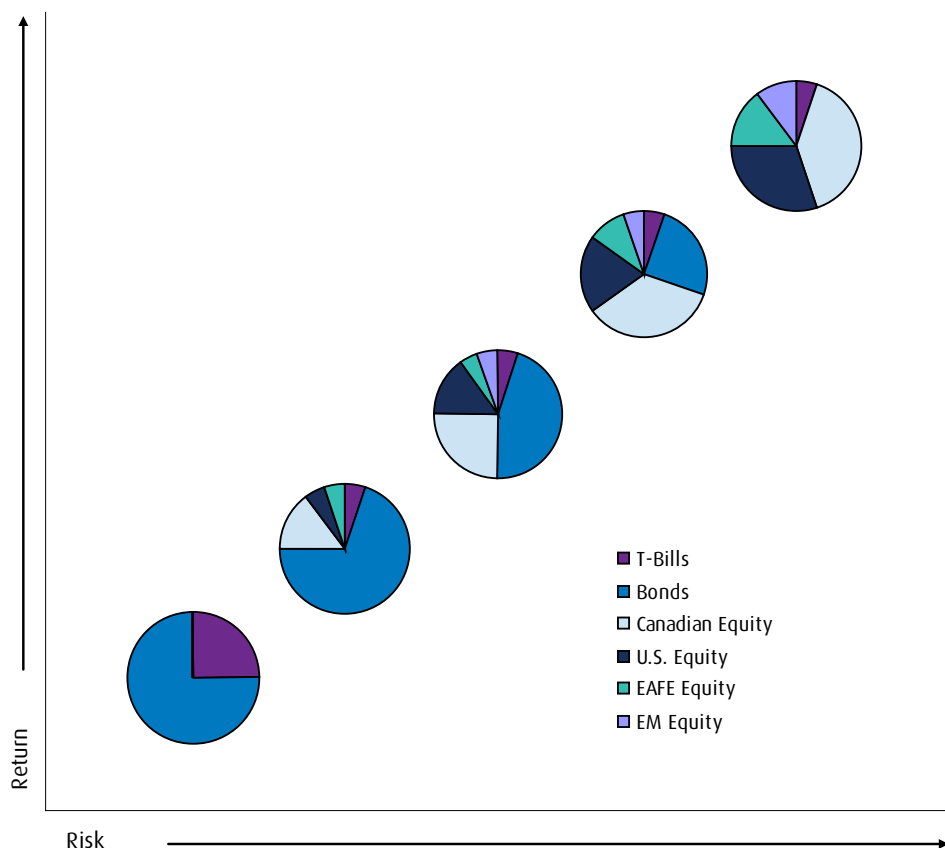
Source: Standard & Poor's

Fixed income investors also face credit risk or default risk. There are three major credit ratings agencies in Canada: Dominion Bond Rating Service (DBRS), Standard & Poor's (S&P) and Moody's Investors Service. Fixed income securities with ratings equal to or higher than BBB (low) by DBRS, BBB-minus by S&P, or Baa3 by Moody's are considered investment grade.



Managing Risk with Diversification

Figure 28: Asset Classes — Risk versus Return

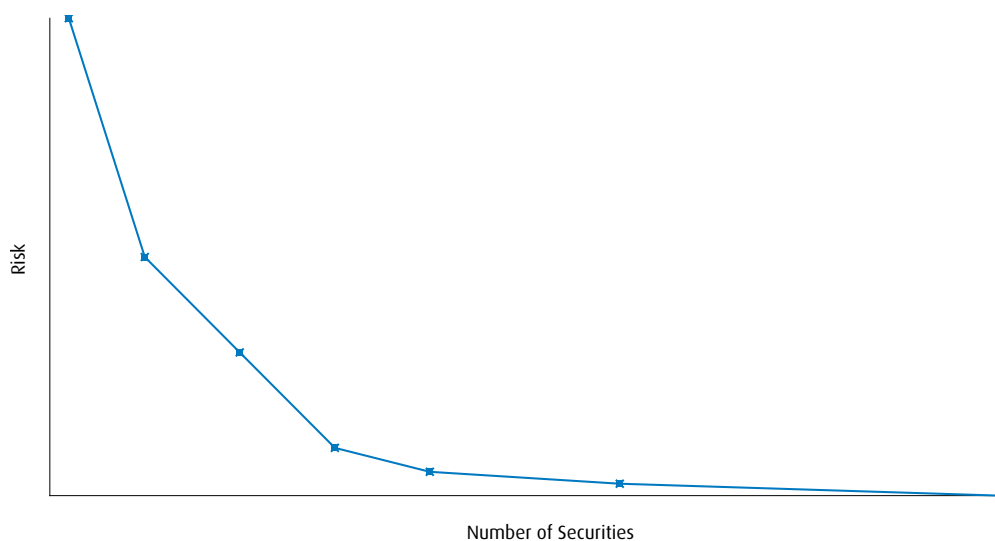


Source: BMO Private Client Research

Risk can be managed with diversification, which can be achieved on a number of levels: by asset class, by investment style and by security.

In general, the longer the investment time horizon the greater the need for growth. And, the higher the tolerance for risk the greater the proportion of equity should be in a portfolio.

Figure 29: Security-Specific Risk Reduction through Portfolio Diversification



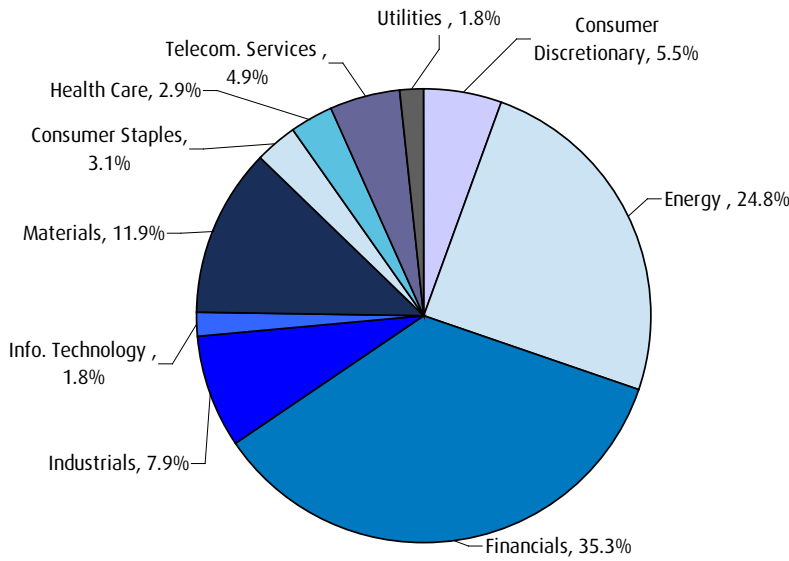
Source: BMO Private Client Research

The volatility of a portfolio of stocks decreases as the number of stocks held increases. A well-diversified portfolio can help to reduce security-specific risk, i.e., the risk above that of the market.

For instance, a portfolio of 10 stocks from different industries or sectors will provide better diversification than a portfolio of 10 stocks from one sector of the market.

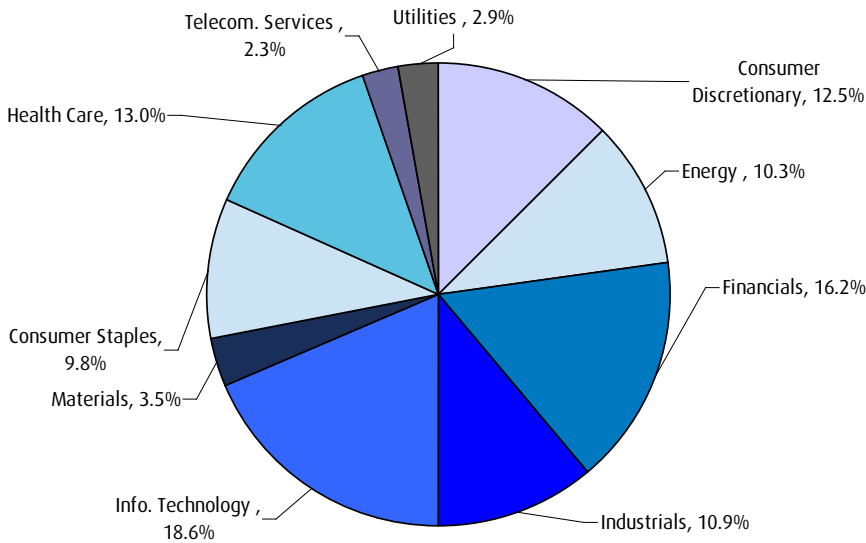


Figure 30: S&P/TSX Composite Index Sector Weights



Source: Bloomberg
 Note: May not add to 100% due to rounding
 As of December 31, 2013

Figure 31: S&P 500 Index Sector Weights



Source: Bloomberg
 Notes: May not add to 100% due to rounding; US\$ market capitalization rates
 As of December 31, 2013

When constructing an equity portfolio the sector weights of broad market indices can act as a guide to industry weights within the portfolio.

It is important to include a number of different industries to reduce the portfolio's reliance on, and sensitivity to, one segment of the market.

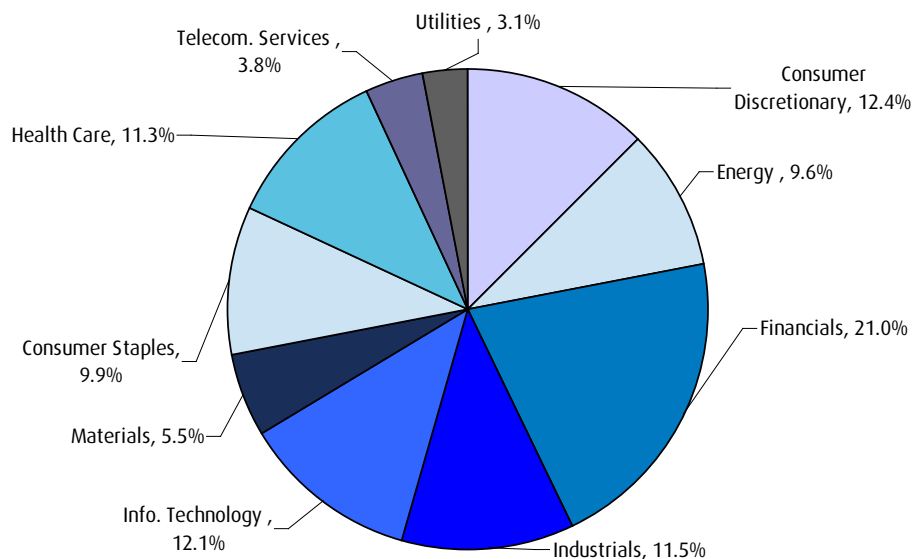
However, we recommend that investors **not** use the S&P/TSX Composite Index sector weights as a guide for industry exposure when building a stock portfolio. The index is very concentrated, as roughly 72% of its market capitalization is in three sectors: Financials, Energy and Materials.

Because of this, an equity investor who does not diversify into other global equity markets is exposed to higher potential portfolio volatility and the potential for unsatisfactory returns if the Financial, Energy and Materials sectors do not fully participate in an equity bull market.

We recommend that investors use the Morgan Stanley Capital International (MSCI) World Index (on the following page) sector weights as a guide for sector allocations.

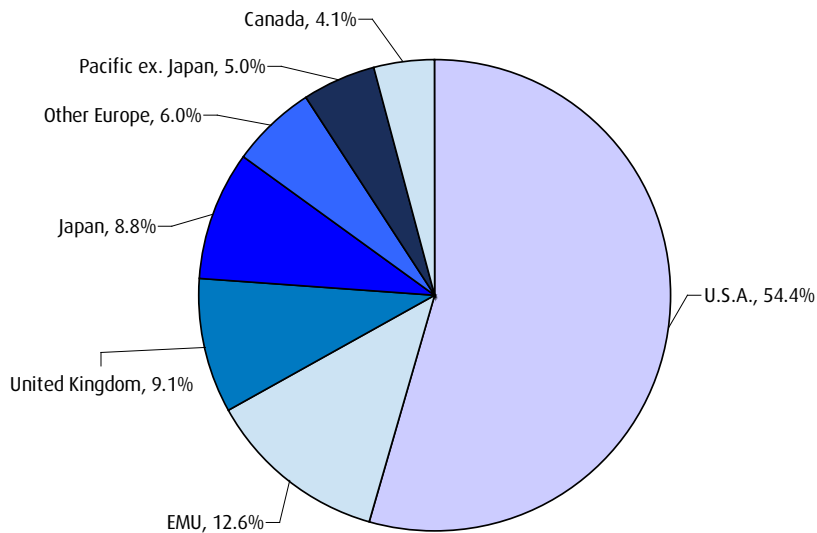


Figure 32: MSCI World Index Sector Weights



Source: MSCI
 Notes: May not add to 100% due to rounding; US\$ market capitalization rates
 As of December 31, 2013

Figure 33: MSCI World Index Regional Sector Weights



Source: MSCI
 Notes: May not add to 100% due to rounding; US\$ market capitalization rates
 As of December 31, 2013

Canada represents roughly 4% of the world equity market. In other words, approximately 96% of global equity market opportunities are beyond our borders.

As such, it is important to consider the benefits of including foreign investments in a well-diversified portfolio.



Figure 34: Impact of International Equities for Canadian Investors 1960–2013

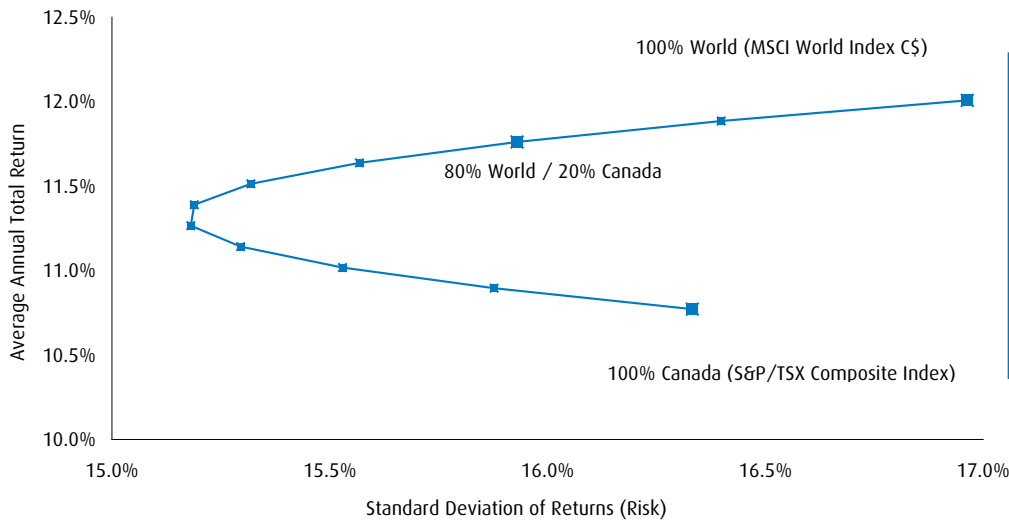


Figure 34 illustrates that a combination of roughly 80% of MSCI World Index and 20% of S&P/TSX Composite Index had a lower level of risk than a 100% investment in the S&P/TSX Composite Index, but provided a superior return. As such, including foreign investments in an equity portfolio can enhance returns and reduce risk.

Source: Bloomberg

Figure 35: Sector Weights by Index

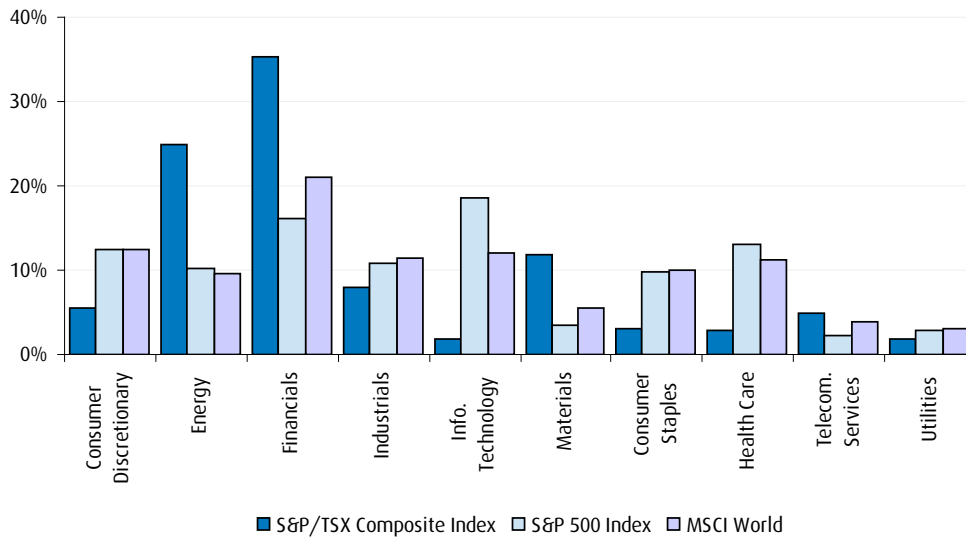
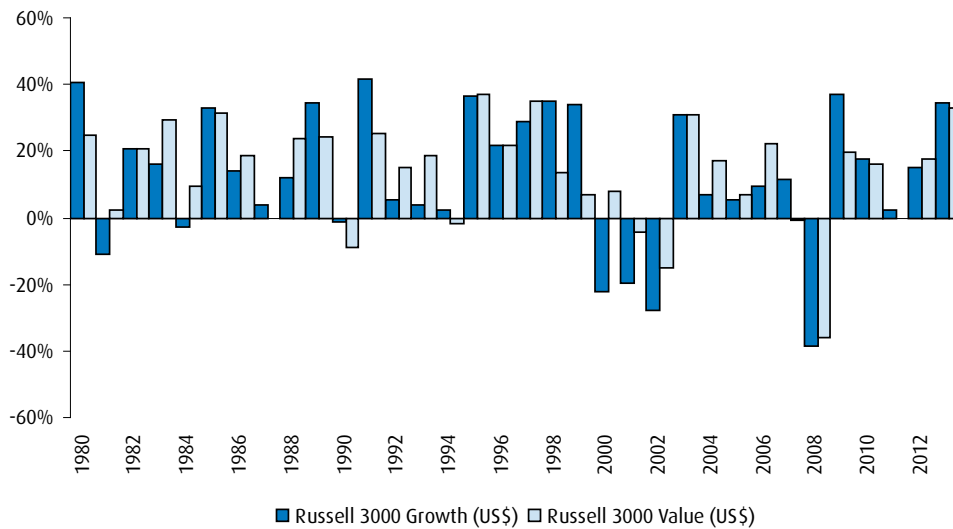


Figure 35 helps illustrate the limitations of the Canadian equity market in sectors such as Healthcare, Information Technology and Consumer Staples relative to other equity markets. International diversification can help control the effect of being exposed to weakness in the Canadian market. It also provides exposure to market sectors, industries and companies that are simply not available domestically.

Source: Bloomberg, MSCI
As of December 31, 2013



Figure 36: U.S. Growth and Value Stocks: Annual Total Returns



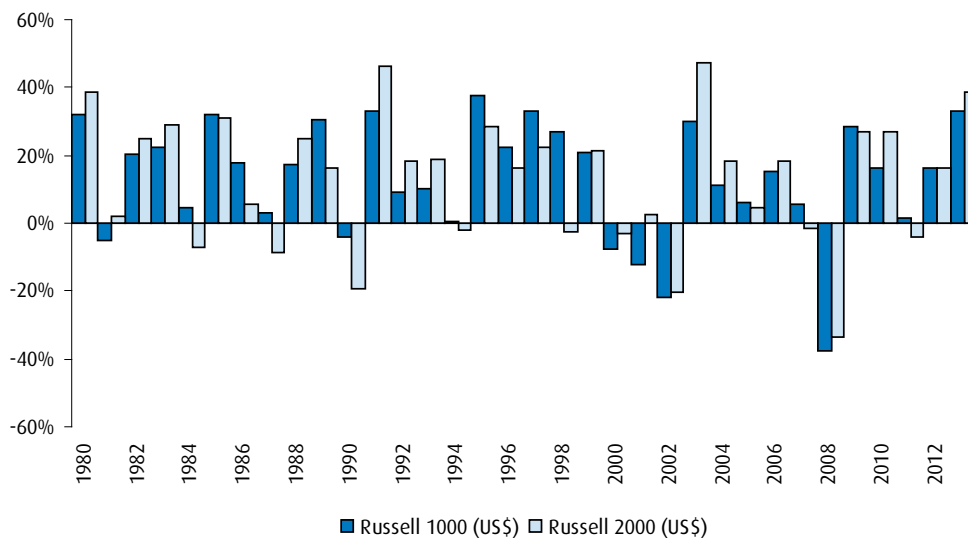
Source: Bloomberg

Stocks generally can be grouped into two categories: growth and value. While there is no unanimous definition on “growth” or “value” stocks, some general characteristics of each are:

- Growth stocks are characterized by rapid earnings growth both historically and prospectively, high returns on equity and a high ratio of the stock price to earnings, or the P/E ratio.
- In contrast, value stocks tend to be characterized by lower-than-average price/earnings multiples, and typically the recent history of the company is somewhat troubled.

A truly diversified portfolio of stocks will include both growth and value stocks, because it is difficult to predict when either growth or value stocks will be in or out of favour.

Figure 37: U.S. Large and Small Cap Stocks: Annual Total Returns



Source: Bloomberg

Incorporating smaller companies into a stock portfolio can provide investors with exposure to often overlooked investment opportunities. This also presents investors with an additional layer of diversification, as small and large cap stocks tend to behave differently in the various stages of the business cycle.

Historically, smaller cap stocks have generated higher returns than large cap stocks. This is generally believed to be compensation for the higher risk these stocks represent, in that they are typically in an early stage of growth.

In general, smaller cap stocks also present higher liquidity risk. As is the case with any investment, investors need to consider their personal investment goals and risk tolerance when determining an appropriate allocation to small cap companies in their portfolio.



Historical Performance of Benchmark Portfolios

In the pages that follow we look at hypothetical portfolios with different asset mixes, each of which are designed to reflect the investment goals and risk tolerance for different types of investors. Please note that data for the MSCI Emerging Markets Index begins in December 1987 and therefore performance for some of the asset mixes is more limiting than others. In summary, the portfolio/investor types presented are as follows:

- Income Investor Benchmark Portfolio;
- Balanced Investor Benchmark Portfolio;
- Growth Investor Benchmark Portfolio; and
- Aggressive Growth Investor Benchmark Portfolio.

We show these portfolio performances in two different ways:

- 1) We show the performance of portfolios constructed at the beginning of our data set based on an initial lump sum of \$10,000, which is invested at inception according to our benchmark asset allocations with annual rebalancing over the life of the portfolios.
- 2) We show the performance of portfolios constructed with annual investments of \$10,000 over a 20-year period, with each year's investment made according to the benchmark portfolio allocation and annual rebalancing of the portfolio over its life. We believe most of our clients are saving over time, so this is more representative of a typical investor experience. Showing the range of historical results for each benchmark portfolio gives a sense of the range of possible outcomes.

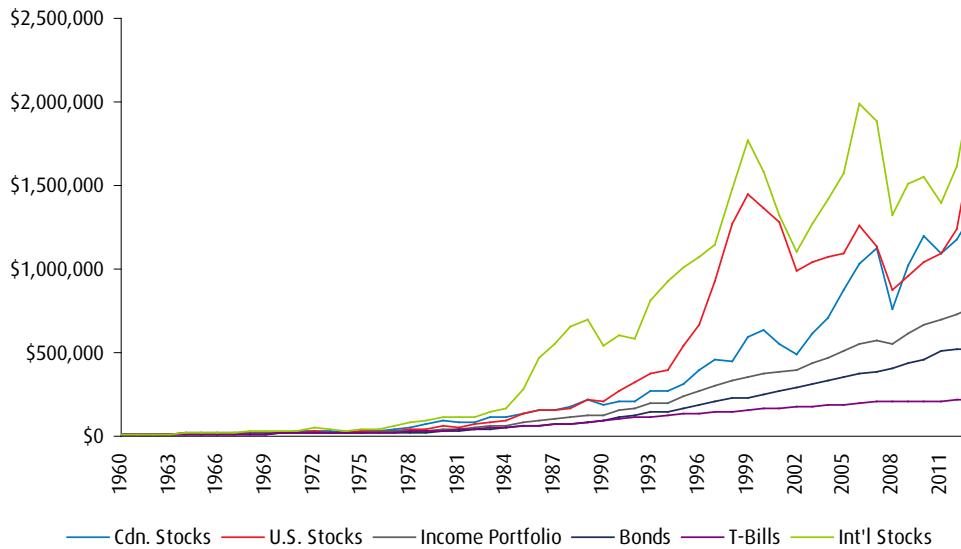
Please note that returns as shown do not include commissions or fees that may apply.



Benchmark — Income Investor Portfolio

For the income investor, preservation of capital is of primary importance. The investor is willing to sacrifice superior long-term return potential in order to protect existing capital. The income investor is risk averse and prefers a low degree of price volatility. While income may or may not be required from the portfolio it will likely emphasize current income rather than capital appreciation or growth of income. The income investor may be willing to include conservative, high-yielding equity investments in the portfolio.

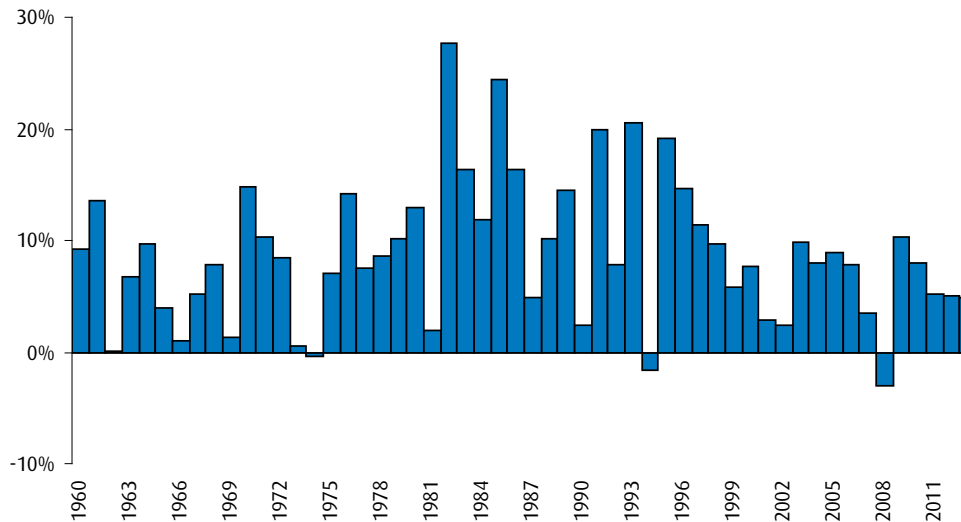
Figure 38: Income Investor Portfolio (December 31, 1960 = \$10,000; Based on Annual Total Returns)



The Income Investor Portfolio is comprised of 5% cash, 70% bonds 15% Canadian equity, 5% U.S. equity and 5% EAFE equity.

Source: Bloomberg, PC Bond, Bank of Canada

Figure 39: Income Investor Portfolio: Annual Total Returns



Since 1960, the Income Investor Portfolio has experienced losses in three calendar years — the worst was a 3.0% decline in 2008.

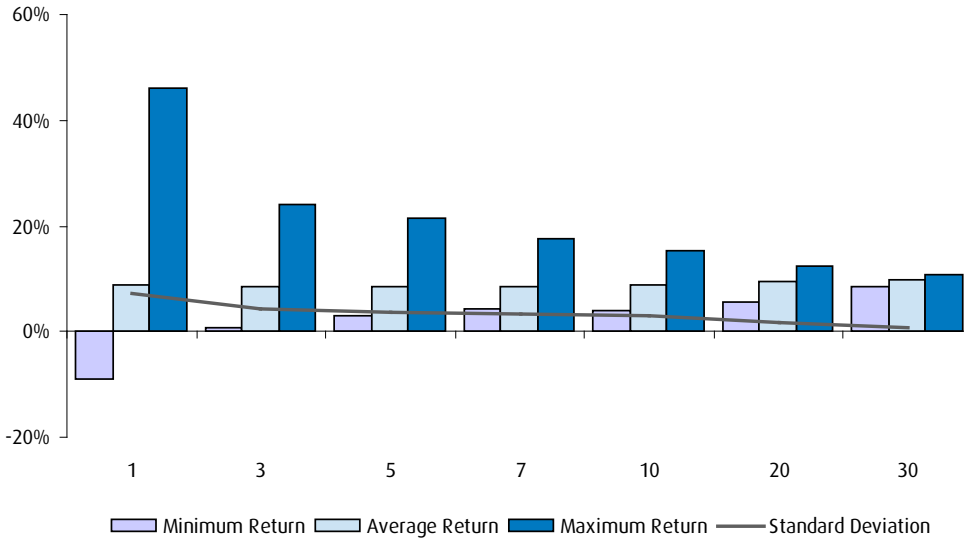
A modest 25% allocation to equities has helped the portfolio outperform bonds and T-Bills, while still providing fairly consistent, steady annual returns.

- Average annual compound total return since 1960: 8.6%
- Number of years with a loss: 3

Source: BMO Private Client Research



Figure 40: Income Investor Portfolio 1960–2013 (Rolling Returns): Annualized Performance



Overall, the portfolio provided relatively stable returns.

- High: 46.0% for the 12 months ending June 1983
- Low: -8.9% for the 12 months ending September 1974

Note: For periods greater than one year, return is compound annual rate of return
 Source: BMO Private Client Research

Figure 41: Accumulation Phase Over 35 20-Year Periods (Account Contribution Rate \$10,000 per year for 20 years)

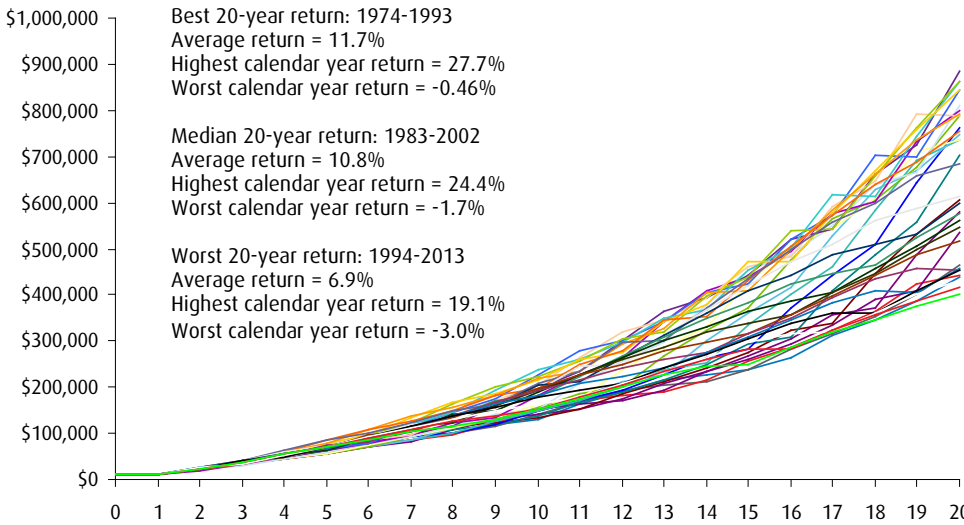


Figure 41 shows the return paths for 35 20-year periods, beginning with 1960-1979 and ending with the period 1994-2013 for the Income Investor Portfolio. In each case, we assume investments of \$10,000 per year according to the asset allocation of our Income Investor benchmark, with annual rebalancing over the life of the portfolio.

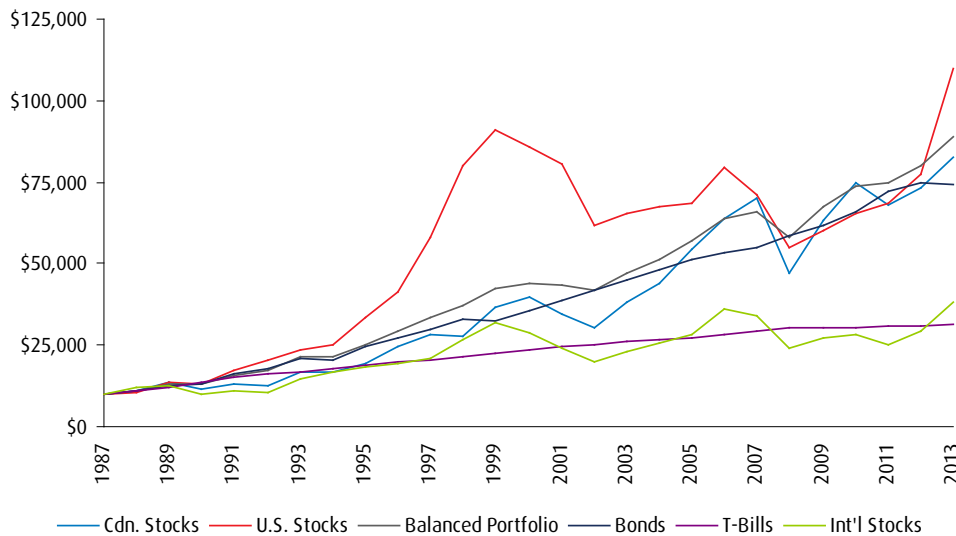
Source: BMO Private Client Research



Benchmark — Balanced Investor Portfolio

A balanced investor seeks a balance of income with sufficient growth to preserve the purchasing power of accumulated assets. With this objective, capital growth should equal or exceed the rate of inflation over the investment time horizon. A balanced investor has a low-to-moderate tolerance for risk and will accept short-term price volatility in order to achieve better long-term returns. There is a recognized balance between current income and future growth of income in the portfolio.

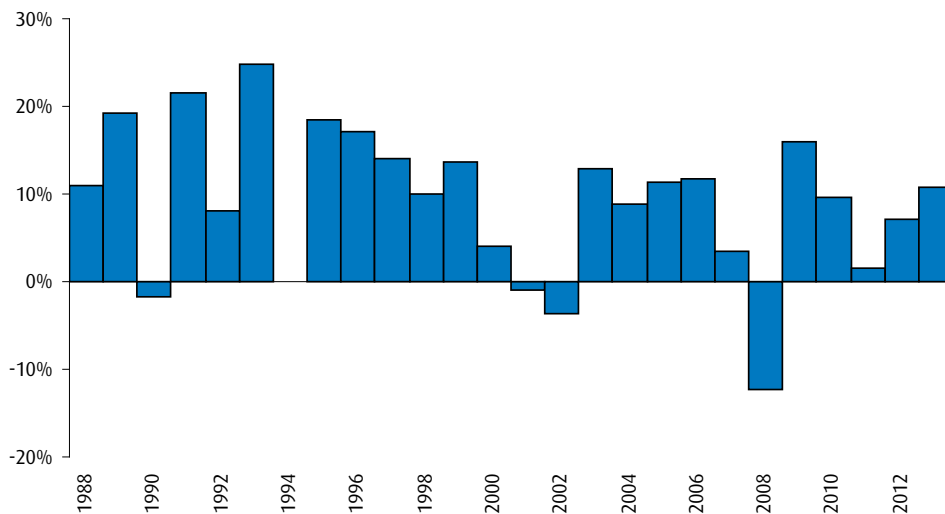
Figure 42: Balanced Investor Portfolio (December 31, 1987 = \$10,000; Based on Total Returns)



The Balanced Investor Portfolio is comprised of 5% cash, 45% bonds, 25% Canadian equity, 15% U.S. equity, 5% EAFE equity and 5% EM equity.

Note: Data for the MSCI Emerging Markets Index begins in December 1987
 Source: Bloomberg, PC Bond, Bank of Canada

Figure 43: Balanced Investor Portfolio: Annual Total Returns



Note: Data for the MSCI Emerging Markets Index begins in December 1987
 Source: BMO Private Client Research

Since 1988, the Balanced Investor Portfolio experienced losses in four years. The portfolio fell in value for two consecutive calendar years at one time during this period.

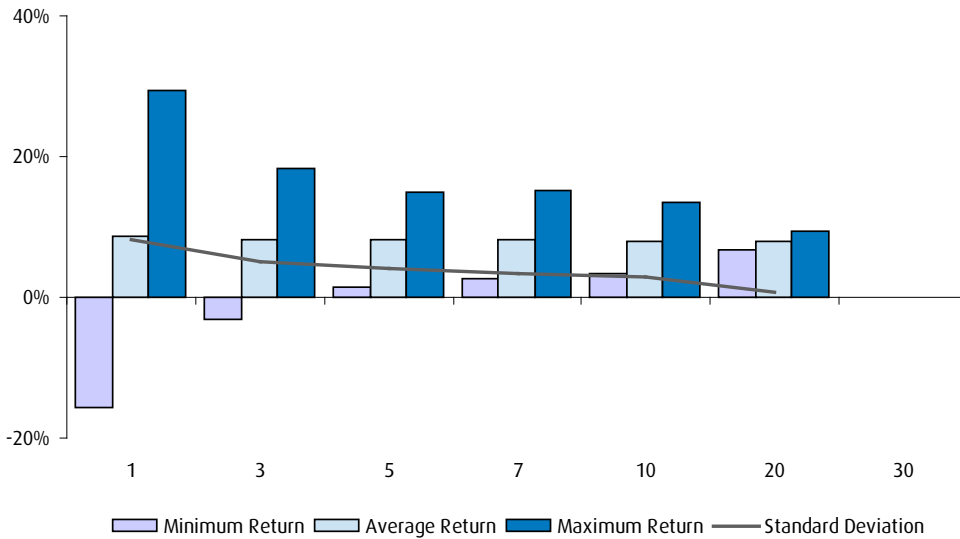
The worst calendar year for the portfolio was 2008, as it declined 12.3%. Note that in 2008 Canadian stocks declined 33.0% on a total return basis.

The portfolio's 50% investment in bonds and T-Bills provided a cushion to the blow of a difficult year in the stock market.

- Average annual compound total return since 1988: 8.8%
- Number of years with a loss: 4



Figure 44: Balanced Investor Portfolio 1988–2013 (Rolling Returns): Annualized Performance



The portfolio's higher equity exposure resulted in greater volatility than the Income Investor Portfolio.

- High: 29.4% for the 12 months ending January 1994
- Low: -15.6% for the 12 months ending February 2009

Note: For periods greater than one year, return is compound annual rate of return
 Note: Data for the MSCI Emerging Markets Index begins in December 1987
 Source: BMO Private Client Research

Figure 45: Accumulation Phase Over Seven 20-Year Periods (Account Contribution Rate \$10,000 per year for 20 years)

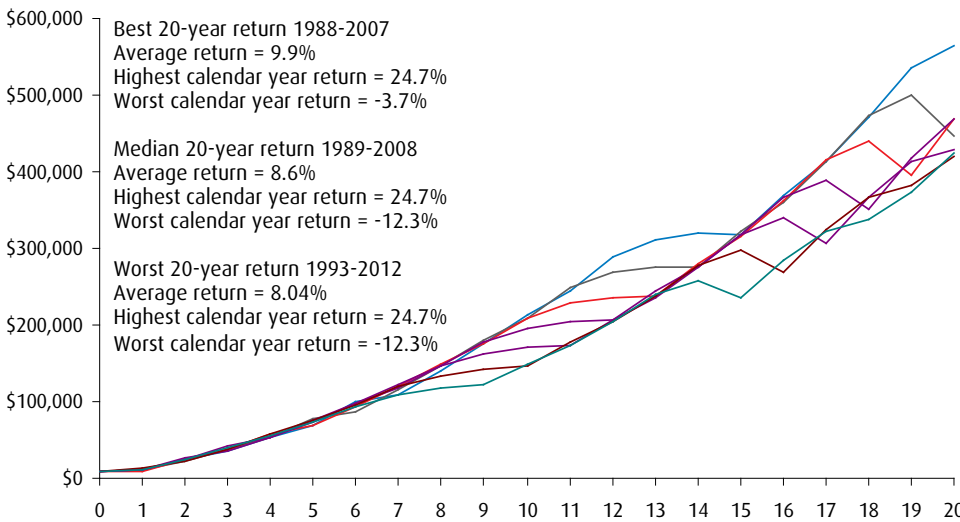


Figure 45 shows the return paths for seven 20-year periods, beginning with 1988–2007 and ending with the period 1994–2013 for the Balanced Investor Portfolio.

In each case, we assume investments of \$10,000 per year according to the asset allocation of our Balanced Investor benchmark, with annual rebalancing over the life of the portfolio.

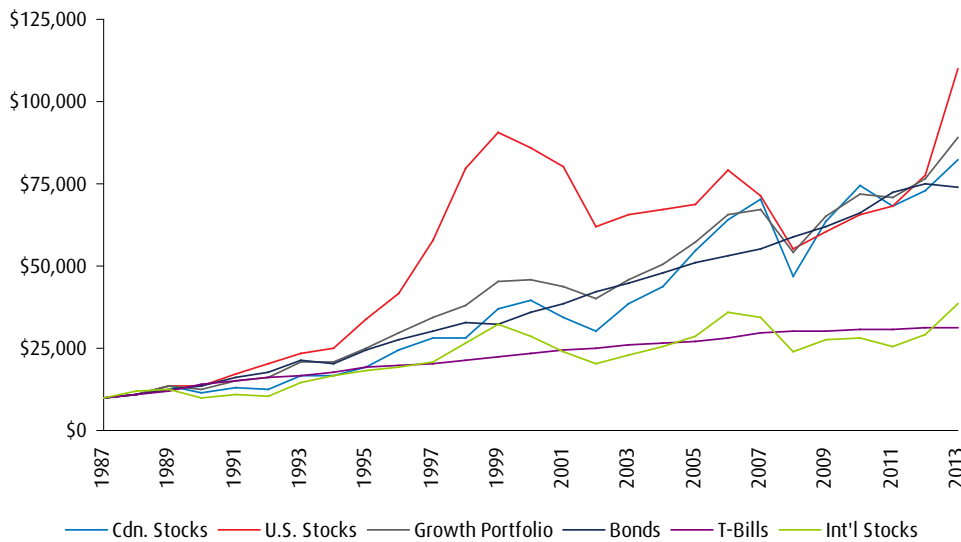
Note: Data for the MSCI Emerging Markets Index begins in December 1987
 Source: BMO Private Client Research



Benchmark — Growth Investor Portfolio

A growth investor is seeking an above average total return on their portfolio. As a result growth investors are willing to accept a moderate-to-high level of risk in the pursuit of above average returns from income and capital growth. The investment time horizon is relatively long term and income requirements are low, with a significant portion of investment income remaining within the portfolio.

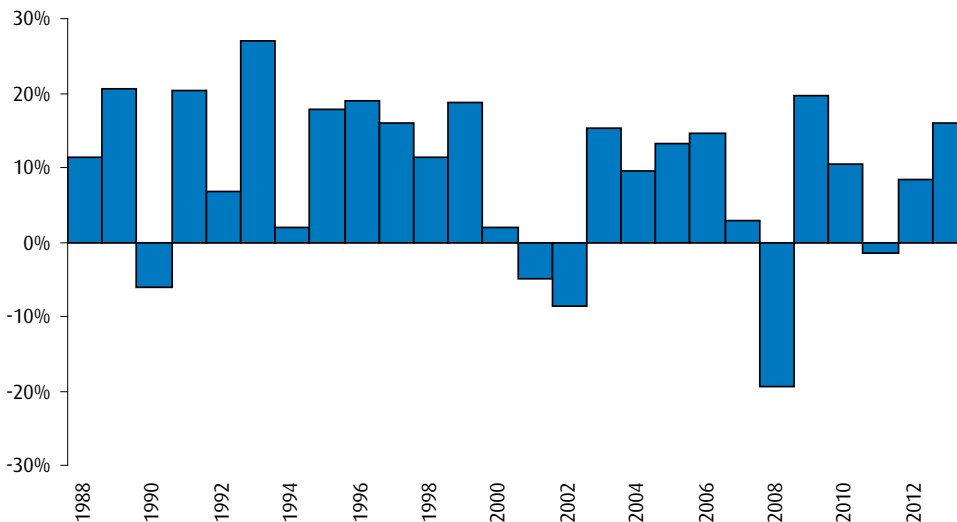
Figure 46: Growth Investor Portfolio (December 31, 1987 = \$10,000; Based on Total Returns)



The Growth Investor Portfolio (with EM) is comprised of 5% cash, 25% bonds, 35% Canadian equity, 20% U.S. equity, 10% EAFE equity and 5% EM equity.

Note: Data for the MSCI Emerging Markets Index begins in December 1987
 Source: Bloomberg, PC Bond, Bank of Canada

Figure 47: Growth Investor Portfolio: Annual Total Returns



The Benchmark Growth experienced losses in five of the past 26 calendar years, with the worst being a 19.5% decline in 2008.

On one occasion the portfolio lost money two calendar years in a row.

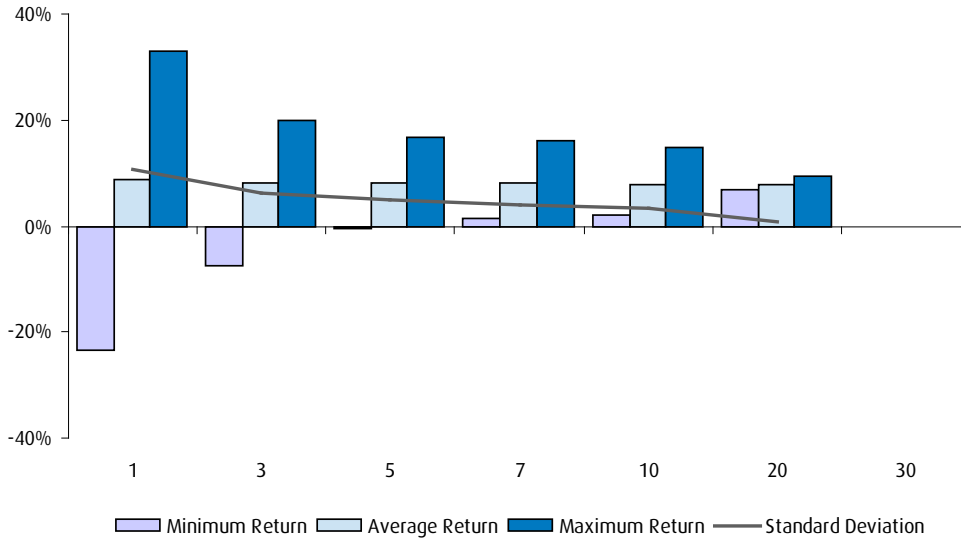
As was the case with the Benchmark Balanced Portfolio, the investment in bonds and T-Bills helped to soften the blow of a difficult year in the stock market.

- Average annual compound total return since 1988: 8.8%
- Number of years with a loss: 5

Note: Data for the MSCI Emerging Markets Index begins in December 1987
 Source: BMO Private Client Research



Figure 48: Growth Investor Portfolio 1988–2013 (Rolling Returns): Annualized Performance



As a result of this portfolio’s 70% allocation to stocks, this portfolio experienced more volatility than the Balanced Investor Portfolio and the Income Investor Portfolio. The Growth Investor Portfolio’s modest fixed income and cash weighting provided some cushion during bear market phases of the equity market.

- High: 32.9% for the 12 months ending January 1994
- Low: -23.4% for the 12 months ending February 2009

Note: For periods greater than one year, return is compound annual rate of return
 Note: Data for the MSCI Emerging Markets Index begins in December 1987
 Source: BMO Private Client Research

Figure 49: Accumulation Phase Over Seven 20-Year Periods (Account Contribution Rate \$10,000 per year for 20 years)

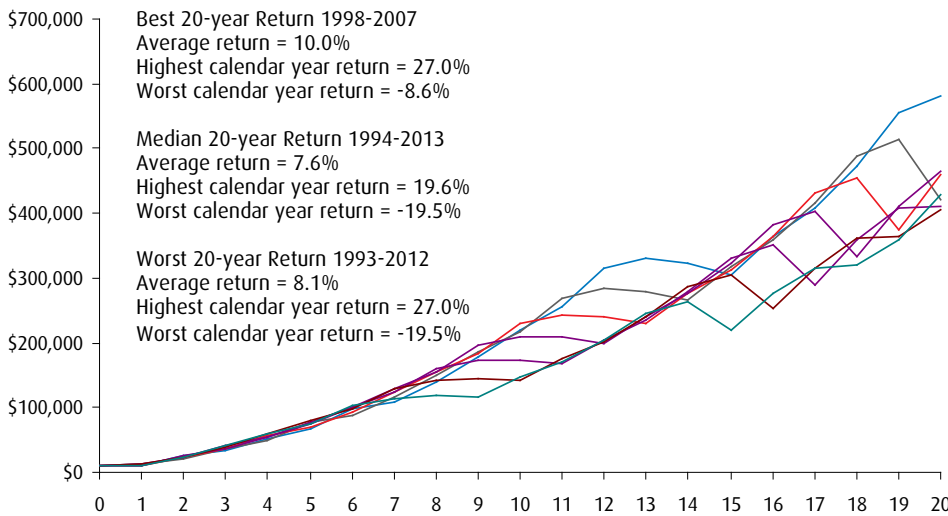


Figure 49 shows the return paths for seven 20-year periods, beginning with 1988–2007 and ending with the period 1994–2013 for the Growth Investor Portfolio.

In each case, we assume investments of \$10,000 per year according to the asset allocation of our Growth Investor benchmark, with annual rebalancing over the life of the portfolio.

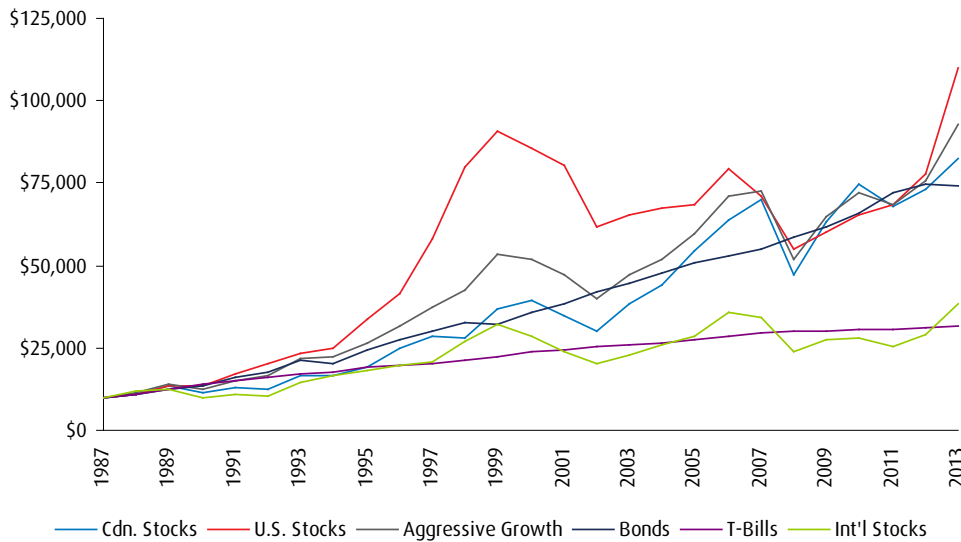
Note: Data for the MSCI Emerging Markets Index begins in December 1987
 Source: Morningstar, BMO Private Client Research



Benchmark — Aggressive Growth Investor Portfolio

An aggressive growth investor seeks to maximize total return. The investment time horizon is long term. Individual security positions may be taken on with a relatively short timeframe in mind. For most aggressive growth investors the emphasis is usually on equities. However, fixed income positions may be taken on for trading purposes. Aggressive growth investors are willing to tolerate a high level of risk and price volatility, and can tolerate more than one year of negative total return during difficult market cycles. In addition, liquidity and current income are not concerns.

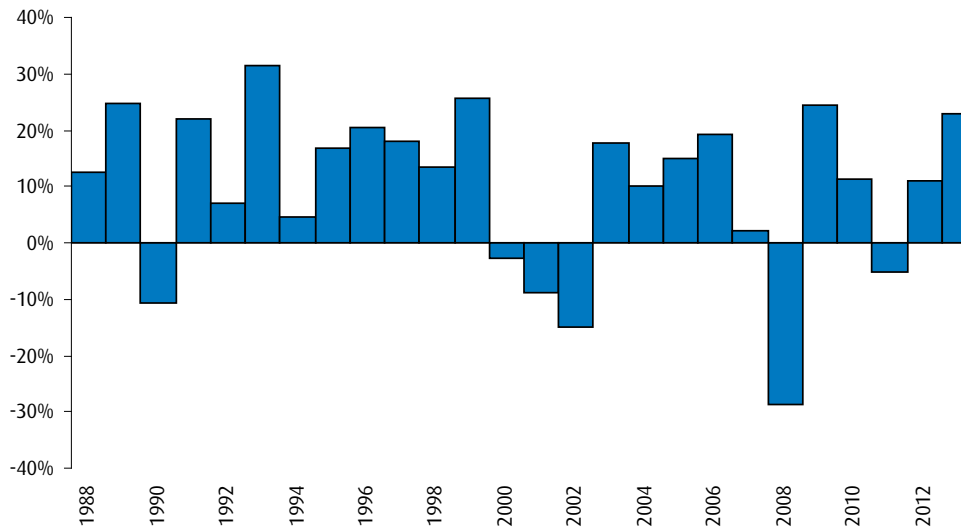
Figure 50: Aggressive Growth Investor Portfolio (December 31, 1987 = \$10,000; Based on Total Returns)



The Aggressive Growth Investor Portfolio is comprised of 5% cash, 40% Canadian equity, 30% U.S. equity, 15% EAFE equity and 10% EM equity.

Note: Data for the MSCI Emerging Markets Index begins in December 1987
Source: Bloomberg, PC Bond, Bank of Canada

Figure 51: Aggressive Growth Investor Portfolio: Annual Total Returns



The average annual compound total return for the Aggressive Growth Investor Portfolio since 1988 is 9.0%.

The portfolio experienced losses in six of the past 26 calendar years, with the worst loss in 2008 when the portfolio declined 28.6%.

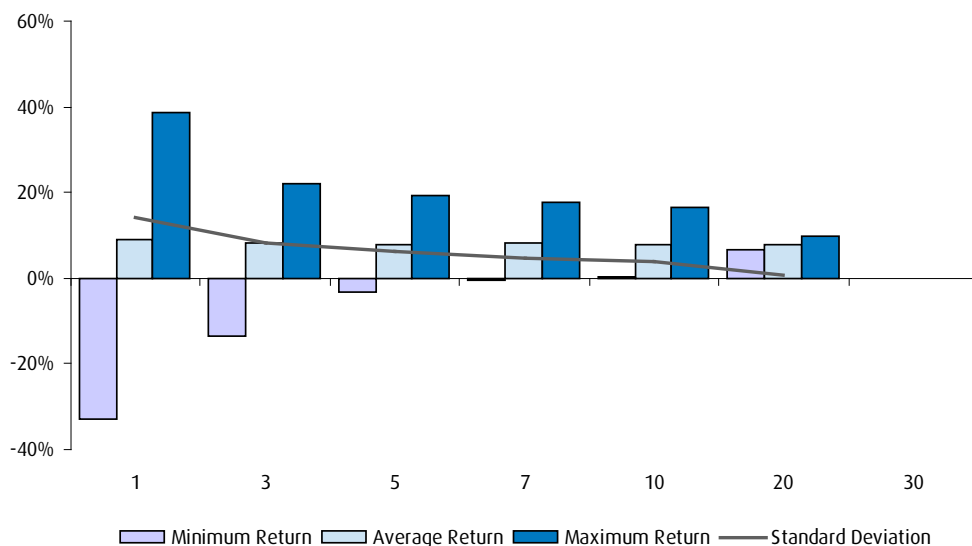
In one instance, the portfolio lost money three years in a row, from 2000 to 2002.

- Average annual compound total return since 1988: 9.0%
- Number of years with a loss: 6

Note: Data for the MSCI Emerging Markets Index begins in December 1987
Source: BMO Private Client Research



Figure 52: Aggressive Growth Investor Portfolio 1988–2013 (Rolling Returns): Annualized Performance



This portfolio experienced the greatest variability in short-term returns due to having almost 100% equity exposure. However, it also experienced the highest returns over time.

- High: 38.6% for the 12 months ending January 1994
- Low: -32.9% for the 12 months ending February 2009

Note: For periods greater than one year, return is compound annual rate of return
 Note: Data for the MSCI Emerging Markets Index begins in December 1987
 Source: BMO Private Client Research

Figure 53: Accumulation Phase Over Seven 20-Year Periods (Account Contribution Rate \$10,000 per year for 20 years)

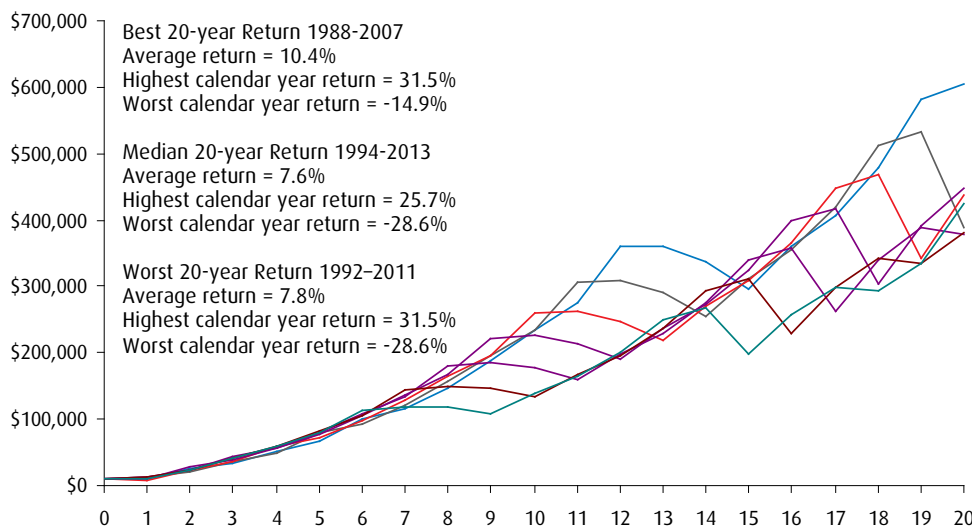


Figure 53 shows the return paths for seven 20-year periods, beginning with 1988–2007 and ending with the period 1994–2013 for the Aggressive Growth Investor Portfolio. In each case, we assume investments of \$10,000 per year according to the asset allocation of our Aggressive Growth Investor benchmark, with annual rebalancing over the life of the portfolio.

Note: Data for the MSCI Emerging Markets Index begins in December 1987
 Source: Morningstar, BMO Private Client Research



Taxation

Figure 54: Income Not Taxed Equally — Combined Federal and Provincial Top Marginal Tax Rates for Individuals

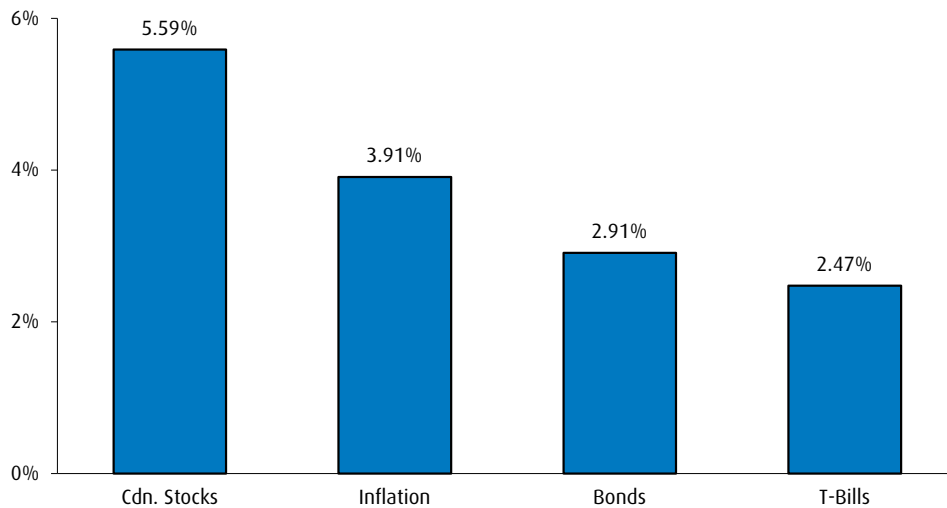
Province	Interest Income	Capital Gains	Dividends
British Columbia	45.8%	22.9%	28.7%
Alberta	39.0%	19.5%	19.3%
Saskatchewan	44.0%	22.0%	24.8%
Manitoba	46.4%	23.2%	32.3%
Ontario	46.4%	23.2%	29.5%
Quebec	50.0%	25.0%	35.2%
New Brunswick	46.8%	23.4%	27.4%
Nova Scotia	50.0%	25.0%	36.1%
Prince Edward Island	47.4%	23.7%	28.7%
Newfoundland and Labrador	42.3%	21.2%	22.5%
Yukon	42.4%	21.2%	15.9%
Northwest Territories	43.1%	21.5%	22.8%
Nunavut	40.5%	20.3%	27.6%

Source: KPMG LLP (as of December 31, 2013)
 These rates apply to taxable incomes over \$136,271 (\$150,000 in British Columbia and Nova Scotia)

Figure 54 outlines the combined top marginal tax rates for individuals in each province. Among the different sources of investment income — interest income, capital gains and dividends — interest income is taxed at the highest rate.

While taxes are a concern for all investors, we do not believe investment decisions should be driven primarily by tax considerations. Additionally, investors should consult with their tax advisor with respect to their personal circumstances regarding all tax-related matters.

Figure 55: Average Annual After-Tax Returns in Canada



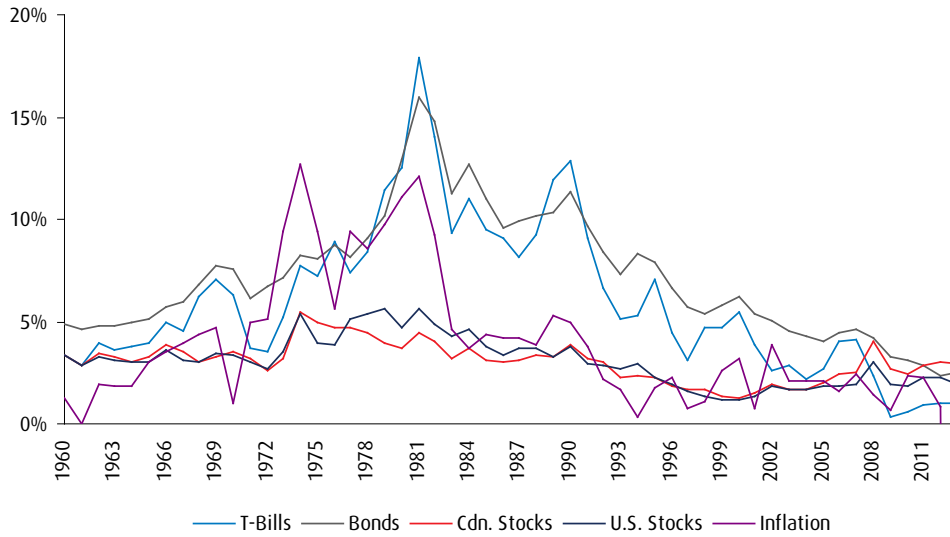
Source: Bloomberg, BMO Capital Markets Economic Research, PC Bond, Bank of Canada, PWC, KPMG LLP

On an after-tax basis equities offer the best purchasing power protection. Equities are the only asset class to exceed inflation on an after-tax basis.

Our after-tax calculations assume capital gains/losses are recognized on an annual basis and are based on the top combined Federal and Provincial marginal tax rate for an Ontario resident (not including surtax on taxable income exceeding \$509,000).



Figure 56: Pre-Tax Yields on Different Asset Classes: Average Annual Yield

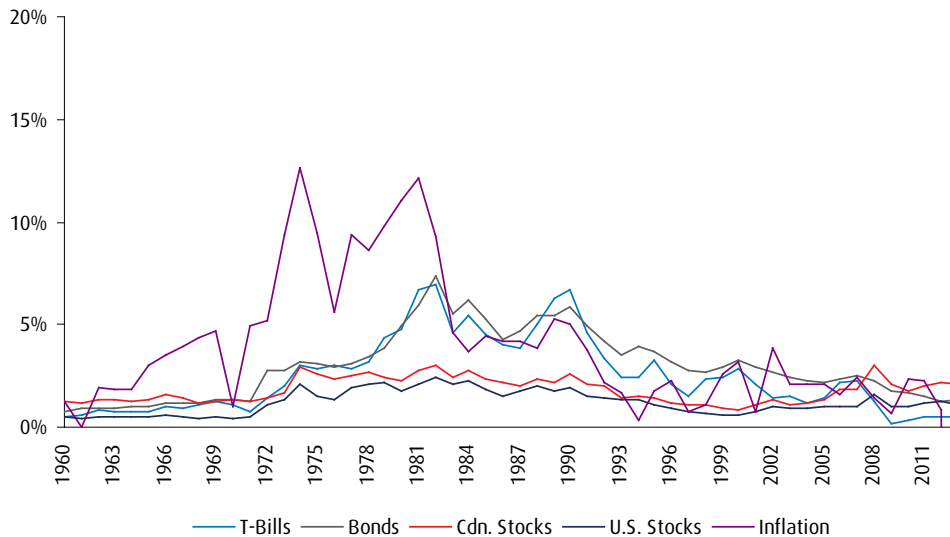


Source: BMO Capital Markets Equity/Economic Research, Bank of Canada, PC Bond

Interest income is taxed at a higher rate than dividend income.

A comparison of Figures 56 and 57 shows that the after-tax yields on fixed income investments (bonds, GICs and T-Bills) are significantly lower than their pre-tax yields due to the higher tax rate applied to interest income.

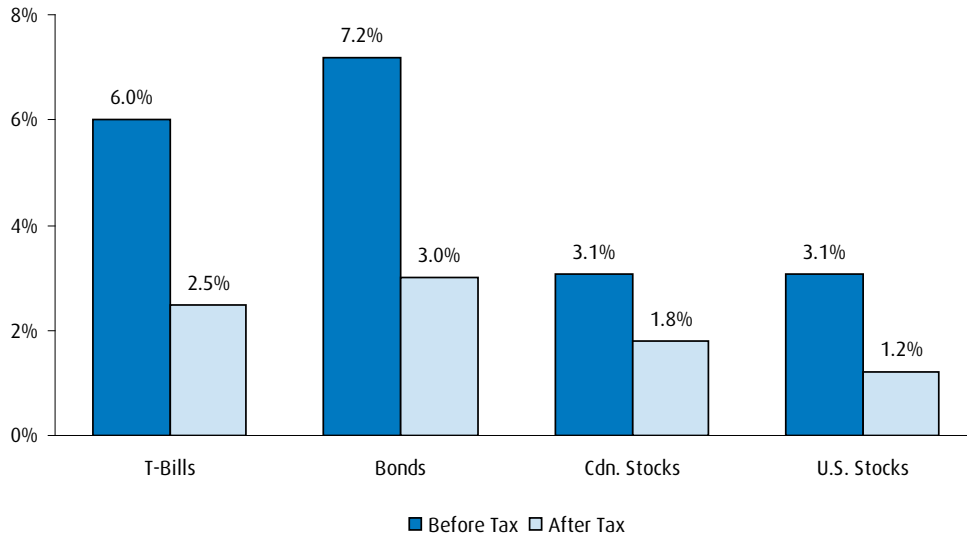
Figure 57: After-Tax Yields on Different Asset Classes: Average Annual Yield



Source: BMO Capital Markets Equity/Economic Research, Bank of Canada, PC Bond



Figure 58: Average Yield on Different Asset Classes 1960–2013: Before and After Tax



As a result of the more punitive tax treatment received by interest income, fixed income securities must generate more income to equal one dollar of dividend income on an after-tax basis.

Source: BMO Capital Markets Equity/Economic Research, Bank of Canada, PC Bond, PWC, KPMG LLP

Figure 59: Equivalent Interest Income versus Dividend Income

Province	Multiplier
British Columbia	1.32
Alberta	1.32
Saskatchewan	1.34
Manitoba	1.26
Ontario	1.31
Quebec	1.29
New Brunswick	1.37
Nova Scotia	1.28
Prince Edward Island	1.35
Newfoundland and Labrador	1.34
Yukon	1.46
Northwest Territories	1.36
Nunavut	1.22

Source: KPMG LLP (as of December 31, 2013)

These rates apply to taxable incomes over \$136,271 (\$150,000 in British Columbia and Nova Scotia)

The multiplier column calculates the additional amount of interest income that would have to be earned by an individual resident in each province to equate this after-tax interest income to the amount of after-tax income retained from earning an eligible dividend.



Appendix A: Performance of Asset Classes

Figure 60: Asset Class Performance Statistics – 1960 to 2013

	Canadian T-Bills	DEX Bond Universe	S&P/TSX Composite	S&P 500 (C\$)	MSCI EAFE (C\$)
Best Performance	17.9%	35.4%	44.8%	41.5%	67.8%
Year	1981	1982	1979	2013	1986
Worst Performance	0.4%	-4.3%	-33.0%	-26.9%	-30.0%
Year	2009	1994	2008	1974	2008
Years with over 30% gain	0	1	7	8	9
Years with over 20% gain	0	5	16	16	18
Years with over 10% gain	7	14	29	30	31
Years with loss	0	4	15	14	14
Years with over 10% loss	0	0	6	5	8
Years with over 20% loss	0	0	2	3	3
Average annual compound return	5.9%	7.8%	9.5%	10.1%	10.9%
Standard deviation (a measure of risk)	3.7%	7.2%	16.3%	17.0%	20.7%

Source: BMO Private Client Research

Figure 61: Performance for periods ending December 2013 (Compound total returns)

	Canadian T-Bills	DEX Bond Universe	S&P/TSX Composite	S&P 500 (C\$)	MSCI EAFE (C\$)
20 years	3.2%	6.5%	8.3%	8.0%	4.9%
10 years	1.9%	5.2%	8.0%	5.3%	5.3%
5 years	0.8%	4.8%	11.9%	14.8%	9.9%
3 years	1.0%	3.9%	3.4%	18.8%	11.1%
1 year	1.0%	-1.2%	13.0%	41.5%	31.8%

Note: Based on total returns (1960–2013) in C\$

Source: BMO Private Client Research



Figure 62: Asset Class After-Tax Performance Statistics – 1960 to 2013

	Canadian T-Bills	DEX Bond Universe	S&P/TSX Composite	S&P 500 (C\$)	MSCI EAFE (C\$)
Best Performance	7.0%	22.7%	29.8%	30.7%	49.0%
Year	1982	1982	1961	2013	1986
Worst Performance	0.2%	-8.7%	-32.0%	-28.0%	-30.0%
Year	2009	1994	2008	1974	2008
Years with over 30% gain	0	0	0	1	5
Years with over 20% gain	0	1	5	8	15
Years with over 10% gain	0	6	22	22	27
Years with loss	0	17	17	15	14
Years with over 10% loss	0	0	6	7	8
Years with over 20% loss	0	0	2	3	3
Average annual compound return	2.5%	2.9%	5.6%	5.4%	7.7%
Standard deviation (a measure of risk)	1.8%	5.9%	13.3%	13.5%	17.1%

Source: BMO Private Client Research

Figure 63: After-Tax Performance for periods ending December 2013 (Compound total returns)

	Canadian T-Bills	DEX Bond Universe	S&P/TSX Composite	S&P 500 (C\$)	MSCI EAFE (C\$)
20 years	1.6%	3.2%	4.6%	3.8%	2.2%
10 years	1.0%	3.0%	4.8%	2.7%	3.0%
5 years	0.4%	2.9%	8.2%	10.7%	7.2%
3 years	0.5%	2.1%	1.6%	13.8%	7.9%
1 year	0.5%	-2.4%	9.4%	30.7%	24.4%

Note: Based on total returns (1960–2013) in C\$

Capital Gains tax introduced with tax reform in 1972

After-tax calculations assume capital gains/losses are recognized on an annual basis and are based on the top combined Federal and Provincial marginal tax rate for an Ontario resident (not including the surtax for taxable income exceeding \$509,000).

Source: BMO Private Client Research



Appendix B: Asset Allocation Review and Benchmark Changes

In 2012, we completed an in-depth review of our Benchmark Portfolios and the underlying capital markets assumptions that help us define these benchmarks. We engaged Rogers Casey Canada to support our review, with the intention of making our models more robust. This review included:

- A review of long-term historical assumptions, rates of returns, volatility, and correlations;
- Updating forward-looking return assumptions;
- Minimizing risks factors; and
- The possible inclusion of new asset classes in the allocation frame work with the objective of creating a more efficient model.

Overall, our Benchmark Portfolios remained in line with our forward-looking capital markets return assumptions. One change which impacts this report is the addition of Emerging Markets (EM) to three of our Benchmark Portfolios. An EM allocation was added to our Balanced, Growth, and Aggressive Growth Investor profiles in order increase the efficiency of our models. As Emerging Markets continue to mature they are becoming a more important part of investor allocation, as they provide lower correlations and higher growth rates relative to developed markets.



Appendix C: Performance of Benchmark Portfolios

Figure 64: Benchmark Portfolio Performance Statistics – 1988 to 2013; (Income: 1960 to 2013)

	Income	Balanced	Growth	Aggressive Growth
Best Performance	27.7%	24.7%	27.0%	31.5%
Year	1982	1993	1993	1993
Worst Performance	-3.0%	-12.3%	-19.5%	-28.6%
Year	2008	2008	2008	2008
Years with over 30% gain	0	0	0	1
Years with over 20% gain	3	2	3	7
Years with over 10% gain	19	14	15	17
Years with loss	3	4	5	6
Years with over 10% loss	0	1	1	3
Years with over 20% loss	0	0	0	1
Average annual compound return	8.6%	8.8%	8.8%	9.0%
Standard deviation (a measure of risk)	6.4%	8.5%	10.9%	14.5%

Note: Data for the MSCI Emerging Markets Index begins in December 1987

Source: BMO Private Client Research

Figure 65: Performance for periods ending December 2013 (Compound total returns)

	Income	Balanced	Growth	Aggressive Growth
20 years	6.9%	7.4%	7.6%	7.6%
10 years	5.8%	6.5%	6.8%	7.0%
5 years	6.6%	8.9%	10.4%	12.3%
3 years	5.1%	6.4%	7.4%	8.9%
1 year	4.8%	10.8%	16.0%	22.9%

Note: Based on total returns 1988-2013 in C\$ (Income: 1960-2013)

Note: Data for the MSCI Emerging Markets Index begins in December 1987

All returns as shown do not include expenses

Source: BMO Private Client Research

- Income Investor Portfolio:** assumes a constant asset mix of 5% Canadian T-bills (cash), 70% DEX Bond Universe Index (Canadian bonds), 15% S&P/TSX Composite Index (Canadian stocks), 5% S&P 500 Index (U.S. stocks), and 5% MSCI EAFE Index (international stocks).
- Balanced Investor Portfolio:** assumes a constant asset mix of 5% Canadian T-bills (cash), 45% DEX Bond Universe Index (Canadian bonds), 25% S&P/TSX Composite Index (Canadian stocks), 15% S&P 500 Index (U.S. stocks), 5% MSCI EAFE Index and 5% MSCI Emerging Markets Index (international stocks).
- Growth Investor Portfolio:** assumes a constant asset mix of 5% Canadian T-bills (cash), 25% DEX Bond Universe Index (Canadian bonds), 35% S&P/TSX Composite Index (Canadian stocks), 20% S&P 500 Index (U.S. stocks), 10% MSCI EAFE Index and 5% MSCI Emerging Markets Index (international stocks).
- Aggressive Growth Investor Portfolio:** assumes a constant asset mix of 5% Canadian T-bills (cash), 40% S&P/TSX Composite Index (Canadian stocks), 30% S&P 500 Index (U.S. stocks), 15% MSCI EAFE Index and 10% MSCI Emerging Markets Index (international stocks).



Appendix D: Annual Total Returns

Figure 66: Annual total return data for Asset Classes

Calendar Year	Canadian T-Bills	DEX Bond Universe	S&P/TSX Composite	S&P 500 (C\$)	S&P 500 (US\$)	MSCI EAFE (C\$)	MSCI EAFE (US\$)	MSCI EM (C\$)	MSCI EM (US\$)
1960	3.36%	10.48%	1.78%	5.15%	0.47%	24.66%	19.11%		
1961	2.83%	7.73%	32.75%	32.80%	26.84%	29.66%	23.85%		
1962	3.98%	2.24%	-7.09%	-5.80%	-8.76%	-7.75%	-10.65%		
1963	3.57%	3.94%	15.60%	23.09%	22.70%	5.70%	5.36%		
1964	3.75%	5.10%	25.43%	15.69%	16.42%	25.41%	26.20%		
1965	3.92%	1.48%	6.68%	12.50%	12.38%	20.75%	20.61%		
1966	4.96%	3.56%	-7.07%	-9.33%	-10.06%	-4.93%	-5.70%		
1967	4.56%	0.75%	18.09%	23.63%	23.98%	11.24%	11.56%		
1968	6.24%	2.80%	22.45%	10.23%	11.03%	33.99%	34.96%		
1969	7.06%	0.91%	-0.81%	-8.43%	-8.43%	17.79%	17.79%		
1970	6.27%	22.65%	-3.57%	-2.02%	3.94%	-15.64%	-10.51%		
1971	3.67%	9.59%	8.01%	13.27%	14.30%	30.03%	31.21%		
1972	3.52%	1.96%	27.38%	18.14%	19.00%	36.61%	37.60%		
1973	5.25%	2.42%	0.27%	-14.60%	-14.69%	-14.08%	-14.17%		
1974	7.76%	7.87%	-25.93%	-26.87%	-26.47%	-22.57%	-22.15%		
1975	7.27%	-0.20%	18.48%	40.75%	37.23%	40.62%	37.10%		
1976	8.91%	15.31%	11.02%	23.05%	23.93%	3.00%	3.74%		
1977	7.41%	5.86%	10.71%	0.68%	-7.16%	29.51%	19.42%		
1978	8.40%	0.98%	29.72%	15.51%	6.57%	45.57%	34.30%		
1979	11.42%	2.50%	44.77%	16.69%	18.61%	4.46%	6.18%		
1980	12.51%	6.57%	30.13%	35.59%	32.50%	27.33%	24.43%		
1981	17.94%	4.20%	-10.25%	-5.58%	-4.92%	-1.72%	-1.03%		
1982	14.04%	35.36%	5.54%	25.99%	21.55%	2.76%	-0.86%		
1983	9.32%	11.53%	35.49%	24.11%	22.56%	26.19%	24.61%		
1984	11.05%	14.66%	-2.39%	12.88%	6.27%	14.56%	7.86%		
1985	9.48%	21.23%	25.07%	39.36%	31.73%	65.81%	56.72%		
1986	9.05%	14.70%	8.95%	17.15%	18.67%	67.78%	69.94%		
1987	8.13%	4.04%	5.88%	-0.94%	5.25%	17.58%	24.93%		
1988	9.27%	9.79%	11.08%	7.02%	16.61%	18.02%	28.59%	28.88%	40.43%
1989	11.95%	12.81%	21.37%	27.93%	31.69%	7.64%	10.80%	60.26%	64.96%
1990	12.87%	7.54%	-14.80%	-2.99%	-3.10%	-23.10%	-23.20%	-10.44%	-10.55%
1991	9.06%	22.13%	12.02%	29.97%	30.47%	12.07%	12.50%	59.30%	59.91%
1992	6.61%	9.84%	-1.43%	18.37%	7.62%	-3.05%	-11.85%	22.53%	11.40%
1993	5.11%	18.14%	32.55%	14.48%	10.08%	38.26%	32.94%	81.83%	74.84%
1994	5.26%	-4.31%	-0.18%	7.46%	1.32%	14.61%	8.06%	-1.70%	-7.32%
1995	7.03%	20.67%	14.53%	33.87%	37.58%	8.54%	11.55%	-7.76%	-5.21%
1996	4.44%	12.26%	28.35%	23.56%	22.96%	6.88%	6.36%	6.54%	6.03%
1997	3.12%	9.63%	14.98%	39.19%	33.36%	6.52%	2.06%	-7.72%	-11.59%
1998	4.71%	9.18%	-1.58%	37.82%	28.58%	28.98%	20.33%	-19.97%	-25.34%
1999	4.70%	-1.14%	31.71%	13.94%	21.04%	19.83%	27.30%	56.64%	66.41%
2000	5.44%	10.25%	7.41%	-5.57%	-9.10%	-10.61%	-13.96%	-27.91%	-30.61%
2001	3.90%	8.08%	-12.57%	-6.40%	-11.89%	-16.30%	-21.21%	3.70%	-2.37%
2002	2.59%	8.73%	-12.44%	-22.84%	-22.10%	-16.46%	-15.66%	-6.90%	-6.00%
2003	2.87%	6.69%	26.72%	5.76%	28.68%	14.37%	39.17%	28.43%	56.28%
2004	2.22%	7.15%	14.48%	2.80%	10.88%	11.90%	20.70%	16.77%	25.95%
2005	2.73%	6.46%	24.13%	1.76%	4.91%	10.59%	14.02%	30.50%	34.54%
2006	4.03%	4.06%	17.26%	15.74%	15.79%	26.80%	26.86%	32.49%	32.55%
2007	4.15%	3.69%	9.83%	-10.27%	5.49%	-5.05%	11.63%	18.93%	39.82%
2008	2.39%	6.41%	-33.00%	-22.59%	-37.00%	-30.04%	-43.06%	-42.48%	-53.18%
2009	0.35%	5.41%	35.05%	9.12%	26.46%	14.30%	32.46%	54.48%	79.02%
2010	0.60%	6.74%	17.61%	8.89%	15.06%	2.40%	8.21%	12.80%	19.20%
2011	0.92%	9.68%	-8.71%	4.41%	2.11%	-9.75%	-11.73%	-16.33%	-18.17%
2012	0.97%	3.60%	7.19%	13.48%	16.00%	15.34%	17.90%	16.05%	18.63%
2013	0.97%	-1.19%	12.99%	41.53%	32.39%	31.81%	23.29%	4.48%	-2.27%

Note: Data for the MSCI Emerging Markets Index begins in December 1987

Source: Bloomberg, PC Bond, Bank of Canada



Figure 67: Annual total return data for Benchmark Portfolios

Calendar Year	Income	Balanced	Growth	Aggressive Growth
1960	9.26%			
1961	13.59%			
1962	0.02%			
1963	6.72%			
1964	9.63%			
1965	3.89%			
1966	0.97%			
1967	5.21%			
1968	7.85%			
1969	1.34%			
1970	14.75%			
1971	10.26%			
1972	8.40%			
1973	0.57%			
1974	-0.46%			
1975	7.07%			
1976	14.12%			
1977	7.59%			
1978	8.62%			
1979	10.09%			
1980	12.89%			
1981	1.93%			
1982	27.72%			
1983	16.38%			
1984	11.83%			
1985	24.35%			
1986	16.33%			
1987	4.95%			
1988	10.23%	11.04%	11.44%	12.59%
1989	14.55%	19.29%	20.64%	24.70%
1990	2.40%	-1.79%	-6.08%	-10.68%
1991	19.85%	21.48%	20.36%	21.99%
1992	7.77%	8.13%	6.78%	7.06%
1993	20.47%	24.73%	26.99%	31.54%
1994	-1.68%	0.04%	1.99%	4.45%
1995	19.12%	18.40%	17.84%	16.83%
1996	14.58%	17.03%	18.93%	20.31%
1997	11.43%	14.05%	15.91%	18.11%
1998	9.76%	10.09%	11.44%	13.30%
1999	5.88%	13.57%	18.65%	25.74%
2000	7.75%	3.97%	1.86%	-2.82%
2001	2.83%	-0.90%	-4.91%	-8.83%
2002	2.41%	-3.65%	-8.60%	-14.86%
2003	9.84%	12.84%	15.18%	17.56%
2004	8.02%	8.80%	9.55%	10.21%
2005	8.90%	11.39%	13.13%	14.95%
2006	7.76%	11.67%	14.71%	19.10%
2007	3.50%	3.48%	2.96%	2.20%
2008	-2.98%	-12.26%	-19.48%	-28.61%
2009	10.23%	16.02%	19.62%	24.37%
2010	7.95%	9.56%	10.53%	11.38%
2011	5.25%	1.58%	-1.49%	-5.21%
2012	5.09%	7.06%	8.50%	10.87%
2013	4.83%	10.80%	16.01%	22.92%

Note: Data for the MSCI Emerging Markets Index begins in December 1987

Source: Bloomberg, PC Bond, Bank of Canada, BMO Private Client Research



Appendix E: Benchmark Portfolio Returns (Ranked by Ending Wealth)

Figure 68: Income Investor Portfolio — 20-year Period Returns (Annual Contribution Rate of \$10,000)

Period	Dates	Ending Wealth	Average Return	Standard Deviation	Minimum Return	Maximum Return
15	1974-1993	\$884,360.99	11.70%	7.47%	-0.46%	27.72%
18	1977-1996	\$864,212.51	12.25%	7.67%	-1.68%	27.72%
19	1978-1997	\$861,757.18	12.45%	7.58%	-1.68%	27.72%
17	1976-1995	\$844,740.62	12.23%	7.66%	-1.68%	27.72%
20	1979-1998	\$842,194.52	12.51%	7.56%	-1.68%	27.72%
13	1972-1991	\$809,434.92	10.73%	7.59%	-0.46%	27.72%
14	1973-1992	\$800,393.98	10.70%	7.60%	-0.46%	27.72%
21	1980-1999	\$790,553.00	12.29%	7.69%	-1.68%	27.72%
16	1975-1994	\$789,461.54	11.63%	7.58%	-1.68%	27.72%
11	1970-1989	\$787,907.70	10.90%	7.09%	-0.46%	27.72%
8	1967-1986	\$760,868.47	10.11%	7.38%	-0.46%	27.72%
22	1981-2000	\$753,167.79	12.03%	7.77%	-1.68%	27.72%
10	1969-1988	\$747,843.65	10.22%	7.37%	-0.46%	27.72%
9	1968-1987	\$736,942.28	10.10%	7.39%	-0.46%	27.72%
12	1971-1990	\$735,996.14	10.27%	7.30%	-0.46%	27.72%
7	1966-1985	\$703,644.00	9.34%	7.52%	-0.46%	27.72%
23	1982-2001	\$685,123.54	12.07%	7.70%	-1.68%	27.72%
24	1983-2002	\$611,743.92	10.84%	7.10%	-1.68%	24.35%
6	1965-1984	\$605,645.71	8.36%	6.76%	-0.46%	27.72%
25	1984-2003	\$596,843.95	10.52%	6.99%	-1.68%	24.35%
5	1964-1983	\$580,382.76	8.25%	6.72%	-0.46%	27.72%
26	1985-2004	\$575,603.59	10.33%	7.01%	-1.68%	24.35%
27	1986-2005	\$559,885.26	9.60%	6.21%	-1.68%	20.47%
28	1987-2006	\$546,660.33	9.18%	6.03%	-1.68%	20.47%
4	1963-1982	\$533,461.77	7.78%	6.46%	-0.46%	27.72%
29	1988-2007	\$516,146.49	9.11%	6.09%	-1.68%	20.47%
2	1961-1980	\$463,381.03	7.05%	4.86%	-0.46%	14.75%
31	1990-2009	\$457,146.24	8.21%	6.54%	-2.98%	20.47%
30	1989-2008	\$455,016.56	8.41%	6.67%	-2.98%	20.47%
32	1991-2010	\$452,020.62	8.49%	6.39%	-2.98%	20.47%
3	1962-1981	\$442,719.90	6.47%	4.74%	-0.46%	14.75%
1	1960-1979	\$438,265.07	6.87%	4.70%	-0.46%	14.75%
33	1992-2011	\$432,548.90	7.79%	5.85%	-2.98%	20.47%
34	1993-2012	\$417,957.02	7.65%	5.89%	-2.98%	20.47%
35	1994-2013	\$402,800.51	6.91%	5.10%	-2.98%	19.12%

All returns in C\$

Source: Bloomberg, PC Bond, Bank of Canada, BMO Private Client Research

Figure 69: Balanced Investor Portfolio — 20-year Period Returns (Annual Contribution Rate of \$10,000)

Period	Dates	Ending Wealth	Average Return	Standard Deviation	Minimum Return	Maximum Return
1	1988-2007	\$565,442.32	9.90%	8.03%	-3.65%	24.73%
4	1991-2010	\$469,661.81	9.06%	8.96%	-12.26%	24.73%
3	1990-2009	\$469,493.98	8.47%	9.30%	-12.26%	24.73%
2	1989-2008	\$446,882.91	8.62%	9.46%	-12.26%	24.73%
5	1992-2011	\$429,689.05	8.09%	8.65%	-12.26%	24.73%
7	1994-2013	\$424,458.25	7.40%	7.78%	-12.26%	18.40%
6	1993-2012	\$419,989.04	8.04%	8.65%	-12.26%	24.73%

All returns in C\$

Note: Data for the MSCI Emerging Markets Index begins in December 1987

Source: Bloomberg, PC Bond, Bank of Canada, BMO Private Client Research



Figure 70: Growth Investor Portfolio — 20-year Period Returns (Annual Contribution Rate of \$10,000)

Period	Dates	Ending Wealth	Average Return	Standard Deviation	Minimum Return	Maximum Return
1	1988-2007	\$581,461.00	10.01%	9.83%	-8.60%	26.99%
4	1991-2010	\$464,496.09	9.08%	11.30%	-19.48%	26.99%
3	1990-2009	\$458,509.43	8.19%	11.83%	-19.48%	26.99%
7	1994-2013	\$428,702.74	7.59%	10.57%	-19.48%	19.62%
2	1989-2008	\$422,005.21	8.24%	11.88%	-19.48%	26.99%
5	1992-2011	\$411,446.07	7.99%	11.27%	-19.48%	26.99%
6	1993-2012	\$406,797.89	8.07%	11.26%	-19.48%	26.99%

All returns in C\$

Note: Data for the MSCI Emerging Markets Index begins in December 1987

Source: Bloomberg, PC Bond, Bank of Canada, BMO Private Client Research

Figure 71: Aggressive Growth Investor Portfolio — 20-year Period Returns (Annual Contribution Rate of \$10,000)

Period	Dates	Ending Wealth	Average Return	Standard Deviation	Minimum Return	Maximum Return
1	1988-2007	\$605,905.14	10.43%	12.79%	-14.86%	31.54%
4	1991-2010	\$446,890.88	9.13%	14.84%	-28.61%	31.54%
3	1990-2009	\$437,257.92	7.93%	15.55%	-28.61%	31.54%
7	1994-2013	\$424,488.78	7.59%	14.38%	-28.61%	25.74%
2	1989-2008	\$387,725.44	7.95%	15.57%	-28.61%	31.54%
6	1993-2012	\$381,509.12	7.95%	14.95%	-28.61%	31.54%
5	1992-2011	\$378,687.30	7.76%	14.95%	-28.61%	31.54%

All returns in C\$

Note: Data for the MSCI Emerging Markets Index begins in December 1987

Source: Bloomberg, PC Bond, Bank of Canada, BMO Private Client Research



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