A new generation of low-volatility funds

THE Great-West Life ASSURANCE COMPANY

Canadian Low Volatility
London Capital

U.S. Low Volatility
Putnam

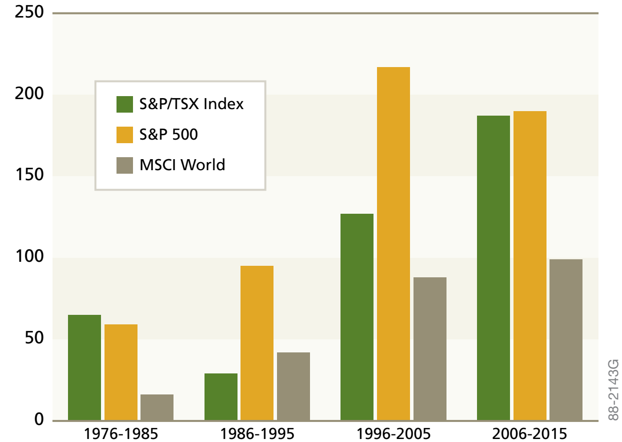
Global Low Volatility
Irish Life

Today's markets follow an unpredictable path. How do you stay on track during these volatile times? It starts by finding solutions that can help mitigate downside risk. We are expanding our fund shelf to tap into the benefits that low-volatility funds can offer.

Highlights of low-volatility funds:

- Play to current market trends
- Advantages associated with playing defense first
- Harnesses the low beta anomaly
- Helps combat investor biases

Number of trading days in which the index advanced or declined by more than 2%



Source: Morningstar, as at March 31, 2016.

Volatile markets

Volatile markets are neither a new nor unique phenomenon but they are a persistent one. Market volatility has been a fact of investing life for time immemorial.

One way to visualize the trend of increasingly volatile markets is to look at the number of trading days that have seen a noticeable fluctuation in the index. Charting the S&P/TSX Index on the Toronto Stock Exchange demonstrates that markets are seeing more frequent fluctuations. A similar trend can be seen when tracking the S&P 500 and MSCI world indices.

Volatility is not inherently destructive for portfolios but it does pose a distinct set of challenges for investors. In particular, human nature makes dealing with volatile markets difficult for most people. Some investors during times of uncertainty are motivated (due to loss aversion or chasing gains) to switch in and out of their investments. These impulsive transactions can cause portfolios to underperform in the long run.

Benefits of low volatility

Low-volatility funds have three objectives:

Reduce the overall risk of a portfolio

Provide downside protection

Retain meaningful upside potential

Downside protection is one of the most important and beneficial aspects of low-volatility funds.

Protection during down markets is important for an investor's portfolio because it takes more than a 10 per cent gain to make up for a previous 10 per cent loss.

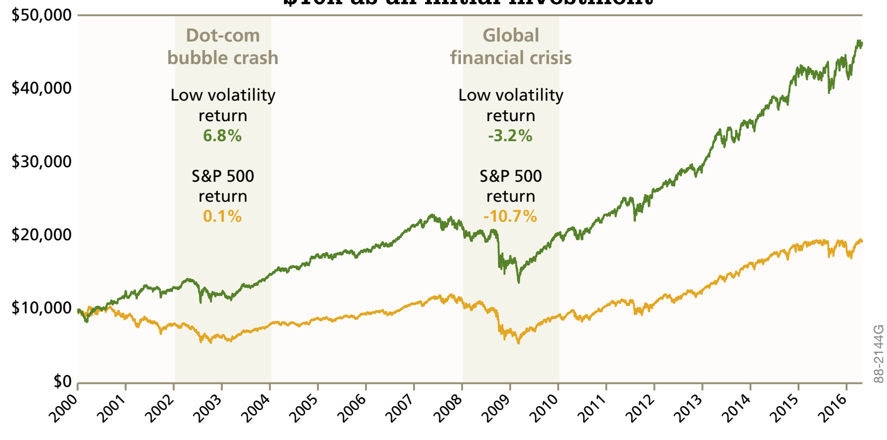
In fact: $100,000 portfolio losing 10% would be worth $90,000.

A subsequent gain of 10% on a $90,000 portfolio is only $99,000.

The impact of this difference becomes more pronounced as the amounts of money and time increase. Our low-volatility funds help balance out temporary downturns when they occasionally happen between periods of long-term equity growth.

The downside protection they offer can be 'worth' more than what they give up in positive markets. We can observe this trend using the S&P 500 Index versus its low volatility counterpart. Protecting investors during the downside is key:

Low volatility anomaly: $10k as an initial investment



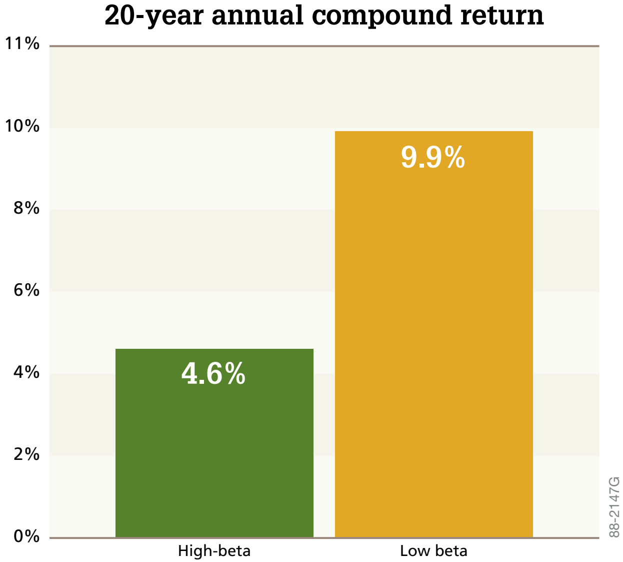
Source: Morningstar, as at May 3, 2016.

The popularity in recent years of low volatility investment options reflects an increased awareness of the negative impact that portfolio drawdowns can have on investments

"The greatest anomaly in finance"

Traditional investment wisdom holds that higher risk translates to higher reward. However, some experts who have looked at the market data are declaring this idea to be false.

Low-volatility funds can offer serious benefits to the long-term performance of an investor's portfolio, while cutting down on some of the headaches associated with turbulent markets.



High-beta represented by S&P 500 High Beta TR USD.
Low-beta represented by S&P 500 Low Volatility TR USD.
All returns in CAD.
Source: Morningstar Direct, as at June 30, 2016.

Who are low-volatility funds for?

Characteristics of ideal low-volatility investors:

- **Those seeking a smoother ride**, investors who want a fund that seeks to manage market risk and protect against volatile market swings.
- **Those who have difficulty getting, or staying invested**. These funds can act as a stepping stone to equity investing allowing more nervous investors into the market.
- **Those seeking higher return with a lower risk over time**. According to the sources cited below and due to the low beta anomaly, portfolios of low volatility funds tend to outperform the general market..
- **Those looking to diversify their equity exposure**. Low volatility can help investors diversify their equity exposure and reduce correlation within their equity allocation.

If you find yourself asking how and why low-volatility funds outperform expectations, you can read more about the 'low beta anomaly' in scholarly articles such as "Benchmarks as Limits to Arbitrage: Understanding the Low-Volatility Anomaly" by Malcolm Baker, Brendan Bradley, and Jeffrey Wurgler (CFA Institute's Financial Analysts Journal, 2011) and "Low Risk Stocks Outperform within All Observable Markets of the World" by Nardin L. Baker and Robert A. Haugen (April, 2012).

Switching in and out of funds has been harmful to investors

Average holding periods and returns, 1992-2014	
Average holding period for equity fund investors	3.3 years
Average annualized return for equity fund investors	5.0 %
Average annualized return for S&P 500 Index	9.2 %

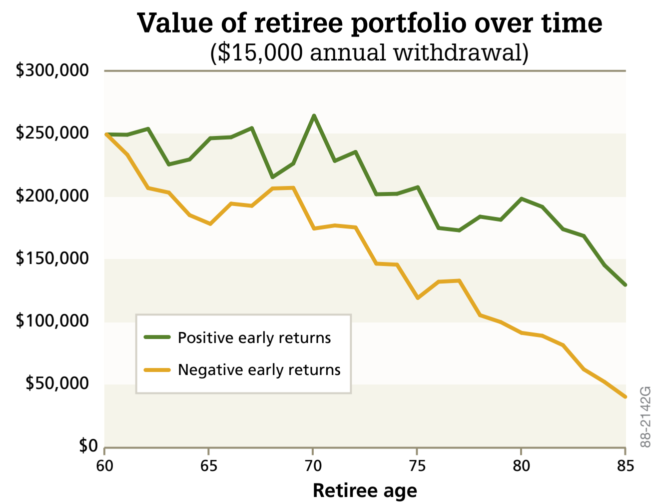
Source: Dalbar's 20th annual Quantitative Analysis of Investor Behaviour, 2014.

Research on investor behaviour has demonstrated that investors' inability to remain committed in turbulent markets leads to underperformance. As noted in Dalbar's investor behaviour research, decreased holding periods can lead to significant differences in returns over the long run.

Case study

Low-volatility funds can help preserve retiree capital during critical phases and can play a pivotal role in keeping investors on track to meet their investment goals.

For example, consider an early retiree who does not expect to contribute to their portfolio in the future. If we examine two portfolios with an average return rate of five per cent over 25 years and an annual withdrawal of $15,000, the sequence of returns becomes extremely important. Early negative returns can reduce a retiree's portfolio much quicker than if those same negative returns came later.



Concept used for illustrative purposes only. Situations will vary according to specific circumstances.

Large early decreases have a detrimental impact on the long-term viability of portfolios especially during the retirement phase. Low-volatility funds can help investors' money last longer.

Your low-volatility funds solution

	Canada	U.S.	Global
Portfolio manager	**Dave Gill** Senior Vice-President, Equities	**Robert Schoen** Co-head of Global Asset Allocation	**Dr. Donnie O'Brien** Senior Quantitative Fund Manager (Global Low Volatility Equity Strategies)
	GLC ASSET MANAGEMENT GROUP	Putnam INVESTMENTS	ILIM
Fund	**Canadian Low volatility***	**U.S. Low Volatility**	**Global Low Volatility**
Investment approach	Actively selects low beta stocks combined with a proprietary portfolio optimization overlay to achieve strong risk-adjusted returns.	Employs an option strategy to create a downside "floor" that provides additional portfolio protection in times of volatility.	Uses an innovative multi-factor model (i.e., fundamental and risk characteristics) that seeks to reduce the drawdown experience – not just volatility – over market cycles.
Country mix	100% Canadian	97.9% U.S.	63.7% U.S., 7.3% Japan 6.0% U.K., 3.9% Canada 2.8% Hong Kong
Sector mix	Financials 32.0% Energy 14.0% Consumer discretionary 10.9%	Information technology 19.0% Financials 16.4% Health care 14.9%	Health care 20.3% Consumer staples 16.8% Financials 15.0%
Number of holdings	30 to 50	156	203
% of top 10 holdings	47%	23.5%	13.3%
Up and down capture (2005-2015)	Up = 66.0% Down= 30.9%	Up = 50.7% Down = 26.1%	Up = 101.1% Down = 82.2%
Management fee Q series QF/H series	1.85% 0.85%	1.85% 0.85%	2.0% 1.0%
Guarantee level (standard series) estimated MER 75/75 75/100 100/100	2.74% 2.91% 3.24%	2.82% 2.99% 3.26%	2.96% 3.06% 3.44%
	Source: GLC, as at Aug. 16, 2016.	Source: Morningstar, as at July 31, 2016.	Source: Morningstar, as at May 31, 2016.

Notes:
Up and down capture ratios were calculated using back-tested (gross of fees) proxies and respective benchmarks:

- Canadian = S&P/TSX Composite TR
- U.S. = S&P 500 TR CAD
- Global = MSCI World GR CAD

Holdings data for U.S. Low Volatility derived from London Life U.S. Low Volatility (Putnam) 75/75 segregated fund. Holdings data for Global Low Volatility derived from Investors Low Volatility Global Equity A.

Fund pairing ideas

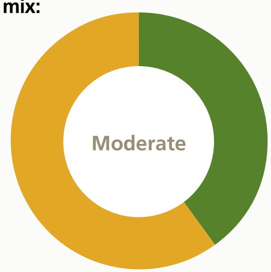
Portfolios constructed by institutional and pension fund managers are considered among the world's best managed investments. Their asset mix includes alternative assets to help anchor the portfolio in times of volatility.

Incorporate low-volatility funds within clients' portfolios to help truly diversify their holdings and manage overall market risk.

Moderate

30% North America High Yield Bond (Putnam)
15% Corporate Bond (Portico)
15% Core Bond (Portico)
10% Canadian Low Volatility (London Capital)
10% Canadian Dividend (Laketon)
10% U.S. Dividend (GWLIM)
10% Global Low Volatility (ILIM)

Asset mix:

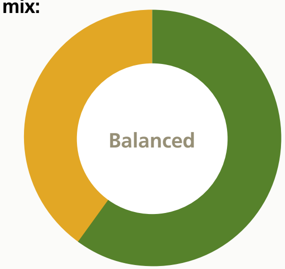


60% Fixed income 40% Equities

Balanced

20% North America High Yield Bond (Putnam)
10% Corporate Bond (Portico)
10% Core Bond (Portico)
15% Canadian Dividend (Laketon)
15% Canadian Low Volatility (London Capital)
10% U.S. Low Volatility (Putnam)
10% U.S. Dividend (GWLIM)
10% Global Dividend (Setanta)

Asset mix:

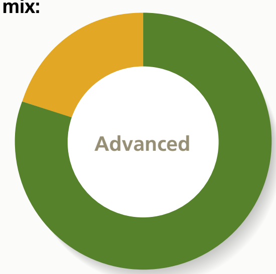


40% Fixed income 60% Equities

Advanced

10% North America High Yield Bond (Putnam)
10% Corporate Bond (Portico)
15% Canadian Dividend (Laketon)
15% Canadian Low Volatility (London Capital)
15% U.S. Low Volatility (Putnam)
10% U.S. Dividend (GWLIM)
15% Global Dividend (Setanta)
10% Global Low Volatility (ILIM)

Asset mix:



20% Fixed income 80% Equities

For illustrative purposes only.

A description of the key features of the segregated funds policy is contained in the information folder. Any amount allocated to a segregated fund is invested at the risk of the policyowner and may increase or decrease in value.

This fund is available through a segregated funds policy issued by Great-West Life.

Make your investment decisions wisely. Important information about the Quadrus Group of Funds is found in Fund Facts. Please read this carefully before investing. Commissions, trailing commissions, management fees and expenses all may be associated with mutual fund investments. Mutual funds are not guaranteed, their values change frequently and past performance may not be repeated.

Unit values and investment returns will fluctuate.

Quadrus Group of Funds is offered exclusively through Quadrus Investment Services Ltd.

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