

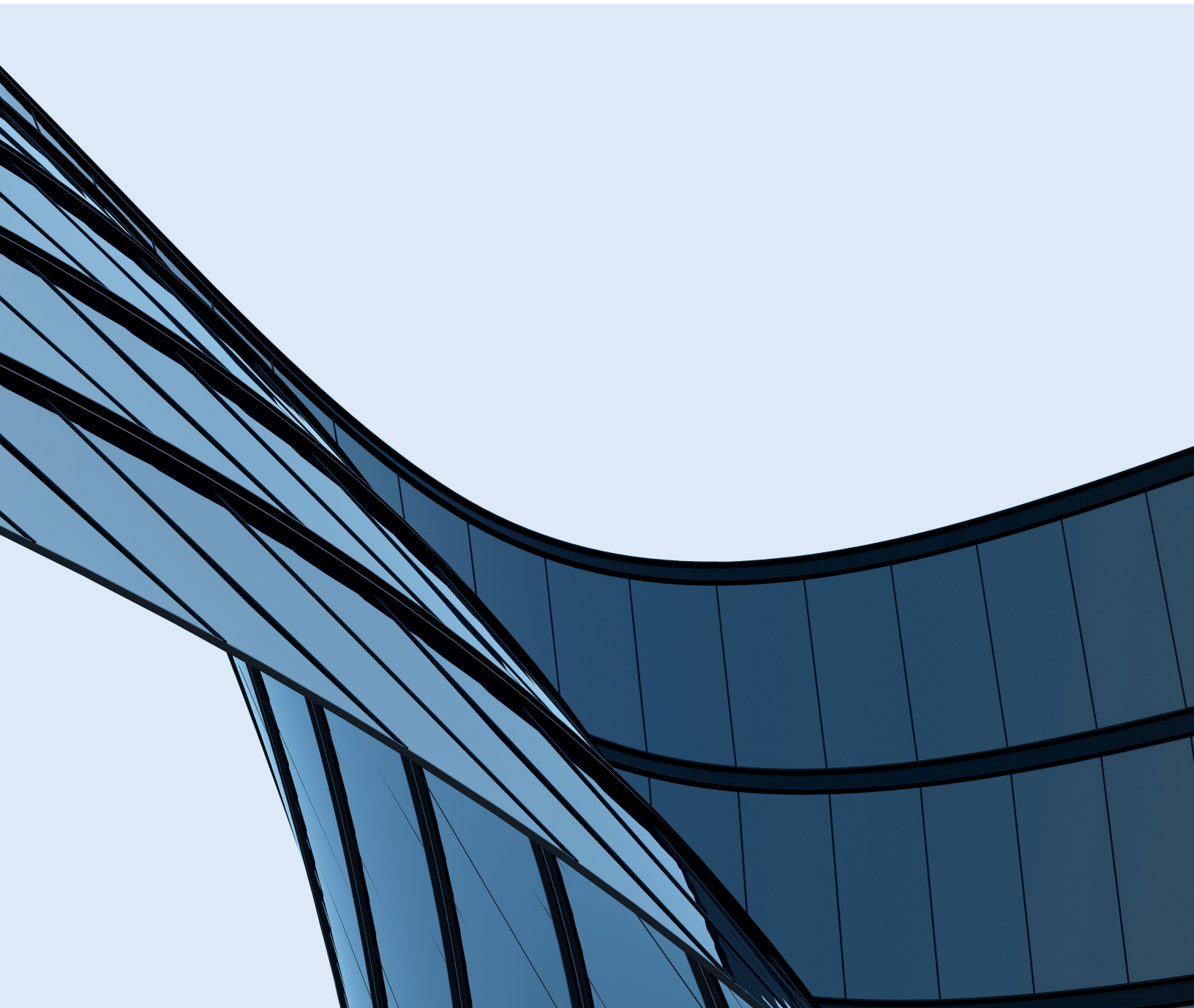


CIBC ASSET MANAGEMENT

The low volatility effect: Pursuing a smoother investment experience

March 2025

Ryan Diamant, CFA - Client Portfolio Manager, Equities
Greg Zdzenicki, CIM - Client Portfolio Manager, Equities



Executive summary

The “low volatility effect” is a term used to describe the observation that stocks with lower price volatility historically have generated higher returns than stocks with higher price volatility. Investing approaches that aimed to exploit the low volatility effect gained prominence after the 2008 Global Financial Crisis as market participants sought a less volatile investment experience. This whitepaper examines the low volatility effect and explores some of the key principles of low volatility investing, demonstrating why an allocation to low volatility strategies could be warranted, and how it should be used in investor portfolios to reduce overall volatility and enhance risk-adjusted returns over the long term.

Background

The low volatility effect in investing was first researched by academics decades ago as an anomaly of conventional asset pricing theory. It was observed that stocks with lower price volatility historically have generated higher returns than stocks with higher price volatility. Investing approaches that sought to exploit the low volatility effect gained prominence after the 2008 Global Financial Crisis as market participants sought a less volatile investment experience. By the end of 2024, assets under management in low volatility investment solutions had surged to over US\$693 billion¹. In the following pages, we illustrate some of the key principles of low volatility investing, demonstrating why an allocation to low volatility strategies could be warranted, and how it should be used in client portfolios.

The potential benefits of low volatility strategies

Low volatility strategies offer a defensive investment approach. They can lower a portfolio’s sensitivity to movements in the overall stock market (beta), thereby reducing its overall volatility and enhancing risk-adjusted returns over the long term. Two separate studies by Blitz, van Vliet, and Baltussen in 2007² and 2019³, found strong empirical evidence that stocks with low historical volatility tend to have higher risk-adjusted returns over the long run. This was possibly due to investors often overpaying for high-volatility stocks, as well as certain behavioural biases of private investors. Allocating to low-volatility equities can generate a smoother return profile, helping investors achieve their long-term goals while preserving capital during market drawdowns. Additionally, low-volatility strategies typically show lower correlation with broad-based equity strategies, enhancing their diversification potential when added to portfolios, regardless of growth, value, or core investment styles.

Low volatility investing: Alive and well

Some investors have suggested that the low volatility factor has become a victim of its own success as more and more mutual funds, ETFs, and hedge funds pursue low volatility strategies, eroding any excess return potential². In their 2019 paper, Blitz, Van Vliet and Baltussen observed there is little evidence to suggest that the low volatility effect has been arbitrated away. Rather, their research found that more investors have become either neutrally positioned, or have turned to higher volatility strategies.³

Combining low volatility and dividend strategies

Combining a low volatility strategy with a dividend strategy can potentially improve the sustainability and visibility of a portfolio’s cash flow stream. Dividend investing on its own can be tailored to various investment styles, such as dividend growth or high dividend-yield, depending on investor preferences. Dividend-paying stocks are often associated with quality as they are typically underpinned by shareholder-focused management teams, consistent profitability, and strong cash flows. Adding a dividend-yield component to a low volatility strategy adds a predictable income stream to a portfolio and can potentially enhance total returns, particularly during market drawdowns. In addition, low volatility companies tend to be less likely to cut dividends, which happens more commonly with companies held by strategies aiming exclusively to maximize dividend yield. Combined, these two strategies can potentially provide investors with a yield premium to the broader market, lower overall portfolio volatility, and mitigate downside risk.

The difference between low volatility and minimum volatility

Investors seeking to reduce volatility in their portfolios often face the dilemma of whether to use low volatility or minimum volatility approaches. At first glance, these two approaches may seem quite similar, but they are, in fact, considerably different.

Low volatility portfolios exploit the belief that lower volatility stocks have a higher return potential over the long run. This is accomplished by constructing portfolios with stocks that demonstrate the lowest trailing volatility, as measured by standard deviation.² The result is a portfolio with greater exposure to the low volatility factor and typically fewer stock or sector constraints. Sector allocations are often skewed towards industries with historically lower volatility, such as defensive sectors like consumer staples, utilities, and real estate. Consequently, the portfolio's sector weightings will typically look very different than those of traditional market-capitalization weighted indices.

Conversely, minimum volatility solutions aim to achieve the lowest possible variance within certain portfolio constraints. These portfolios have more rigid stock and sector constraints, and they can look a lot closer to traditional market-capitalization weighted indices than their low volatility counterparts. This type of optimization involves a somewhat opaque process, and the inclusion of multiple constraints can lead to unintended outcomes for investors.

In comparing these two approaches, it is important to assess how each strategy has performed over time. US indices offer good tools for conducting such an assessment due to their long history. Chart 1 shows that low volatility has outperformed minimum volatility, with greater downside protection, and higher risk-adjusted returns (as measured by the Sharpe Ratio) since June 1, 1993 (earliest return date).

Chart 1

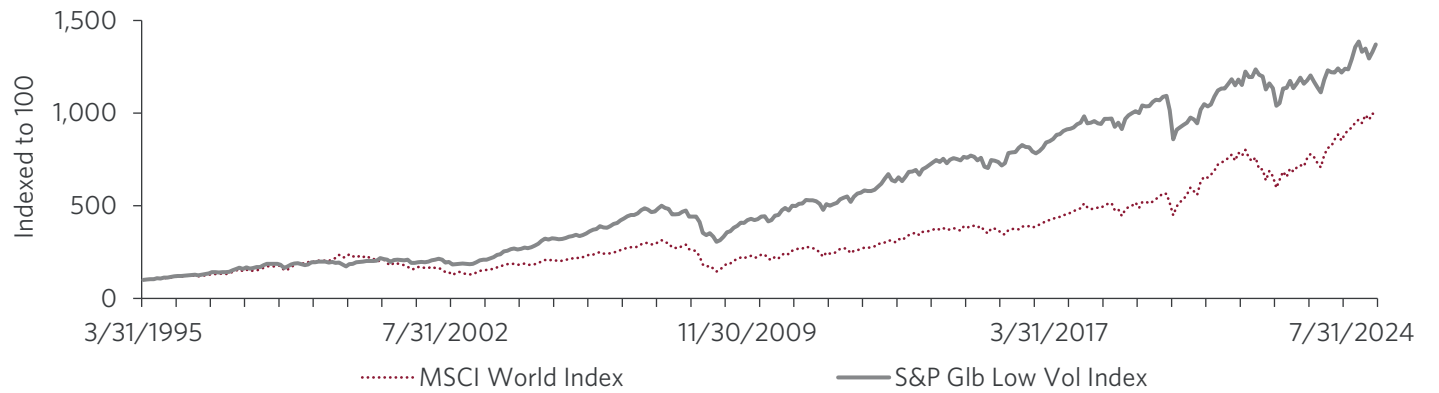
06/01/1993 to 02/28/2025	Return %	Std dev	Sharpe ratio	Down capture
S&P 500 Low Volatility Index	10.78	11.02	0.65	44.10
MSCI USA Minimum Volatility Index	9.89	10.64	0.57	65.90

Source: The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: Morningstar Direct as at Feb 28, 2025. The S&P Global Low Volatility Index is a product of S&P Dow Jones Indices LLC or its affiliates ("SPDJ") and TSX Inc., and has been licensed for use by CIBC Asset Management.

Low volatility portfolios have outperformed by mitigating drawdowns

The return profiles of low volatility portfolios can vary significantly based on the overall market environment. This is illustrated in charts 2 and 3 below, which compare the S&P Global Low Volatility Index with the MSCI World Index since their inception (April 1, 1995).

Chart 2: Index growth from inception 04/01/1995 - 02/28/2025



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Chart 3

From inception (04/01/1995) to 08/31/2021	Return %	Std dev	Sharpe ratio	Up capture ratio	Down capture ratio
S&P Global Low Volatility Index	9.24	8.93	0.57	65.49	37.93
MSCI World Index	8.06	12.14	0.37	100	100

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While low volatility strategies can significantly underperform in up markets, they can also meaningfully outperform in down markets. One of the common misconceptions associated with low volatility portfolios is that because they tend to underperform in up-markets, they add little value to portfolios. From a risk-adjusted performance perspective, however, low volatility portfolios significantly outperform over the long run. It is therefore important for investors to remember that low volatility strategies can enhance their return profile and provide a smoother overall investment experience despite underperforming in up markets.

Capital preservation is a core tenet of low volatility strategies and one of the primary reasons they outperform over the long

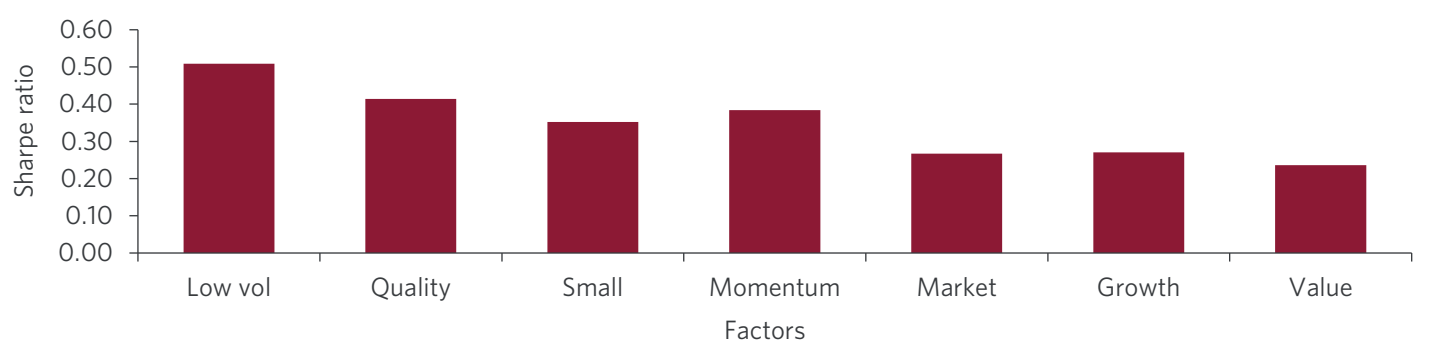
term. To illustrate this, let’s consider a hypothetical* example. If an investor with \$1,000 were to lose 25% in year 1 and then gain 25% in year 2, their overall return would be approximately -6.25%. However, if that same investor were to lose 10% in year 1 and gain 10% in year 2, their overall return would be approximately -1.00%. Not only does this provide the investor with a smoother ride, but also better long-term absolute and risk adjusted returns through avoiding significant drawdowns that can be very difficult to overcome. We believe this aspect of low volatility strategies will better serve investors over time.

*This hypothetical scenario is shown for illustrative purposes only and is not indicative of future results. Please refer to the Disclaimer page for further information.

Comparing global factors: Low volatility significantly outperforms

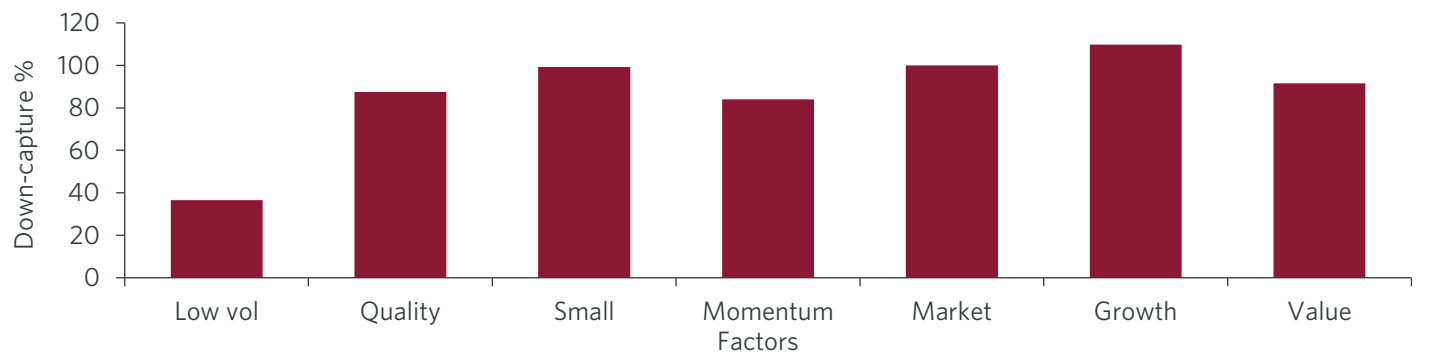
For decades, investors have targeted certain quantifiable characteristics or “factors” in an attempt to generate long-term investment returns in excess of benchmarks. Common factors include low volatility, quality, size, momentum, growth, and value. Investment approaches that target the low volatility factor have been a clear winner in outperforming on a risk-adjusted basis and protecting on the downside when compared to other common factors. Using global factor indices since January 1, 2000, Charts 4 & 5 below illustrate that the low volatility factor generated the highest risk-adjusted return, even though this timeframe experienced one of the longest equity bull markets on record. Global Low Volatility registered a down-capture ratio of 37% compared with all other factors whose down-capture ratios ranged from 84% to 110%. This is remarkable considering the significant market dislocations experienced during this timeframe, including the Tech Bubble, the Global Financial crisis, and the COVID-19 downturn. This relative outperformance over the last 25 years suggests that incorporating a low volatility strategy into a portfolio could help to reduce the portfolio’s overall volatility, providing investors with a smoother investment experience.

Chart 4: Sharpe ratio 1/1/2000 – 2/28/2025



Source: Morningstar Direct 2025. The information was prepared by CIBC Asset Management Inc. using the following third-party service providers’ data: Morningstar Direct as at Feb 28, 2025. Proxies for indices are as follows: Low Volatility: S&P Global Low Vol Index, Quality: MSCI World Quality Index, Small: MSCI World Small Cap Index, Momentum: MSCI World Momentum Index, Market: MSCI World Index, Growth: MSCI World Growth Index, Value: MSCI World Value Index. The S&P Global Low Volatility Index is a product of S&P Dow Jones Indices LLC or its affiliates (“SPDJ”) and TSX Inc., and has been licensed for use by CIBC Asset Management.

Chart 5: Down-capture % 1/1/2000 – 2/28/2025



Source: Morningstar Direct 2025. The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: Morningstar Direct as at Feb 28, 2025. Proxies for indices are as follows: Low Volatility: S&P Global Low Vol Index, Quality: MSCI World Quality Index, Small: MSCI World Small Cap Index, Momentum: MSCI World Momentum Index, Market: MSCI World Index, Growth: MSCI World Growth Index, Value: MSCI World Value Index. The S&P Global Low Volatility Index is a product of S&P Dow Jones Indices LLC or its affiliates ("SPDJ") and TSX Inc., and has been licensed for use by CIBC Asset Management.

Low volatility strategies can complement traditional portfolio strategies

Despite the relative outperformance of the low volatility factor on a risk-adjusted basis over the last 25 years, many investors have shown a reluctance to incorporate low volatility strategies into more traditional portfolios. It would not be unsound for investors to integrate a low volatility strategy with a traditional portfolio strategy. The two approaches can be complementary, considering their varied return profiles and tendency to outperform at different times. This is illustrated in Chart 6, which shows that increased exposure to the S&P Global Low Volatility Index increases return and lowers standard deviation, resulting in higher risk-adjusted returns and lower down-capture over the time periods illustrated.

Chart 6

From inception (04/01/1995) to 02/28/2025	Return %	Std dev	Sharpe ratio	Up capture ratio	Down capture ratio
MSCI World Index	8.06	12.14	0.46	100.00	100.00
S&P Global Low Volatility Index	9.24	8.93	0.75	65.49	37.93
75% MSCI World Index 25% S&P Global Low Volatility Index	8.42	10.88	0.54	91.48	84.35
50% MSCI World Index 50% S&P Global Low Volatility Index	8.74	9.87	0.63	82.89	68.79

Source: The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: Morningstar Direct as at Feb 28, 2025. The S&P Global Low Volatility Index is a product of S&P Dow Jones Indices LLC or its affiliates ("SPDJ") and TSX Inc., and has been licensed for use by CIBC Asset Management.

Applying this analysis to more traditional portfolio allocations yields a very similar result. Chart 7 below shows three different portfolio scenarios: (1) 50% MSCI World Index and 50% Bloomberg Global Aggregate Bond Index; (2) 50% MSCI World Index, 25% S&P Global Low Volatility Index, and 25% Bloomberg Global Aggregate Bond Index; (3) 25% MSCI World Index, 25% S&P Global Low Volatility Index and 50% Bloomberg Global Aggregate Bond Index.

Chart 7

From inception (04/01/1995) to 02/28/2025	Return %	Std dev	Sharpe ratio	Up capture ratio	Down capture ratio
50% MSCI World Index 50% Bloomberg Global Aggregate Bond Index	6.13	7.24	0.50	55.79	44.44
50% MSCI World Index 25% Bloomberg Global Aggregate Bond Index 25% S&P Global Low Volatility Index	7.46	8.28	0.60	69.38	56.51
25% MSCI World Index 50% Bloomberg Global Aggregate Bond Index 25% S&P Global Low Volatility Index	6.37	6.71	0.57	47.14	28.98

Source: The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: Morningstar Direct as at Feb 28, 2025. The S&P Global Low Volatility Index is a product of S&P Dow Jones Indices LLC or its affiliates ("SPDJ") and TSX Inc., and has been licensed for use by CIBC Asset Management. The Bloomberg Global Aggregate Bond Index is a product of Bloomberg L.P., and has been licensed for use by CIBC Asset Management.

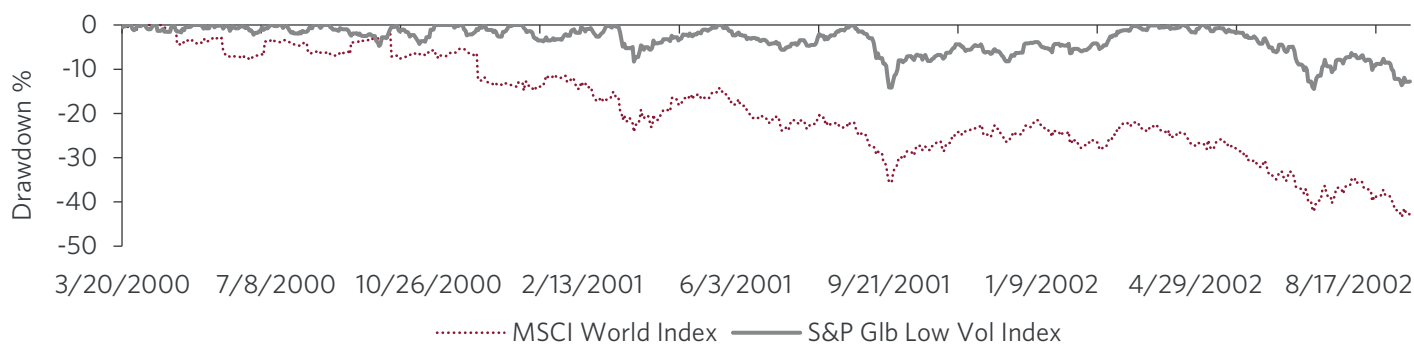
Whether an investor funds the low volatility sleeve of their portfolio from their fixed income or equity allocation, the portfolio's overall Sharpe ratio increases. This clearly suggests that a portfolio can benefit by incorporating both broad-based and low volatility exposures rather than simply one or the other.

Low volatility has protected in significant market dislocations

Market corrections can be unpredictable, unfold rapidly, and occur in widely different market environments. Since the turn of the century, markets have experienced periods of strong performance, including the longest bull market on record. However, there have also been many drawdowns, including three notable corrections: the Tech Bubble, The Global Financial Crisis, and the COVID-19 downturn.

The bursting of the Tech Bubble may now seem like ancient history, but valuable lessons can still be drawn from it. The period was characterized by what some have called "irrational exuberance" as valuations of technology and telecom stocks rose to unsustainable levels, eventually precipitating a 43.4% drop in the equity market, as illustrated in Charts 8 and 9 below. Low volatility strategies protected investors during this period with a maximum drawdown of only 14.5%. The significance of such a low relative drawdown should not be understated. As previously mentioned, when investors experience large drawdowns, it becomes increasingly difficult to recover to break-even levels.

Chart 8: Tech bubble drawdown 03/20/2000 to 09/30/2003



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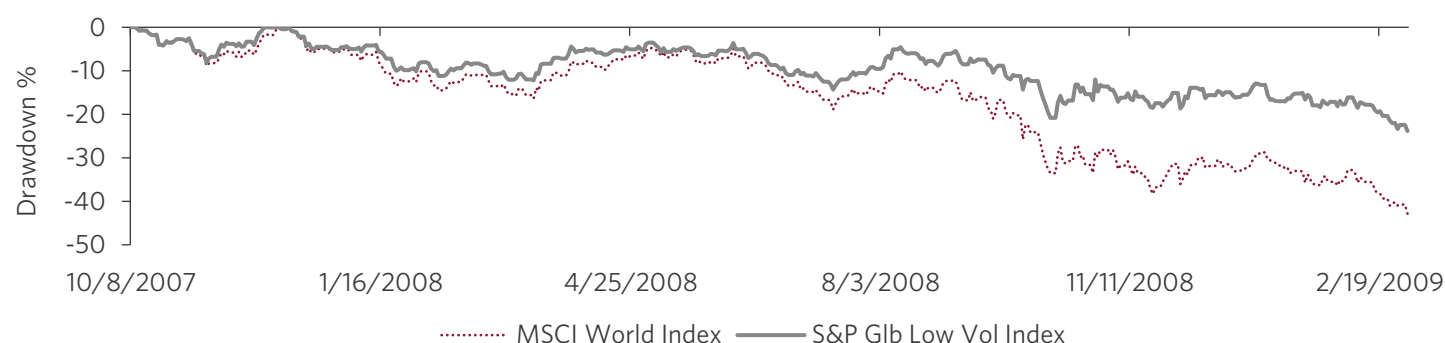
Chart 9

Tech bubble statistics	Return %	Std dev	Max drawdown %	Max drawdown # of periods (days)	Max drawdown peak date	Max drawdown valley date
MSCI World Index	-19.51	10.19	-43.42	890	4/18/2000	9/24/2002
S&P Global Low Vol Index	3.37	12.83	-14.47	76	5/9/2002	7/23/2002

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Another significant correction occurred in 2008. Known as the Global Financial Crisis, this correction was also driven by market forces. This time it was excessive leverage and concerns about high global debt levels that caused a sell-off. As so-called "too big to fail" financial institutions Lehman Brothers and Bear Stearns collapsed, panic spread through global equity markets, causing a 42.8% drawdown. Low volatility strategies were drawn down by only half this percentage during the period, once again showing their resiliency and potential to mitigate drawdowns.

Chart 10: Financial crisis drawdown 10/08/2007 to 03/02/2009



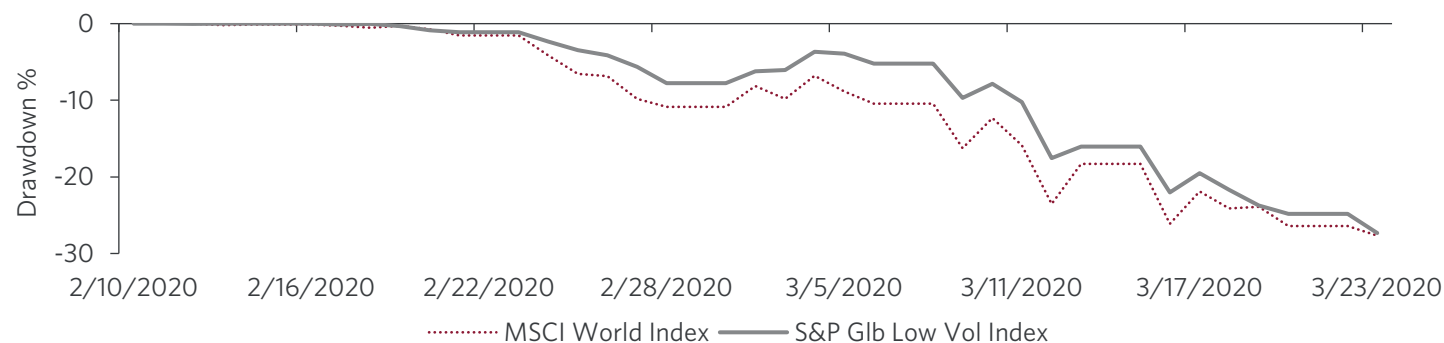
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Chart 11

Financial crisis bubble statistics	Return %	Std dev	Max drawdown %	Max drawdown # of periods (days)	Max drawdown peak date	Max drawdown valley date
MSCI World Index	-32.17	30.45	-42.84	448	12/11/2007	3/2/2009
S&P Global Low Vol Index	-16.08	21.53	-23.86	448	12/11/2007	3/2/2009

The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: Morningstar Direct as at February 28, 2025. The S&P Global Low Volatility Index is a product of S&P Dow Jones Indices LLC or its affiliates ("SPDJ") and TSX Inc., and has been licensed for use by CIBC Asset Management.

Low volatility strategies turned in mixed performance throughout the COVID-19 downturn in March of 2020. As shown in Charts 12 and 13, the S&P Global Low Volatility Index only slightly outperformed. One reason why low volatility performed nearly in-line with the broad-based benchmark was the nature of the crisis. The COVID-19 sell-off was not driven by excessive equity valuations or debt levels, government shutdowns or tightening monetary policy, which have all been typical catalysts for prior drawdowns. The COVID-19 sell-off was the result of a globally coordinated economic shutdown orchestrated by governments and policymakers to slow a global pandemic. Government mandates shut people out of most traditional places of business and entertainment. Investments commonly associated with low volatility and yield, such as real estate, felt the effects of the shutdown immediately, while technology companies gained. We consider this an unusual or "Black Swan" situation. As mentioned above, Blitz, van Vliet and Baltussen have demonstrated that the low volatility factor has not been arbitrated away and remains a potentially lucrative strategy for investors. We believe that low volatility strategies continue to provide downside protection in normal market conditions, akin to their performance during the Tech Bubble and Global Financial Crisis.

Chart 12: COVID-19 downturn 02/10/2020 to 03/23/2020

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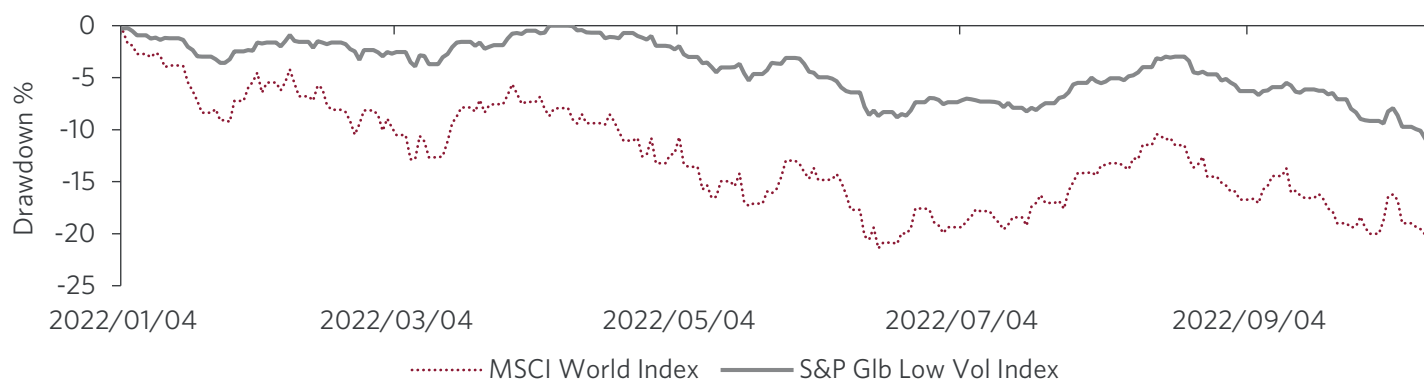
Chart 13

COVID-19 downturn	Return %	Std dev	Max drawdown %	Max drawdown # of periods (days)	Max drawdown peak date	Max drawdown valley date
MSCI World Index	-25.45	69.55	-26.13	33.00	2/13/2020	3/16/2020
S&P Global Low Vol Index	-21.54	47.52	-22.03	31.00	2/15/2020	3/16/2020

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A return to form throughout the 2022 volatility and in the current market environment

In 2022, a surge in inflation was seen globally largely due to a mix of binding supply constraints, excess liquidity, and a tightening labour market. As such, interest rates began to rise over the course of the year as global central banks committed to winning the battle against inflation. All of these factors led to significant market volatility, and a sharp rotation out of high growth and expensive quality sectors, and into value oriented securities such as resources, financials and staples. In this environment, low volatility strategies outperformed:

Chart 14: 2022 volatility 01/04/2022 to 10/12/2022

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Chart 15

2022 volatility 01/04/2022 to 10/12/2022	Return %	Std dev	Max drawdown %	Max drawdown # of periods (days)	Max drawdown peak date	Max drawdown valley date
MSCI World Index	-20.10	22.09	-21.41	164.00	1/4/2022	6/16/2022
S&P Glb Low Vol Index	-9.94	8.87	-10.87	187.00	4/9/2022	10/12/2022

The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: Morningstar Direct as at February 28, 2025. The S&P Global Low Volatility Index is a product of S&P Dow Jones Indices LLC or its affiliates ("SPDJ") and TSX Inc., and has been licensed for use by CIBC Asset Management.

In one of the most significant inflationary cycles in history, low volatility outperformed the broader market. Its performance provided further evidence of its ability to protect in volatile market environments, and that the mixed performance throughout the COVID-19 volatility was a function of the unique circumstances rather than a failure of the low volatility factor.

Today, investors are faced with navigating the imposition of tariffs and fading US exceptionalism. From presidential inauguration day on January 20th to market close on March 14th, the low volatility factor returned 5.36%, outperforming the broader market which returned -2.92%. While a rapidly unfolding situation, the low volatility can be a useful and prudent tool for navigating the current market environment.

Considering the CIBC Qx Low Volatility ETFs as a long-term complement within a portfolio

In light of the potential benefits of low volatility investing, investors may want to consider adding a low volatility component to their portfolios. The CIBC Qx Low Volatility ETFs use a quantitative approach that utilizes robust research and strong risk-management to enhance investment decision making. They aim to deliver superior risk-adjusted returns, combining the benefits of quantitative modelling with the oversight of dedicated portfolio managers. The CIBC Quantitative Research Team leverages more than 50 years of combined experience in investment management, mathematics, statistics and computer science to construct strategies that act on empirical evidence and not emotion. The ETFs screen out non-dividend payers to improve yield and total return. They invest in the lowest-volatility stocks to help mitigate downside risk and provide a smoother return profile. In uncertain times, these ETFs help navigate choppy markets with a steady approach. They combine both earnings stability and income to provide security in an insecure world. For investors seeking a low volatility dividend-focused quantitative solution, these ETFs should be considered as a long-term complement to existing portfolio allocations.

Authors



Ryan Diamant, CFA
Client Portfolio Manager, Equities



Greg Zdzenicki, CIM
Client Portfolio Manager, Equities



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Across a spectrum of investment solutions, we commit to best-in-class research. Dedicated sector and regional analysts focus on industry research and security-specific idea generation. Our investment professionals leverage deep and diverse expertise by sharing proprietary research across asset-class teams. By sharing insight across asset class teams, we maximize opportunities to add value to our client portfolios.

Contact us any time

To learn more about CIBC Asset Management and our investment solutions, please contact your advisor or your CIBC representative. For more insights, connect with us on [LinkedIn](#).

¹ Source: eVestment Alliance as at December 31, 2024.

² David Blitz, Pim van Vliet and Guido Baltussen (2007), "The Volatility Effect: Lower Risk without Lower Return," in *The Journal of Portfolio Management* 34 (1), pp. 102-113.

³ David Blitz, Pim van Vliet and Guido Baltussen (2019), "The Volatility Effect Revisited," in *The Journal of Portfolio Management Quantitative Special Issue 2020* 46 (2), pp 45-63.

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