

Low volatility equities in a turbulent year

Low volatility strategies have historically performed much better than the broader stock market during market declines.¹ However, during the pandemic-induced market decline in the first quarter of 2020, most low volatility strategies – while outperforming broad market indices – did so by a much smaller margin than historically, and a significant number of low volatility strategies actually underperformed the broad market.

In this paper, we look at the reasons for this disappointing performance. We also take the opportunity to examine some of the differences among low volatility strategies, and how these would have affected relative performance, for better or worse, during this period.

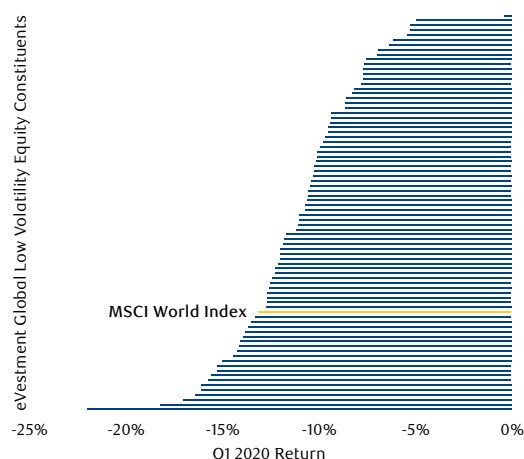
Introduction

In recent years, there has been meaningful uptake in low volatility equity strategies by institutional investors globally. While not all low volatility strategies are constructed in the same manner and investors' reasons for implementing a low volatility strategy may differ, a common trait shared by most of these strategies is that they typically invest in “defensive” stocks of stable, more mature businesses that generate more reliable earnings and cash flow streams. This has generally led to strong downside protection versus broad market indices.² However, during the pandemic-induced market decline in the first quarter of 2020, most low volatility strategies – while outperforming broad market indices – did so by a much

smaller margin than historically, and a significant number of low volatility strategies actually underperformed the broad market (see Figure 1).

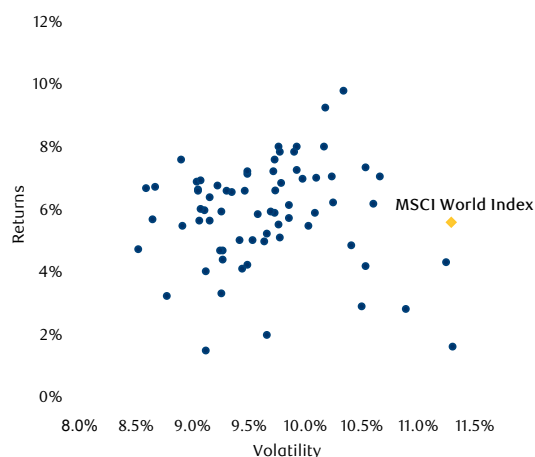
The underwhelming performance of low volatility strategies in 2020 can be attributed primarily to unusual sector performance during the COVID-19 sell-off, which was exacerbated by increasing market concentration. While these two market dynamics likely affected the performance of most low volatility strategies in 2020, we also witnessed a very wide dispersion of results during this period. There are a number of significant differences between low volatility strategies, and these differences likely explain the wide dispersion of results in the first quarter of 2020 as well as longer term (Figures 1 and 2).

Figure 1: More modest drawdown protection and meaningful dispersion among low volatility managers in Q1 2020



Source: eVestment Universe: Global Low Volatility Equity. Returns as of March 31, 2020, and in Canadian dollars.

Figure 2: High dispersion of returns among low volatility managers over five-year time horizon



Source: eVestment Universe: Global Low Volatility Equity. Five-year risk vs. return to March 31, 2020, and in Canadian dollars.

¹As of December 31, 2020, median downside capture of eVestment's Global Low Volatility peer group was 67% over the past 7 years, compared to 88% in the first quarter of 2020.

²MSCI World Index.

Unusual economic impact & atypical sector performance during 2020

The primary reason that low volatility strategies did not provide the same degree of downside protection during the first quarter of 2020 that we’ve come to expect based on historical performance is that this particular recession and resulting market sell-off had a highly atypical cause. Rather than being the result of excesses in the market or in the economy, this year’s sell-off was caused by an exogenous shock. As such, COVID-19 and the resulting sudden shift in business and consumer behaviour had a very different economic impact than a recession caused by a typical economic slowdown. For example:

- spending on certain technologies accelerated significantly;
- there was a sharp shift in consumption away from “traditional” brick-and-mortar stores and towards online shopping; and
- social distancing measures negatively impacted retail and office real estate.

These factors had a particularly acute impact on the Real Estate and Information Technology sectors, as illustrated in Figure 3.

Figure 3: Atypical sector performance during COVID-19 sell-off

	Typical cycle	This cycle
REITs		
Revenue	Steady due to long-term leases	Fell modestly due to rent deferrals
Valuations	Compress but less than market	Compressed more than market
Information technology		
Revenue	Falls on cyclical capital spending cuts	Accelerated with increased adoption
Valuations	Compress more than market	Expanded

Source: RBC GAM.

In a more typical recession, revenues for the Real Estate sector would have remained somewhat stable due to long-term leases with tenants, whereas revenues in the Info Tech sector would have fallen given cyclical capital spending cuts.

During the COVID-19 sell-off, however, the opposite occurred. Lockdowns and social distancing measures compelled some landlords to offer rent relief, and the long-term outlook for certain types of real estate such as office and retail was called into question. Meanwhile, the Info Tech sector was the largest beneficiary of the 2020 environment as revenues were pulled forward dramatically.

Ultimately, what this meant is that sectors that have historically been utilized by low volatility funds for their defensive characteristics did not perform as expected during the COVID-19 induced sell-off at the beginning of the year.

To demonstrate this point numerically, Figure 4 highlights the correlations forecast pre-pandemic between the overall market and particular sectors,³ compared to the actual correlations measured during the sell-off period from February 20, 2020, to March 23, 2020.

Figure 4: Unexpected behavior in sector correlations during COVID-19 sell-off

Sector (iGICS custom)	Forecast correlation	Actual correlation	Excess return
Insurance	0.10	0.71	-5.3%
Income trusts	-0.34	0.34	-3.2%
Infrastructure (utilities)	-0.39	0.46	0.3%
Health care equipment & services	-0.17	-0.61	2.4%
Software & services	-0.02	-0.48	7.0%
Technology hardware	0.17	-0.33	5.7%

Source: Forecast correlations from RBC GAM and actual correlations from MSCI. Sell-off period is February 20, 2020, to March 23, 2020. Proxy for the overall market is the MSCI World Index.

These correlations are between the overall market and each sector’s relative returns. A negative forecast correlation indicates a sector that tends to outperform as the market declines – one would generally expect low volatility strategies to have greater exposure to these sectors. However, the actual correlations between the market and each sector during the sell-off period showed a significantly different picture, with forecast correlations varying from historical norms in terms of magnitude and in many cases

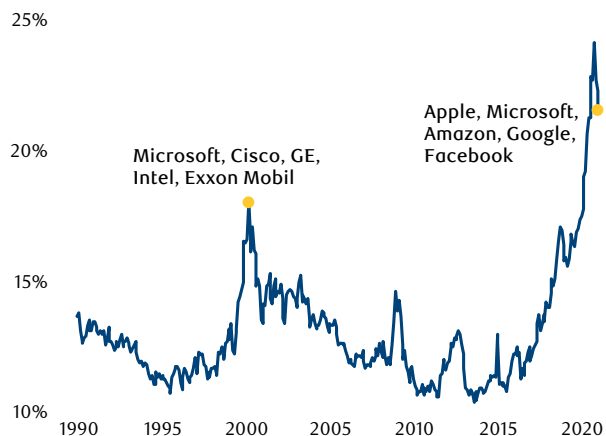
³These industry groupings are based on our custom sector definitions, called iGICS sectors. These custom sectors were developed to classify peers based on the economic exposures a company has for more appropriate comparisons relative to the traditional GICS sectors.

varying directionally as well. As an example, the Technology Hardware, Software & Services, and Health Care sectors had lower-than-expected (and negative) actual correlations with the overall market during the sharp market sell-off, meaning they acted more defensively than what would have been expected based on historical data. As a result, all three sectors outperformed the broader market during the sell-off period, as shown in the final column. Conversely, traditionally more defensive sectors like Insurance and Income Trusts were more correlated with the overall market during the sell-off period than historically, and underperformed the broader market during this time.

High index concentration has complicated things further

The atypical sector performance discussed above was exacerbated by the fact that market indices have become significantly more concentrated over the past several years, which amplified the disparity between 2020 performance and historical expectations. Large technology stocks, which were unexpected beneficiaries of this year's sell-off and performed especially well throughout 2020, had very large index weights in many investment universes by the end of the year. This included major global and Canadian indices, but was most notable within the U.S. As shown in Figure 5, the weight of the top five stocks in the S&P 500 Index reached its all-time highest level of 24% during September 2020, given the narrow leadership exhibited this year.

Figure 5: Increasingly concentrated market evidenced by weight of top 5 stocks in the S&P 500 Index

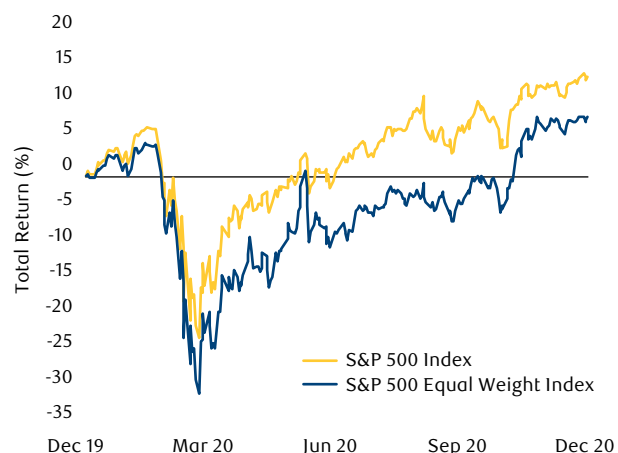


Source: RBC GAM, Bloomberg, S&P. Data is as of the 1st day of each month from February 1990 to December 2020. Percent represents cumulative weight of top 5 companies in the S&P 500 Index based on market capitalization.

Most low volatility strategies would not typically have a full weight in these stocks, due to their historically high levels of volatility and beta. Additionally, the profitability profiles of some (though not all) of these businesses are not typical of stocks held in low volatility strategies. Furthermore, to the extent that some of these stocks might be attractive on the basis of a particular low volatility strategy's methodology, most low volatility strategies would have maximum position sizes that would prevent a strategy from owning a full index weight in these stocks, for diversification purposes.

In general, the position sizing of low volatility strategies tends to more closely resemble that of an equal-weighted strategy than a market cap-weighted strategy. This is primarily due to absolute return rather than relative investment objectives, as well as a more diversified portfolio construction approach. Given the narrow leadership experienced in 2020, equal-weighted indices significantly lagged their market cap-weighted counterparts, meaning that a small subset of the largest companies drove the majority of returns in 2020. As a result, low volatility strategies with an investment process that favours breadth would have likely underperformed the broader market during the initial sell-off period and in the quarters that followed.

Figure 6: Narrow leadership evidenced by market cap-weighted index outperforming equal-weighted index in 2020



Source: RBC GAM, S&P

Low volatility strategy design considerations

While low volatility strategies may be perceived as similar to one another, there can be significant differences in their investment processes and construction. As the dispersion of results shown in Figure 2 of this paper demonstrate, these variations can lead to significant differences in outcomes. As such, investors should consider and evaluate the people, philosophy, and processes associated with low volatility strategies with the same care as they would any other active strategy.

In the table below, we review some of the main differences between low volatility strategies, and how these differences might have affected performance in 2020. As in all things, there are trade-offs to different approaches, and the optimal approach is not always obvious.

Differences	Description	Impact in 2020
Sector exposure constraints	<ul style="list-style-type: none"> Some low volatility strategies place absolute limits on their exposure to any one sector, while others (such as the MSCI Minimum Volatility indices) place limits relative to the market cap-weighted indices. These differences can be interpreted to reflect views on what a low volatility strategy is intended to achieve (provide absolute diversification vs. track a benchmark). 	<ul style="list-style-type: none"> During Q1, this would have had a profound effect on performance. For example, the Info Tech sector accounted for 17% of the MSCI World Index at the beginning of the year, and outperformed the broader index by 9% in Q1 and by 27% YTD as of December 31, 2020.
Individual security limits	<ul style="list-style-type: none"> Lower limits lead to greater diversification of security exposures. However, they also force the portfolio to be underweight the largest companies in an index, and force a small cap bias onto a portfolio. 	<ul style="list-style-type: none"> As markets became more concentrated given the narrow leadership, strategies with greater diversification (lower individual security limits) lagged market cap-weighted strategies.
Use of alpha factors	<ul style="list-style-type: none"> Some strategies employ alpha factors in addition to a risk model. Potential alpha factors can include value, profitability, quality, and stability, among others. 	<ul style="list-style-type: none"> These factors may have helped or hurt. The value factor in particular is relatively widely used, and this most likely hurt results for many strategies, as most measures of value performed poorly during Q1 and for much of 2020.
Investment objectives	<ul style="list-style-type: none"> Some strategies are designed to outperform a benchmark, either market cap-weighted or low volatility. Others are focused on some measure of absolute returns. 	<ul style="list-style-type: none"> Strategies focused on absolute returns may have lagged those focused on returns relative to market cap-weighted indices.

Source: RBC GAM, MSCI.

Aside from those characteristics listed in the chart above, there can be other significant differences between low volatility strategies, where the impact to 2020 performance is less obvious. These include, but are not limited to, whether the portfolio is constructed via optimization versus a rules-based approach, differences in investment

universes, and whether the strategy is passively or actively managed. Ultimately, what this means for investors is that it's important to understand the objectives of a particular low volatility strategy, along with how that strategy is constructed.

Conclusion

While most low volatility strategies protected capital compared to broad market indices amidst the pandemic-induced market sell-off in the first quarter of 2020, the performance was underwhelming based on historical norms and investor expectations across the asset class.

Much of what has happened in 2020 is the result of a unique and exogenous shock that affected consumers and companies in unexpected ways relative to a typical economic downturn, and was further complicated by the narrow market leadership that ensued. While it's important for any investment strategy to be able to adapt to changing market conditions, we don't believe that low volatility strategies as an asset class have lost their validity; we believe that these strategies remain appropriate for investors seeking equity exposure while aiming to reduce and diversify equity risk.

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