Low Volatility Equity Strategies: New And Improved?

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Low volatility equity strategies have been available to Canadian investors for several years now and new variations have emerged over this period. Understanding both the theoretical foundation and the practical application of these approaches can be confusing, particularly with the arrival of these new variations.

It may be helpful to begin by appreciating the logic behind the original low volatility equity strategy and then moving on to understanding the newer versions before determining which variant might be most appropriate for your needs.

**The Low Volatility Anomaly**

Low volatility strategies emerged as a theoretical challenge to the most commonly accepted market model, the Capital Asset Pricing Model (CAPM), which forms the foundation of Modern Portfolio Theory. CAPM, published in 1964 by William Sharpe, predicts that under a set of standard assumptions (investor rationality, zero transaction costs, identical asset predicted returns and variances, and covariances across investors), a capitalization-weighted portfolio of all investable securities should provide the highest expected return per unit of risk, thus delivering maximum market efficiency. Furthermore, within that cap-weighted market portfolio, CAPM makes the intuitive prediction that stocks that contribute the most to portfolio risk, so-called ‘high beta’ stocks, should have higher expected returns than ‘low beta’ stocks. Though this view of the nature of the risk/reward relationship has formed the basis of academic thinking for decades, actual market data has, over time, proven it false. The historical pattern of equity returns is simply inconsistent with CAPM predictions.

Historically, risk has not been rewarded within equity markets. In fact, over complete market cycles the less volatile stocks (i.e. less ‘risky’ stocks) have delivered returns that, on average, exceed those of the more volatile – or ‘riskier’ – stocks. (See Exhibit 1). This pattern has become known as the ‘low volatility anomaly’ (anomalous in that it contradicts standard CAPM theory) and led to the development of low volatility investment strategies.

The low volatility anomaly led to the launch of a number of low volatility funds which aim to exploit this empirical regularity. The first such fund in the Canadian marketplace was the TD Emerald Low Volatility Canadian Equity Pool Fund Trust, launched in September 2009 by TD Asset Management Inc. (TDAM).

Clearly, low volatility equities can offer higher risk-adjusted returns than cap-weighted equities. This quality alone should make low volatility equities attractive to most investors.

However, low volatility equities do not outperform in all market conditions. They tend to underperform during strong bull equity markets, but outperform during severe bear markets. In other words, the lower level of volatility dampens both the
highs and the lows of returns.

State Of Plenty

Low volatility equities may be particularly well-suited to investors who have longer investment horizons and a particular need for capital preservation, such as pension plans. The tendency of low volatility equities to underperform cap-weighted equities in the ‘state of plenty’ and outperform in the ‘state of penury’ means plan sponsors may face a lower risk of having to recapitalize their pension plans during the recessions that typically follow equity bear markets.

The less volatile returns of low volatility equity strategies may be particularly appreciated by pension plans that are concerned about their asset-liability mismatch risk. Most mismatch risk in a portfolio can be attributed to the equity component of the asset mix. Low volatility equities have approximately only two-thirds of the mismatch risk that capitalization-weighted equities have. For institutional investors who want to preserve their funded status by remaining cautiously focused on achieving optimal risk-adjusted returns, shifting from capitalization-weighted equities to low volatility equities may be an attractive way to lower their asset-liability mismatch risk.

Risk Reduction

Early low volatility funds focused primarily on minimizing expected return volatility, but there were some differences in the complexity of the approach. For example, some funds employed risk models to monitor and exploit both individual stock volatility as well as pair-wise correlations (the correlation between two stock returns). Others simply built portfolios of the least volatile equities. Both the comprehensive portfolio approach and the less sophisticated approach were focused on risk reduction. The implicit or explicit goal was to deliver expected returns that were competitive with the capitalization-weighted index, but with much lower risk. This stands in sharp contrast with traditional active portfolio management where the portfolio manager attempts to deliver superior returns while taking approximately as much risk as the capitalization-weighted index.

The latest innovation in low volatility investing links the low volatility anomaly to other strong empirical return patterns that are also inconsistent with the propositions of CAPM and market efficiency. These are the so-called value, smaller-cap, quality, and price momentum anomalies. Strategies designed to exploit these anomalies are commonly known as ‘smart beta’ because, like low volatility approaches, they aim to achieve a better risk/return trade off than traditional market capitalization indices (traditional beta).

Unlike the low volatility approach, investing on the basis of value, smaller-cap, quality, and price momentum operates by delivering a higher expected return. A strategy blending these smart betas essentially focuses first on risk reduction, then on selecting less volatile stocks with greater return potential due to their value, smaller-cap, quality, and price momentum characteristics. Like the low volatility anomaly, these empirical relationships occur regularly in most
equity markets over complete market cycles:

- **Value and smaller cap:** Defined in terms of the book-to-market multiple, the ‘value’ anomaly along with the ‘smaller-cap’ effect exploits the fact that so-called ‘value’ stocks and smaller cap stocks tend to generate better returns as a group than the market-cap weighted stocks.

- **Quality:** The quality anomaly suggests that stocks with lower risks of default and higher rates of return on equity (ROE) have historically generated higher rates of return than the broad market. This is sometimes called the ‘Buffet style’ after Berkshire Hathaway’s Warren Buffet.

- **Momentum:** The momentum anomaly is the pattern of stock leaders (measured over the recent six to 12 month returns) continuing to lead the stock market over the next few months. In other words, momentum ensures that these stocks continue to deliver higher returns than the broader market in the shorter term.

It’s important to note that these anomalies are persistent, but do not contribute equally to performance over time. Portfolio managers must opportunistically tilt to the anomaly that they consider most likely to benefit under current market conditions. An unsophisticated combination of anomalies may result in significant unwanted exposures that may have disastrous consequences if not properly understood. Therefore, when investing in these strategies, it is essential to work with an experienced and sophisticated manager.

**Distinct Advantages**

The strongest individual anomaly is the low volatility one. However, constructing an equity portfolio inspired by all anomalies can lead to an investment solution that offers distinct advantages over a simple low volatility portfolio. Integrating each of these characteristics into a low volatility model can produce a portfolio that remains less risky, but benefits more from market highs than a purely low volatility model.

As new strategies and models are released, it is ever more important to be aware of the difference of how they work and what they can deliver. Though the labels may look the same, there are many approaches to low volatility and smart beta that are quantitatively and qualitatively distinct. Approaches can differ significantly in portfolio construction methodology, constraints, and expected returns. Paying attention to these differences will ensure that you make an informed choice (See Exhibit 2).