

INVESTMENT

Low Volatility Investing:
**Portfolio Construction Methods
And The Passive Versus Active Approach**

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Low Volatility Investing: Portfolio Construction Methods And The Passive Versus Active Approach



The growing popularity of low volatility strategies stems from the ability of these solutions to attain sustainable risk-adjusted returns over time, fulfilling their intended objectives of reducing volatility and providing competitive market returns.

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Though the proliferation of these strategies has led to their adoption among varying investor types, the approach employed by each investment manager in constructing their fund is very different, with some using a passive approach and others applying active management. This

article will review the main approaches for constructing low volatility portfolios, speak to the efficacy of each methodology, and provide an opinion on each approach.

Fund Objective And Construction

In constructing a low volatility fund, the objective of the fund often dictates the parameters that are used in its creation. A manager could employ a benchmark-agnostic approach, aiming solely to deliver the lowest volatility. Alternatively, a manager may favour constraining the stock and sector exposure, geographic allocation, and style-tilt to remain close to the parent cap-weight index while still trying to reduce overall risk (i.e. a hybrid

approach). Ultimately, the objective of the low volatility fund will determine which strategy would be employed.

To determine the overall volatility of a stock for inclusion in the fund, some managers use the past total return volatility, while others focus only on either the market-risk component (beta) or firm-specific risk. Some managers make use of the stock correlations, while others don't. These various measures are taken over differing time periods and frequencies. It should be noted that reducing volatility is not equivalent to reducing risk. A manager may try to lower volatility, but there are still too many unexpected factors that may adversely impact the fund's performance. How well a manager navigates these risks is an important aspect of the passive versus active debate.

Once the objective of the low volatility fund has been established and the parameters for its construction are chosen, the methodology in which the fund will be built can be determined. Let's review three of the most widely used methods:

◆ Portfolio of low volatility stocks

This is the preferred method by passive low volatility managers and some index providers such as Standard and Poor's. This method typically has the advantage of being both easy and inexpensive in its execution and does not require a risk model. It consists of ranking the stocks by some measure of volatility, such as standard deviation, and then selecting the equities with the lowest score to form a portfolio. The stock weights would be inversely related to the volatility.

The resulting outcome is a portfolio of low volatility stocks, based on the assumption that equity correlations do not matter. Simply put, low volatility stocks, even if they reside in the same sector, would not be considered more risky than a portfolio of stocks from different sectors. If one believes that all groups of

stocks react the same way to negative events, then it makes sense to choose only the least volatile stocks. However, the practicality of this assumption is debatable. Is high sector concentration not a cause of concern? Is having 30 per cent of a Canadian low volatility fund invested in real estate a safe, low risk investment?

◆ **Low volatility portfolio with constraints to the capitalization-weighted index**

Favoured by many passive managers and index providers, this method has two distinctive advantages when compared with the first method.

The first advantage is that it is not based solely on the volatility of each stock, but also considers stocks correlations. By taking into account the effect of the combined interactions among stocks, the concentration issue inherent to the first method is mitigated.

The second advantage relates to portfolio turnover. The closer the portfolio is to the cap-weighted index, the lower the turnover will be during rebalancing. To do this, the manager or index provider imposes constraints on stock, sector, country, and style-exposures of the fund so that they remain close to the cap-weighted index. Additionally, this method normally results in reduced tracking error and rebalancing costs for the fund. Though this method has its advantages, it is innately more complex than the simple stock ranking approach. Building a low volatility portfolio would require a risk model and solving a non-linear optimization problem with constraints.

Many passive managers and index providers possess the necessary risk models to utilize this method. However, most of the models they use are produced by a handful of companies, such as MSCI/BARRA, and are designed in a similar fashion. They cover big stock universes and provide similar forecasts used simultaneously by hundreds of clients (managers, banks, consultants, etc.). These models have various uses, but are generic and lack customization, making them sub-optimal for building the best low volatility solution within the universe of stocks a client may be interested in.

A second flaw in this method is the importance placed on the cap-weighted

index while trying to reduce volatility. By tethering the lowest volatility solution to the market index, the risk reduction capability of the fund is negatively impacted and the true minimum volatility portfolio cannot be attained.

◆ **The true low volatility portfolio**

This method has the least constraints and is the preferred method by active managers, though it faces its own challenges. Similar to the second method, this approach uses a risk model, but it does not impose any constraints in relation to the cap-weighted index. Furthermore, the total portfolio volatility is the primary focus. Any constraints placed within the strategy are done in absolute terms only. Hence, this method is not popular among passive managers due to the higher portfolio turnover that may occur. However, for active managers, the higher turnover allows for more flexibility and provides better risk reduction opportunities.

Passive Versus Active

Passive or actively managed low volatility portfolios could use any of the aforementioned construction methods, resulting in differing outcomes. Passively managed low volatility funds have the advantage of being cost-effective products. The low turnover is achieved either by infrequent rebalancing, typically two or four times a year, or by imposing constraints related to the cap-weighted index.

Actively managed low volatility funds are more flexible and conduct their rebalancing not on a fixed schedule, but according to the market risk environment and the availability of new information. During calm and uneventful periods, there is no need to incur additional costs without a measurable benefit and the actively managed funds are rebalanced less frequently. Conversely, during periods of market turmoil, the trading will increase to take advantage of the new and fast changing information.

A key difference between each management style is how cash flows are invested. Passive managers are forced to invest all cash flows in slices of the index, based on volatility forecasts or rankings that could be outdated. Stock weights will drift between rebalancing dates due to the variation in the stock price. The

passive manager has to follow the recipe, even if there is a clear indication that the trades will increase the volatility of a fund.

Conversely, active managers could use the cash flows to better shape their portfolio based on the most recent forecasts. The cash inflows would be used to purchase stocks that reduce the fund's volatility, while the outflows would reduce or eliminate stocks that increase the risk.

Passive managers rely either on stock volatility rankings or commercial risk models. Sometimes it takes years until the latest model enhancements are implemented.

Active managers who want to come ahead and avoid crowded trading, use their own risk models based on a specific stock universe and base currency. They control the model development, the input data quality, and can account for such details as full or partial currency hedging. The recipe for the actively managed low volatility fund can be modified easily and improved quickly.

The Recommended Approach

As mentioned earlier, volatility is not equivalent to risk. Regardless of how good a particular risk model is, it will have limitations and cannot prevent a loss if an unexpected event occurs and the manager is unaware of the model's limitations. The active manager can anticipate potential sources of risk and take the appropriate course of action. In contrast, the passive manager is unable to take any corrective course of action due to the restrictions inherent to their chosen methodology and management style.

Though both management styles have their merits, we at TDAM believe active management within a low volatility strategy provides greater flexibility and has undeniable advantages over the passive management approach. **BPM**



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