BEYOND BETA

Overcoming the pitfalls of traditional weighting strategies

With few exceptions, market-cap-weighted indices have been accepted as the appropriate measure of market beta. Initially, ETFs were introduced as an efficient, cost-effective solution designed to deliver beta-like returns. However, as the ETF market has developed, many of today's ETFs aim to provide either "better" beta (such as market-like returns with lower volatility) or alpha generation. A simple first step towards the goal of delivering alpha or enhanced beta often involves implementing a weighting system that differs from the traditional market-cap strategy.

In this article, we examine various weighting strategies, including:

- The challenges and risks of traditional market-cap weighting strategies.
- Popular weighting strategies used by many of today's dividend-focused ETFs.
- A new weighting methodology brought to market by RBC Quant Dividend Leaders ETFs.

Market-cap weighting biases

Market-cap weighting has long been accepted as the standard measure of market beta. This isn't likely to change anytime soon and will likely always be the benchmark against which other strategies are measured. However, the biases that lie within a market-cap strategy can result in both poor diversification and questionable market timing.

Large-cap bias

The large-cap bias in a market-cap strategy often drives unreasonably high single-name exposure, which results in poor diversification. For example, today, Apple represents about 17.5% of the S&P 500's Information Technology sector and over 11% of the NASDAQ 100. Furthermore, many Canadian investors will recall the period when Nortel represented about 30% of the entire Canadian equity market.

For a broad all-cap strategy like the Russell 3000, market-cap weighting also virtually nullifies small-cap performance. For example, over the past 10 years, U.S. small caps outperformed large caps by about 1.3% annually. However, returns for the all-cap Russell 3000 Index, which includes large caps and small caps, were only 0.1% ahead of the Russell 1000 Index, which includes only large caps (see table below).

Despite Small-Cap Outperformance, They Add Little Value to a Market Weighted All-Cap Strategy

Asset Class	Market-Cap-Weighted Benchmark	10-Year Returns (As of 31-Dec-13)
U.S. large caps	Russell 1000 Index US$	7.78%
U.S. small caps	Russell 2000 Index US$	9.07%
U.S. all caps	Russell 3000 Index US$*	7.88%

*Russell 3000 Index combines all Russell 1000 and Russell 2000 companies

Momentum bias

Market-cap strategies also introduce a momentum bias that tends towards maximizing positions in stocks at their highs and minimizing positions at their lows – often selling a company altogether when it is cut from an index at an all-time low.

> "One way of illustrating momentum risk in market-cap indices is to consider that such passive strategies usually reach maximum investment or weight in a company close to its high and a minimum weight close to its low. The economics of this risk are not attractive; and, in fact, it's economics that explain the result as large, successful companies face competitive pressure from new and more agile competition, diminishing their world-beater status."
>
> *Bill Tilford, Head of Quantitative Investments, RBC Global Asset Management*

Capped indices do little to solve the problem

Capped strategies place a cap, often around 10%, on single-name exposure as a way to mitigate some of the momentum and large-cap biases of a market-cap strategy. In a small portfolio of 30 or fewer names, a 10% single-name exposure cap may be reasonable. However, for strategies that aim to invest across the full breadth of the market, capping single names generally does little to eliminate large-cap and momentum biases or provide meaningful exposure to small or mid caps.

Equal weight performs well, but new problems arise

Equal-weight strategies are a simple way to reduce the large-cap and momentum biases of market-cap weighting and they generally back-test well from a performance standpoint. However, equal weighting simply introduces a small-cap bias – picture the smallest company on the Russell 3000, which is Covisint, being equally weighted with Apple in a portfolio; or, in Canada, a $600 million company such as Wajax being equally weighted with a $100 billion company like RBC.

Small-cap biases such as these can introduce problematic liquidity risks and trading costs, especially once an ETF gains significant assets. There are three main reasons for this:

1. Small-cap liquidity can be poor, which drives up trading costs and liquidity premiums.
2. The high turnover rate from constantly rebalancing to bring weightings back to equal can be cost prohibitive.
3. Equal-weight positions can also result in a larger ETF becoming a material shareholder in a small-cap name, bringing with it potential governance and disclosure issues.

> "When evaluating any weighting or rules-based strategy, it's important to consider the potential capacity of the strategy in relation to the size of the pool of assets to be managed. It's one thing to maybe run $5 million with some of these ideas. It's a whole other topic to get $5 billion into these strategies."
>
> *Bill Tilford*

High-yield dividend strategies

Record low interest rates and income-seeking baby boomers are increasingly supporting the need for dividend-paying investments. The result in the ETF industry has been a large number of ETFs investing solely in high-dividend-paying or dividend-growing stocks.

While many of these strategies can be effective in providing the higher income investors desire, traditional weighting strategies used by many of these solutions are fraught with the same large-cap and momentum biases that we have discussed previously.

Some dividend-focused ETFs utilize a yield-weighted strategy, placing a higher weighting on higher-yielding companies and vice versa. Simply put, most investors are well aware that high yields are often red flags pointing to a potential dividend cut or other financial trouble for a company. Yet these strategies allocate their highest weights to these companies.

If dividends are eventually cut, the stock price often drops long before many ETF strategies can respond by rebalancing and eliminating or reducing the position. The subsequent capital loss can be many multiples of the dividend received – and take years to recover.

A new innovative approach to weighting

With market-cap and equal-weight strategies, investors are forced to make a mutually exclusive decision to either accept large-cap and momentum biases or introduce small-cap biases and liquidity risk. Neither of these scenarios is desirable on a long-term basis.

Developing a new approach

To solve for this problem, the RBC Quantitative Investment Management team devised an approach that minimizes weighting biases and liquidity risks while providing long-term outperformance. Factors that they address include:

1. The economic reality that most large- and mega-caps are *unlikely* to outperform the market in a meaningful way over the long term. Why? Firms have trouble holding on to economic or technological advantages over the long term. New entrants can move more quickly, employees leave and join competitors, patents expire, etc.
2. Large- and mega-cap stocks nonetheless have an important diversification role to play in a portfolio.
3. The economic reality that small and mid caps are *likely* to outperform the broad market over the long term.
4. How to introduce a meaningful position in small and mid caps without introducing problematic liquidity risk.
5. Ensuring the weighting strategy could be implemented in a larger mandate.

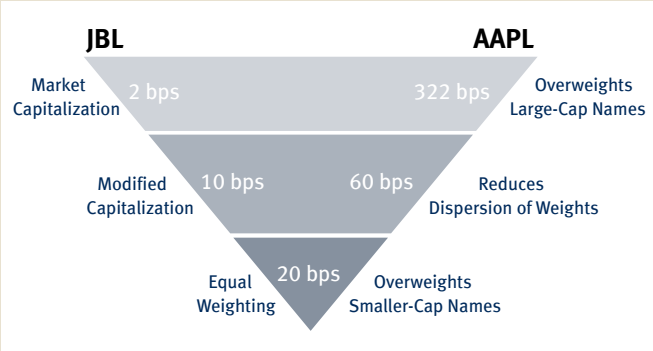
Modified-cap weighting

The team's research led to the development of a proprietary modified-cap weighting system. The strategy uses a formulaic weighting system designed to optimally smooth the weight differentials of large caps relative to small caps.

Striking the right balance

As shown in the table at top of next column, the modified-cap strategy bridges the gap between its market-cap and equal-weight counterparts. When compared to the cap-weighted S&P 500 Index, modified-cap weighting significantly reduces single-name exposure to large-cap stocks, such as Apple (AAPL), and increases exposure to the smaller companies on the index, such as Jabil Circuits (JBL).

S&P 500: Alternative Weighting Schemes

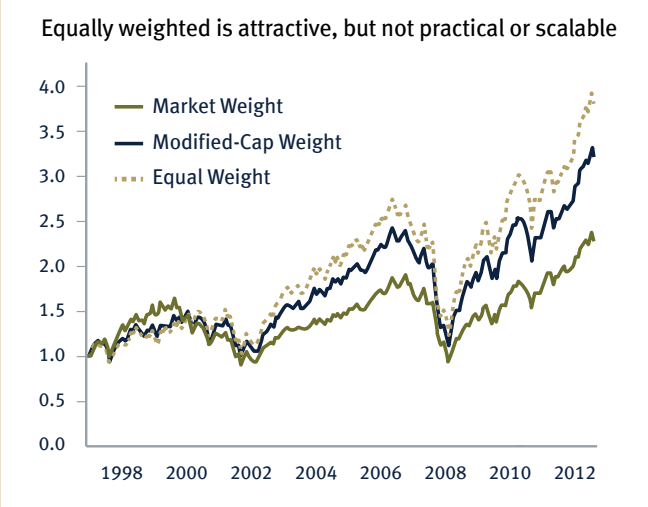


Performance and feasibility

After extensive back-testing and scenario analysis across all major equity indices, the team determined that over the long term:

1. Liquidity risk would be low in a modified-cap-weighted mandate, even one with large AUM.
2. The strategy should contribute to alpha over the long term relative to a cap-weighted strategy (see chart below).
3. A broad market approach would be most desirable – one that includes small-, mid- and large-cap stocks.

S&P 500: Alternative Weighting Schemes



Source: RBC Global Asset Management. Jan. 1997–Aug. 2013.

RBC Quant Dividend Leaders ETFs bring the strategy to life

With traditional weighting systems, investors are either forced to choose between large-cap risks and biases, small-cap risks and biases, or high-dividend risk. To address these challenges and provide the potential to generate alpha, modified-cap weighting has been implemented across **RBC Quant Dividend Leaders ETFs**. In addition to enhanced risk-return potential, modified-cap weighting benefits these ETFs by providing:

- Access to the full breadth of the market with minimized liquidity risk.
- Exposure to the growth potential of small- and mid-cap stocks.
- Exposure to the diversification benefits of large-cap stocks.

In combining this innovative weighting strategy with a high-quality dividend portfolio, RBC Quant Dividend Leaders ETFs stand apart as a versatile and cost-effective tool that can serve as either a core or satellite component of a portfolio.

To find out more about RBC ETFs, please contact your financial advisor or visit **rbcgam.com/etfs.**

RBC Global Asset Management

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