

INSIGHTS ON MARKET CAPITALIZATION AND FUNDAMENTAL-WEIGHTED INDEXES

by Brad Pope, BLACKROCK INSTITUTIONAL TRUST COMPANY, N.A.

Throughout the years, index providers and practitioners have dedicated themselves to the development of indexes for investors' benefit. The focus on understanding the role of indexes in portfolios has led to criteria for evaluation. In recent months, a range of new indexes has been introduced to provide investors with alternative benchmark choices.

These alternative weighting schemes have drawn considerable attention in the press and more recently, through investment product offerings. Much of the focus has been on the performance of the new indexes relative to traditional, popular indexes such as the S&P/TSX 60, S&P 500 or Russell 1000. Yet often lost in the current discussion is an evaluation of the various alternatives along practical criteria. In this paper, we examine the merits of capitalization-weighted, equal-weighted and fundamental-weighted indexes. Our objective is to provide the reader a basis for understanding the differences in these approaches and the implications of each.

REVIEW OF EVALUATION CRITERIA

Over the years, BlackRock Institutional Trust Company, N.A., and its affiliates worldwide (“BlackRock”) has developed several criteria to evaluate indexes.¹ To prepare for the evaluation objective of this paper, let’s review some of these criteria. The following three criteria are important to evaluating any index. While there are others, such as completion of coverage and availability of data, we’ll focus on these three for the purposes of this paper.

- **Macro consistency.** A benchmark index should meet the objective of being macro consistent. In other words, all investors could, at least theoretically, hold the index. This market clearing property enables an investor to engage in a buy-and-hold strategy, thus reducing turnover and other associated costs.

- **Turnover.** Transaction costs represent very real friction in the management of any portfolio. All investors will incur transaction costs in the normal management of a portfolio. However, index providers ignore transaction costs in the creation of their indexes. Since, a buy-and-hold investor will often only need to transact when the index changes, the majority of transaction costs are driven by turnover. Thus, evaluating turnover is a vital indicator of cost and complexity.
- **Objectivity.** Are the rules or construction methodology objective? Can a manager benchmarked to the index understand and, just as important, replicate the index? By having clear, objective rules, an index provides a more level playing field for all investors. Whether managing a portfolio or measuring a manager, clear rules enable investors to accurately capture benchmark performance.

CAPITALIZATION-WEIGHTED INDEXES

While there is still justifiable debate around the efficiency of markets, the industry has widely accepted the notion that capitalization-based indexes represent the clearest explanation of the market opportunity set. Recently, there has been renewed interest in alternatives to capitalization-weighted indexes and justifiably so. There are good reasons to consider alternatives. While easy to understand, capitalization-weighted indexes do have flaws. The first and most widely voiced critique is that they are biased toward larger capitalization

1. Broad-capitalization indexes of the global equity markets.

securities. This argument has recently been extended to the premise that overvalued securities dominate market capitalization indexes and undervalued securities are under-represented. There is certainly some validity to this argument. While most academic finance is at least somewhat premised on the idea that investors are rational and market prices reflect this, it doesn't take much to question investor rationale. The late 1990s created innumerable opportunities to question investor rationale. This same time period also supported another flaw in market capitalization-weighted indexes. As sectors within the market experience significant price movements, they may suddenly dominate a market capitalization index. Clearly, the technology bubble of the late 1990s was the most recent and obvious example of this phenomenon.

Yet for all their flaws, market capitalization-weighted indexes still provide an excellent basis for index construction. The capitalization-weighted approach to construction, the most widely accepted approach, has a number of compelling and important advantages. These key attributes make market capitalization-weighted indexes an extremely effective tool for passive investment and performance measurement. They are characteristics that are essential for a good benchmark index.

- **Macro consistency.** One primary benefit of the market capitalization approach is macro consistency. In theory, all investors can hold a capitaliza-

tion-weighted index portfolio and be in equilibrium. There would be no excess supply or demand. This benefit is impossible to achieve with any other weighting scheme.

- **Turnover.** Index providers are in the enviable position of being able to effect changes without incurring costs. As all investors know, turnover incurs transaction costs and transaction costs lead to a performance drag. The higher the turnover an index incurs, the greater the transaction costs. A capitalization-weighted strategy is the only weighting scheme that is truly consistent with a buy-and-hold strategy. The index is essentially “self-rebalancing” as the prices of the underlying securities change through time. Structural index changes and corporate events tend to be the only reason why a replicating index portfolio would need to rebalance. As a result, there are few rebalancing costs associated with maintaining a capitalization-weighted index strategy.
- **Objectivity.** Capitalization-weighted indexes express no market view. Rather, they reflect the aggregate perspective on stock price valuation of all market participants. While security valuations are certainly open to debate, the straightforward approach of capitalization weighting is clearly objective. Please note however, that this does not mean all providers provide clear, objective rules for constructing a capitalization-weighted index.²

2. Broad cap paper; *Style Indexes of the U.S. Equity Market 8/04; Why Invest Internationally? Restating the Case for International Equities; Small Cap Comparison: S&P 600 Index and Russell 2000 Index.*

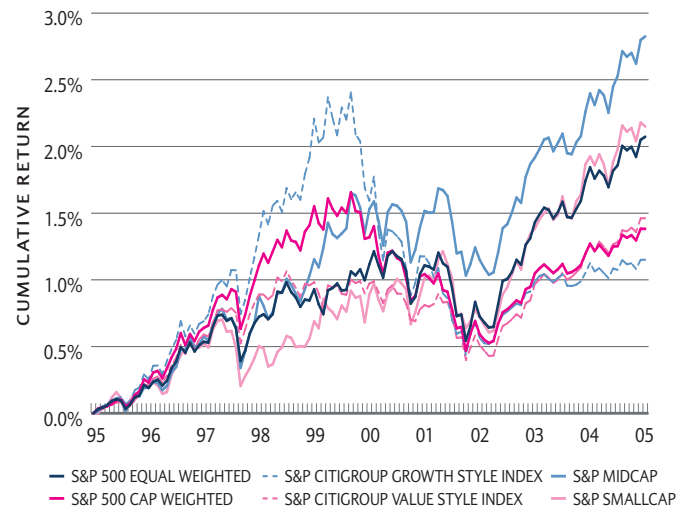
EQUAL-WEIGHTED INDEXES

Equal-weighted indexes were one of the first attempts at addressing some of the perceived flaws within capitalization-weighted indexes. The approach is a direct attempt to deal with perceived overconcentration of large capitalization securities within indexes. An equal-weighted index is just as the name implies—an index where all of the securities have an equal weight. As such, small- and mid-capitalization securities will hold higher weights in an equal-weighted index relative to a market cap-weighted index. Conversely, larger capitalization-weighted securities will have a lower weighting. Therefore, when comparing the returns of an equal-weighted index to a market capitalization-weighted index, one would expect the equal-weighted index to perform more akin to small- and mid-capitalization-weighted indexes. The most widely known index is the Equal Weighted S&P 500 benchmark, which provides a potential alternative to the capitalization-weighted S&P 500. The relative overweight to smaller names in the Equal Weight S&P 500 tilts performance toward that of the S&P 400 Midcap and S&P 600 Smallcap indexes. Chart 1 shows the performance of the Equal Weighted S&P 500 against a series of S&P indexes.

- **Macro consistency.** As noted above, macro consistency entails the ability of all investors to hold the index portfolio and be in equilibrium. There would be no excess supply or demand. It is easy to see that an equal-weighted approach will not accomplish this goal. As prices change, the weightings of

Figure 1

10 years of performance for the Equal Weighted S&P 500



Source: Standard & Poor's, BlackRock.

Index returns are for illustrative purposes only and do not represent actual iShares Fund performance. Index performance returns do not reflect any management fees, transaction costs or expenses. Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results. For actual iShares Fund performance, please visit www.iShares.ca.

the holdings will also change, thus eliminating the equal weighting of the index.

- **Turnover.** Turnover is an area of significant concern when considering an equal-weighted index. A market capitalization index will only require turnover as structurally necessary (i.e., corporate actions or rebalances driven by methodology). An equal-weighted index only achieves the weighting scheme at one point. Once prices change for the constituents, the index is no longer equal weighted. Theoretically, an investor would constantly rebalance the index to maintain an equal-weighted approach. Of course, this isn't possible. So the

challenge facing any provider or manager is determining the correct rebalance frequency. Too frequently and transaction costs become prohibitive; too infrequently and the equal-weighted index will become capitalization-weighted. As such the need to maintain the weighting scheme creates turnover and, thus, transaction costs for investors.

- **Objectivity.** An equal-weighted index approach itself is very objective—weight all the constituents equally. However, relative to a market capitalization-weighted index, it is expressing a view on the market. The equal-weighted approach allows an investor to express a view on the future performance of large-cap over small-cap stocks, but in a less-than-efficient fashion. In effect, an equal-weighted index approach is a portfolio that is underweight large-cap and overweight mid- and small-cap securities. In other words, it has a different beta mix. We believe the existing market capitalization indexes allow investors the ability to combine their asset allocation in such a way as to meet their desired exposures without recourse to equal weighting.

FUNDAMENTAL-WEIGHTED INDEXES

The most recent development in index construction has been around fundamental-weighted indexes. This approach sets aside market values (just as an equal-weighted index approach does) and instead utilizes fundamental values, such as sales, earnings, and book

value for construction. There has been much discussion in the press and academic journals concerning the fundamental-weighting approach. We expect there to be continuing discussion on the merits of the approach as both a benchmark and an investment strategy. Currently, the discussion is focused on two areas: first, that fundamental indexes are an alternative to capitalization weighting; and second, that fundamental-weighted benchmarks outperform capitalization-weighted benchmarks, thus delivering alpha. As with the other approaches, we'll review each criteria for fundamental weighting as a benchmark. We'll then make a few observations (by no means exhaustive) on performance.

- **Macro consistency.** As discussed previously, one of the theoretical advantages of capitalization-weighted indexes is their macro consistency—all investors can hold a capitalization-weighted index portfolio. This essential balance could not be reached if a significant portion of market participants used a weighting scheme based on fundamentals. However, it is likely that a substantial investor base of fundamental-weighted assets could exist before capacity became a concern.
- **Turnover.** As noted, a market capitalization-weighting approach is the only approach that does not require regular rebalancing. Any non-price-based weighting strategy will require regular rebalancing due to ordinary changes in the prices of stocks. In order to maintain the performance and

valuation characteristics of the fundamental approach, rebalancing will need to be relatively frequent and turnover is likely to be relatively high. The usual approach to this issue is to reduce the frequency of turnover to reduce costs. Remember, the less frequently a non-capitalization index is rebalanced, the more it trends toward a capitalization-weighted index.

- **Objectivity.** The importance of index transparency and objectivity cannot be overstated, but they are not always given appropriate consideration. A fundamental-weighting approach appears to be less objective in its construction. If the data used to calculate the fundamental weights is proprietary in nature or cannot be easily replicated with publicly available data, the index may not be adequately transparent. Additionally, the supplier of the fundamental weights essentially controls the representation of companies within the index and, hence, its performance. To evaluate the objectivity of the index, one must become comfortable with the methodology and the source of the data used to determine the weights.

PERFORMANCE OF NON-CAPITALIZATION WEIGHTED INDEXES

The use of inappropriate benchmarks for ascertaining true manager skill has long plagued the investment management industry. BlackRock has long been a proponent of objectivity and transparency in index construction and believes that clearly defined rules are necessary to utilize indexes as benchmarks. The measurement of fund performance and, in turn,

Figure 2

Key Index Criteria	market cap	fundamental
	▼	▼
Low turnover and maintenance costs	✓✓	✓x
Appropriate level of liquidity and investability	✓✓	✓✓
Disciplined and objective construction rules	✓✓	✓x
Based on publicly available information	✓✓	✓x
Acceptable as a neutral position	✓✓	xx

Source: BlackRock.

manager success requires an objective benchmark relevant to the manager under the microscope. If, for example, a small-cap index was used to evaluate a large-cap traditional active manager, then performance will be dominated by the size bias inherent in the benchmark rather than the stock-picking skills of the manager.

Most alternative-weighted indexes have exhibited periods of better performance relative to some capitalization-weighted indexes. As noted in Figure 1, this is fairly easy to understand and predict. The nature of the indexes' construction methodologies drives this performance, primarily because non-capitalization-weighting schemes merely introduce different beta or style exposures. A cursory examination of the constituents of a fundamental

constructed index will lead to the conclusion that it has both a mid- to small-cap bias and a bias toward value stocks. The first bias is a direct result of not employing a market capitalization methodology, meaning a fundamental-weighted index will, generally, overweight smaller capitalization names relative to a market capitalization-based index. The value tilt arises simply because companies with smaller valuation multiples have relatively larger fundamentals compared to their market capitalization. Consider companies that invest heavily in future growth, which is the case for many technology related firms. These companies will often have low or even negative reported earnings and carry high P/E multiples. They will, therefore, account for a much smaller proportion of the fundamental-weighted index in which emphasis is placed upon income or book value.

A capitalization-weighted index expresses no market view and reflects the aggregate perspective on stock price valuation of all market participants. As such, capitalization-weighted indexes are an objective benchmark against which all investors can compare themselves. The same cannot be said of a fundamental-weighted index.

CONCLUSION

With respect to whether fundamental-weighted indexes are superior to capitalization-weighted indexes, it would be hard to support the idea of using them as policy benchmarks. While they may offer a complement to existing index strategies, we believe market capitalization-based indexes should remain the policy benchmark of choice for investors.

Do alternative weighing schemes outperform capitalization-weighted indexes? The investment rationale behind indexes based on fundamentals is that price fluctuations are driven as much by sentiment and speculation as by a company's actual business metrics. This means that at times, share prices can deviate from "fair value" as investors over- or undervalue individual companies. On these occasions, capitalization-weighted portfolios overweight overvalued stocks and vice versa for undervalued stocks, which gives capitalization-weighted portfolios an inherent "negative alpha." Analysis has shown that alternative weighting schemes actually introduce beta tilts. In effect, these indexes are delivering different beta mixes to the investor. There is no evidence to support a sustainable, consistent delivery of alpha via research signal information. This is not skillful active management; rather, an assumption that symmetrical errors in value occur that can be systematically exploited (i.e., mean reversion).

Delivering alpha to investors remains a difficult task, and the introduction of alternative-weighted indexes is not necessarily a step in that direction. Rather, it is a way for investors to beta tilt a portfolio. However, this same tilt can be accomplished by using capitalization-weighted indexes. Just as we are believers of transparency in index construction, so are we believers of transparency in portfolio construction. Should an investor wish to tilt a portfolio to meet their objectives, we encourage them to do so. We just encourage them to do so explicitly.

This publication is intended for accredited investors in Canada only.

iShares® Funds are managed by BlackRock Asset Management Canada Limited. Commissions, management fees and expenses all may be associated with investing in iShares. Please read the relevant prospectus before investing. The funds are not guaranteed, their value changes frequently and past performance may not be repeated. Tax, investment and all other decisions should be made, as appropriate, only with guidance from a qualified professional.

©2009 BlackRock Asset Management Canada Limited. All rights reserved. iShares is a trademark of BlackRock Institutional Trust Company, N.A. All other trademarks, servicemarks or registered trademarks are the property of their respective owners. 023-11/09

For more information:

WWW.ISHARES.CA

1-866-486-4874

