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Can Market Indices Be More Effective Portfolio Benchmarks?

Index: *a statistical indicator providing a representation of the value of the securities which constitute it. The index value represents some average of the prices of the component securities.*

Investorwords.com.

Beginning in the 1880s, market participants began using indices to track and measure stock market performance. It all began with journalist Charles Dow's average of 11 mostly railroad companies designed to help investors determine whether stocks were generally rising or falling. Today, there are dozens of indices tracking markets worldwide, measuring trends among small-, mid- and large-capitalization companies, gauging different investment styles and focusing on specific industries. The analysis of these indices can help us evaluate

- how a given pool of assets has performed over time;
- how an investment manager has performed compared to an index;
- which sectors or industries are leading an index.

Market indices are used in establishing performance benchmarks or proxies, developing investment policy statements, devising asset allocation strategies, conducting risk analyses and constructing passive investment products. For portfolio managers, the index benchmark may define the investment universe, help determine sector weightings and be used to measure ongoing performance. Likewise, the benchmark chosen for an investment policy helps shape asset allocation and other investment decisions, and is used to measure progress toward goals. Indices have also become purchasable and replicable vehicles for passive investment strategies, including index mutual funds and exchange-traded funds.

Ideally, the index chosen should accurately capture the investment characteristics of the portfolio or asset class in question. According to the CFA Institute's Subcommittee on Benchmarks and Performance Attribution, choosing a bad or inappropriate benchmark can undermine the effectiveness of an investment strategy and lead to dissatisfaction between client and manager.

This paper seeks to provide investors with a better understanding of the different ways indices can be structured and managed. This can help investors choose an appropriate benchmark and also help financial advisors manage client expectations when benchmarking to a particular index. We use two index providers, Russell and Standard & Poor's, to review the ways their indices are constructed and rebalanced, and the differences in performance and composition. We also discuss other considerations that can help investors more accurately compare portfolio results with a benchmark.

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Two Index Providers: Similar Index Names but Very Different Indices

At first glance, the U.S. indices calculated by Russell Investments and Standard & Poor's would seem to be similar. Although both families of indices are market-capitalization weighted, a closer look reveals some major differences.

Russell

Russell indices are *objectively* constructed; stocks are included in one of Russell's four primary indices based purely on the market capitalization of each company. Each year, Russell ranks all U.S. common stocks from smallest to largest based on market capitalization (excluding stocks trading below $1, pink sheet and bulletin board stocks, closed-end funds, limited partnerships, royalty trusts and all non-U.S. incorporated stocks).

The results are these indices:

- **Russell 1000™**
  the largest 1,000 U.S. stocks
- **Russell 2000™**
  the next 2,000 stocks
- **Russell 3000™**
  the top 3,000 stocks (approximately 99% of the U.S. equity market)
- **Russell Microcap™**
  the smallest 1,000 in the Russell 2000 Index plus the next smallest 1,000 stocks

Those stocks are then assigned to growth or value style indices using a mathematical score. Each stock in the Russell 1000 and Russell 2000 is ranked by two variables: book-to-price ratio and I/B/E/S forecast long-term growth mean. Those variables are combined to create a composite value score (CVS) for each stock. In general, a stock with a lower CVS is considered growth and one with a higher CVS is considered value.

Approximately 30% of the stocks typically have a middle range CVS and are therefore considered to have both value and growth characteristics. As such, they are weighted proportionally in the growth and value indices. For example, a stock that is given a 20% weight in a Russell value index will have an 80% weight in the same Russell growth index. The Russell style indices, therefore, are not mutually exclusive. Specifically, as of June 2008, nearly 300 companies were in both the Russell 1000 Value Index (which had 618 companies in total) and in the Russell 1000 Growth Index (which had 685 companies in total).

Russell reconstitutes all its indices annually at the end of June based on closing prices at May 31. Each quarter, it also adds eligible IPOs and spin-offs to appropriate indices.

Standard & Poor's

Standard & Poor's maintains these three primary U.S. indices:

- **S&P 500 (Large Cap)**
  Covers about 75% of the U.S. equities market. Stocks have a market cap above $4.5 billion.
- **S&P 400 (Mid Cap)**
  Covers 7% of the U.S. equities market. Stocks have a market cap range of $1 billion - $4.5 billion.
- **S&P 600 (Small Cap)**
  Covers 3-4% of U.S. equities market. Stocks have a market cap range of $300 million - $1.5 billion.

Standard & Poor's indices are *subjectively* constructed and maintained by the S&P Index Committee, a team of Standard & Poor's economists and index analysts that meets on a regular basis. In order for a stock to be added to an index, it must meet these six criteria in addition to the market cap requirements:

- Be a U.S. company
- Have a minimum public float of 50%
- Have at least four consecutive quarters of positive earnings
- Have adequate liquidity and a reasonable price
- Contribute to overall sector balance in the index
- Be an operating company (which excludes closed-end funds, holding companies, partnerships, investment vehicles and royalty trusts)

Stocks remain in the indices until the Index Committee determines they should be removed. In order to minimize unnecessary turnover, only companies that substantially violate one or more of the criteria are removed.

S&P also has two series of style indices: Style and Pure Style. For the Style index series, S&P divides the complete market capitalization of each parent index (the S&P 500, 400 and 600) into approximately equal growth and value indices, while limiting the number of stocks that overlap between them. These indices are market-cap weighted. The Pure Style indices include only stocks that are either strong growth or strong value stocks. These indices are weighted based on style scores.

Unlike Russell, S&P calculates the style scores using three growth measures (5-year earnings per share, 5-year sales per share and 5-year internal growth rate) and four value measures (book-to-price, cash flow-to-price, sales-to-price and dividend yield). Without detailing the entire calculation, it is sufficient to say that the two companies use very different methods of determining which stocks are value and which are growth. S&P style indices are updated annually, on the third Friday of each December.

Comparison of S&P and Russell Indices

	S&P	Russell
Parent Index Selection Process	Conducted by Index Committee based on market cap and six additional criteria.	Based only on market capitalization.
Style Index Selection Process	Style scores calculated using three growth measures and four value measures.	Style scores calculated using book-to-price and I/B/E/S forecast growth mean.
Rebalancing/Reconstitution	Conducted as needed for parent indices by Index Committee. Style indices reconstituted annually.	All indices reconstituted annually.
Mutually Exclusive Indices?	Parent indices: No. Style Indices: No. Pure Style indices: Yes.	No.

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What Do the Differences Mean?

Because of the differences in their selection processes and rebalancing policies, the S&P and Russell indices have very different compositions and variable historical performance records. To compare holdings, we chose to look at the small-cap universe, where the choice of benchmark is less clear-cut than among large-caps. While other indices exist, the Russell 2000 and the S&P 600 are currently the top two small-cap benchmarks in the market. The tables below show the top 10 holdings and sector weightings for the Russell 2000 Growth Index and the S&P 600 Growth Index:

Russell 2000 Growth		
Top 10 Holdings (3/31/08)	Sector Weightings (3/31/08)	
Hologic, Inc.	Consumer Discretionary	15.72
Alpha Natural Resources, Inc.	Consumer Staples	2.26
Bucyrus International, Inc.	Energy	8.95
FLIR Systems, Inc.	Financials	8.27
Priceline.com, Inc.	Health Care	19.96
Walter Industries, Inc.	Industrials	17.20
Illumina, Inc.	Information Technology	21.78
Terra Industries, Inc.	Materials	4.05
ANSYS, Inc.	Telecommunication Services	1.05
BioMarin Pharmaceuticals, Inc.	Utilities	0.64
	Other	0.12

S&P 600 Growth		
Top 10 Holdings (3/31/08)	Sector Weightings (3/31/08)	
Cabot Oil & Gas	Consumer Discretionary	15.92
FLIR Systems, Inc.	Consumer Staples	3.22
Oceaneering Int'l.	Energy	14.56
Trimble Navigation Ltd.	Financials	8.08
Pediatrix Medical Group	Health Care	16.94
IDEXX Laboratories	Industrials	15.75
Helix Energy Solutions	Information Technology	22.20
MICROS Systems, Inc.	Materials	3.09
Landstar System, Inc.	Telecommunication Services	0.08
ANSYS, Inc.	Utilities	0.15

Only two stocks are common to both top-ten holdings lists: FLIR and ANSYS. The sector weightings of the two indices are also quite different, especially in energy, health care and telecommunication services. It's no wonder then that the two indices, both of which claim to measure small-cap stocks, have different historical performance records. In fact, from 1994 to 2005, the S&P 600 index substantially outperformed the Russell 2000 index in every period but one. In 2006 and 2007, the trend reversed and the Russell outperformed by 281 and 145 basis points, respectively. As of April 30, 2008, the S&P index was once again in the lead.

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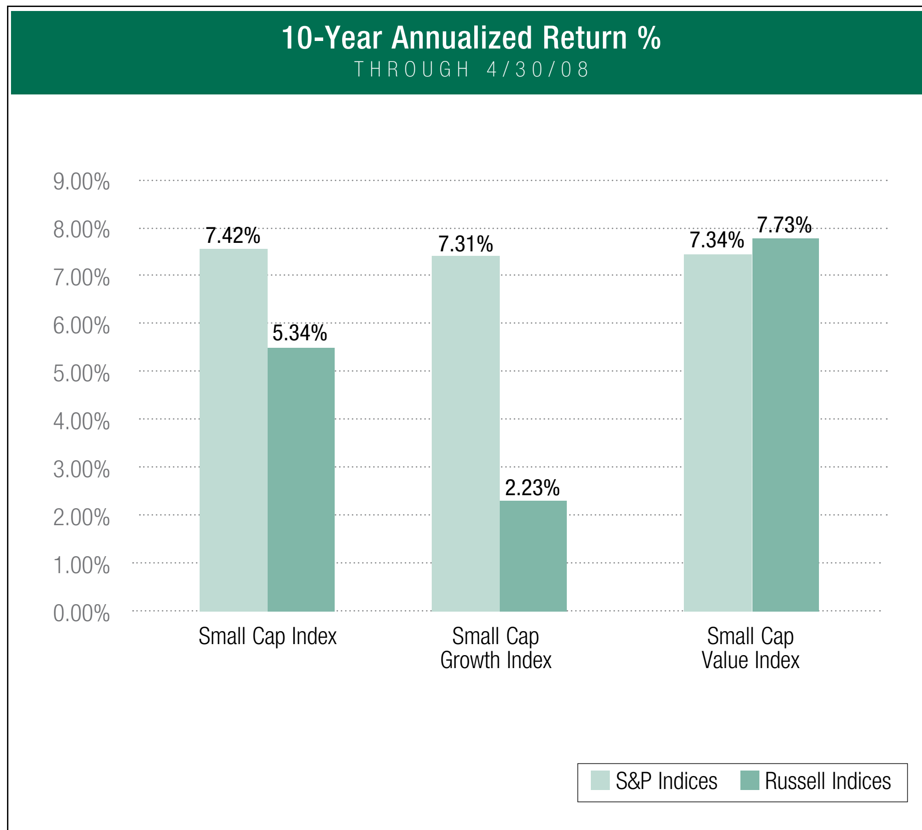
A look at annualized returns from the past 10 years shows there is indeed a significant performance disparity. However, the S&P performance advantage does not hold for the value indices. Nevertheless, a manager that appears to outperform the market when compared with one index may not when compared with another, making it important to understand how a given manager invests before choosing a benchmark.



For the ten years ended 4/30/08, the S&P small-cap and small-cap growth indices have significantly outperformed the Russell small-cap and small-cap growth indices. An investment manager who performs well versus the Russell indices may not when compared with the S&P indices.

Source: Journal of Indexes (IndexUniverse.com)

Explaining the Performance Difference

Much research has been conducted to explore the performance gap between the S&P 600 and Russell 2000 growth indices. One study published by Institutional Investor Journals points out that the Russell methodology does not filter out companies which may have negative earnings but whose market capitalization has been dramatically inflated by earnings expectations. In addition, the S&P 600 seems to have more stocks on the larger market cap side, while the Russell 2000 has more Nasdaq-listed companies. However, the study reveals that the entire performance differential may be explained by the "July effect." Because Russell reconstitutes on the same date each year (late June), there is the opportunity for investors to sell the stocks that are likely to leave the index (depressing those values) and buy those that are likely to be added to the index (inflating those values) prior to the actual reconstitution. As a result, stocks join the index at artificially high prices, which then correct during the month of July, dragging down the performance of the index. After adjusting for this downward bias, much of the performance advantage of the S&P 600 fades away.*

* "Russell 2000 Versus S&P Small Cap 600: Beauty Is in the Eye of the Beholder." Reprinted from A Guide to Small Cap Investing by Seddik Meziani.

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Other Considerations for Index Selection

These other factors should also be considered before choosing a given index as a gauge for measuring a portfolio's results.

Rebalancing

Like some indices, many investment managers rebalance portfolios on a schedule, quite often more than once a year. In addition, they would consider the fundamental prospects for each company as well as stock price and market cap when making buy and sell decisions. They would also take great care in timing those transactions. Unlike an index, the manager's goal is to buy low and sell high. On the other hand, the very act of removing a stock from an index after its market cap has fallen below a minimum threshold is, in effect, "selling low."

For these reasons, investors should expect a performance difference between a professionally managed account and a market index. Understanding how the investment manager approaches rebalancing can help the investor choose an appropriate benchmark.

Capitalization Ranges

As we have seen, similar style indices can be comprised of very different stocks, which may or may not correspond with the universe of stocks considered by a given investment manager. For example, the Russell 2000 small-cap universe is comprised of the difference between Russell's large-cap 1,000 and its investable universe of 3,000 companies. However, according to IndexUniverse.com,[1] while large-cap managers tend to stop buying at the 1,000th ranked company, small-cap managers stop buying near the 500th market-cap-ranked company. Companies ranked between 1,000 and 500 are excluded from the Russell 2000 Small-Cap Index but are, in fact, among the companies in which a small-cap manager might invest. When choosing a benchmark index, it helps to know the market cap parameters your investment manager uses.

Individual Company and Sector Weights

Many stock market indices are capitalization-weighted. The weight represented by each company in the index equals the market cap of that company divided by the total market cap of all the companies in the index. The companies with the largest weights will influence the value of the index more than those with lower weights.

In June 2008, the total market cap of the S&P 500 was $12 trillion. The largest company in the index was Exxon Mobil Corp. with a market cap of $474 billion. Its weight in the index was 4.01%. The smallest company was Dillard's with a market cap of $817 million. Its weight in the index was 0.007%. Even if Dillard's posts strong performance during a quarter, its influence on the index value will be negligible. On the other hand, the performance of Exxon Mobil will move the index meaningfully. In fact, the 10 largest companies in the S&P 500 represent just under 20% of the index. That's quite a lot of influence in the hands of a small number of companies. As a result, when comparing a portfolio's performance with that of a cap-weighted index, investors must realize that the portfolio may lag the market one quarter simply because it was significantly underweight in one stock compared with the index.

The same is true for industry sectors. The weight of any sector in a cap-weighted index equals the sum of the individual weights of the companies that make up that sector. Therefore, the sector weights don't really reflect the number of companies in each sector but rather are a function of the size of the companies in each sector.

In addition, since the Russell selection process does not factor in sector weightings, it is possible that volatility and returns from the index could be heavily influenced by one booming sector. On the other hand, sector weighting is one of the selection criteria for the S&P Index Committee. To the extent S&P manages exposure to a booming sector, its indices may be less prone to this volatility.

When advisors review portfolios with clients, it can help to understand where the market leaders were, in terms of both stocks and sectors, in order to make a better comparison with the investor's portfolio.

Changes in Index Composition

Investors with a buy-and-hold strategy should also be aware that the index they use as a benchmark today will likely be very different five or ten years from now. Many new companies will join the list. For example, the Russell 1000 Growth Index has 158 more companies in it today than it did in 1999. In addition, some companies will move from value to growth or vice versa. A comparison of the Russell 1000 styles indices in 1999 and 2008 shows that the following companies (among others) moved from the Russell 1000 *Growth* Index to the Russell 1000 *Value* Index.

- Amgen
- Avon Products
- General Electric
- Home Depot
- Eli Lilly
- Novell
- RadioShack
- Sanmina-SCI Corp.
- Sun Microsystems
- Time Warner
- Wal-Mart Stores
- Waste Management
- Xerox

[1] Robert J. Wald, "Examining Small-Cap Manager Investable Universes." Trading Places. May/June 2008. InvestorUniverse.com.

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Effective Benchmarking in Action

Which index is the best benchmark? There are as many good answers as there are portfolios. In some cases, it may be useful to use primary and secondary benchmarks for different elements of a portfolio.

Armed with a better understanding of index construction and rebalancing, investors can choose portfolio benchmarks that better reflect the way their own assets are managed. In any active management strategy, there will be disconnects between index policies and manager policies. By identifying these, financial advisors can help investors better scrutinize portfolio results. At a minimum, investors should understand the shortcomings of indices and recognize that their portfolios may outperform or underperform for a variety of reasons.

At Flippin, Bruce & Porter, we are dedicated to helping financial advisors implement successful investment solutions with their clients. If you have any questions, please contact us.

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