On Indexes and Benchmarks

By Dr. Frank A. Sortino, Director

The Pension Research Institute, LLC

Indexes are big business. $Trillions are invested in passive index funds, generating management fees and royalties for the index developers. Index developers also get paid for other services like providing the details of the composition of their indexes. It's a multi-billion dollar industry where huge marketing campaigns tout the advantages of certain indexes over others. In this article we examine the uses of indexes and establish characteristics that should be ideal for these uses. In this way we can decide which indexes really are the best for each of our various needs.

Indexes serve three major purposes:

- Benchmarks for evaluating investment manager performance
- Barometers of growth in segments of the market
- Passive investment portfolios

In the following we examine each of these uses separately by an objective set of criteria. Then we can see which indexes best meet these criteria.

Investment Performance Benchmarks

A benchmark is a point of reference for evaluating the success or failure of an investment manager. Before we understood the effects of style it was common to use a single index, like the S&P500, as a benchmark for most managers. But Nobel award recipient Dr. William F. Sharpe changed all that with his introduction of returns-based style analysis. Regrettably, many consultants continue to employ

methodologies that ignore the statistical fact that all managers are a blend of passive style indexes and should therefore be compared to a custom benchmark. But which indexes work best in returns-based style analysis? For the answer you need look no further than Dr. Sharpe's own article that introduces the concept [Sharpe,1988]. Here are Dr. Sharpe's recommendations for what has come to be known as the "style palette":

- Mutually exclusive (no stock should be in more than one index)
- Exhaustive (all stocks should be included)
- Investable (It should be possible to replicate the performance of each index for a low fee)
- Macro-consistent (The aggregation of the indexes should be the entire market)

The reader should note that each of the popular indexes do not meet 2 or 3 of these criteria.

Barometers of Market Segment Behavior

It is no longer sufficient to know only how the entire stock market is performing. We want to know what types of stocks are winning or losing – big or little, value or growth. This gives us information for understanding the performance of our own portfolios and for making judgments about the future. In establishing market components, company size is usually broken into 3 or more segments – large, middle, and small. But the orientation within size is generally broken into only 2 segments – value and growth. We've discovered that this is a mistake, that there is something in between value and growth. It is called core and was identified in 1992 by Ron Surz, president of PPCA-inc, and last year became available in the iShares series on the American Stock Exchange. There are degrees of value and growth, so

some growth stocks are more aggressive growth than others, and some value stocks are deeper value than others. And some stocks have characteristics that are not clearly value or growth – they're the stuff in the middle. The Russell indexes deal with this issue by pro-rata allocating these fuzzy stocks into both value and growth. The S&P Indexes ignore the problem altogether by drawing a hard line that divides half of the market into value and half into growth. We will now show why the Surz indexes are the superior alternative.

Empirical investigations conducted at the Pension Research Institute (PRI) show several important benefits of including core in the family of indexes. The first benefit is a result of the fact that core doesn't always behave in between value and growth, as one would expect. About a third of the time core surprises by either outperforming or underperforming both value and growth. In other words, core tells you more than you would know by simply knowing value and growth, so it is a good diversification partner for value and growth. This should be no surprise. Mid-cap doesn't always perform in between large and small. Secondly, we note that the popular indexes disagree about 10% of the time, with one provider saying growth performed better than value while another says the reverse. In most of these cases the differences are explained by core, and how it is allocated differently within index families. Lastly, we find that having core as a passive option frequently helps us complete our portfolio construction, as described in the next section.

Passive Investment Portfolios

We believe in active-passive investing, which could be core-satellite, but we favor a more generalized approach. In our approach we begin by identifying managers who have skill, a challenging task but one that we are comfortable undertaking.

Our talent search hinges on a style-and-risk adjusted performance measure we call "Omega Excess." Importantly, we don't care much about a manager's style profile as long as he adds value relative to that profile. This contrasts to the currently popular approach of demanding purity in a single style, like large cap growth. Once we have developed a talent pool we construct portfolios that draw from this pool in a way that achieves diversification and maintains style neutrality while adding as much value as possible. Managers come into solution as style blends, filling our style buckets accordingly. Then diversification and style neutrality are attained by filling in voids with passive investment portfolios. In other words we go passive in the parts of the market where we do not find talent. Most often we find that our optimizer calls for passive core. Yes, the family of indexes we use includes core. We suspect that what we're seeing is a tendency for managers to excel at growth or value, and to sell companies that no longer meet their criteria for inclusion, namely the stocks in the middle. Interestingly this tendency to add passive core creates a core-satellite type solution although this structure is not pre-ordained by our approach.

When we first started our research we used one of the popular family of indexes, probably the same indexes you use, but then one day a personal friend persuaded us to try something new, and we're glad we did. Surz indexes do a marvelous job in style analysis and in portfolio optimization. They are our preferred choice for all 3 uses of style indexes because they meet all of the criteria that we have established in the preceding. We describe why in the next section.

Surz Style Indexes

Now we'll reveal the details of the indexes that, in our opinion, best meet the criteria for all 3 uses that we've set forth. Surz indexes are mutually exclusive and

exhaustive, and include core. We've used these indexes for 5 years now and find that they do everything we want to do much better than the popular indexes. And the rules are straightforward. Surz indexes break out value, core, and growth stock groupings within each market cap segment by establishing an aggressiveness measure that combines dividend yield, price-to-earnings ratio, and price/book ratio. The top 40% (by count) of stocks in aggressiveness are designated as growth, while the bottom40% are called value, with the 20% in the middle falling into core. Market size segments define "large cap" as the top 65% of the capitalization of the stock market, mid cap as the next 25%, and small cap as the remaining 10%. No magic here; just common sense. Sometimes the simplest approaches are the most elegant and useful.

Conclusion

Our interest in writing this paper is to improve the quality of financial analysis and investment decisions. The Surz indexes are superior to other alternatives by objective statistical analysis. It is not a matter of opinion. It is a statistical fact. In the interests of full disclosure, we do enjoy a collegial relationship with Mr. Surz as a result of working with his indexes. However, we do not engage in pay to play or pay to say schemes and receive no remuneration for any revenues received by Mr. Surz for these indexes.

Reference:

Sharpe, William F., "Determining a Fund's Effective Asset Mix." *Investment Management Review*, December 1988, pp 59-69.