

MAY 2007

Large Cap and Small Cap in the Global Market



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Similar in design to our family of U.S. Indexes, the Russell Global Index provides a significantly more consistent and accurate representation of global equity markets.

As investors have begun, in recent years, to view opportunities in global investing differently, Russell too looked at global benchmarks and determined there was a better way to measure this rapidly expanding opportunity set. Existing global equity index families are more assemblages of national indexes rather than members of a globally consistent index family. Further, some index providers still use sampling procedures that result in uneven coverage of the targeted segments. In contrast, Russell applies a simple formula for defining company eligibility in its indexes: if a company is investable from the perspective of a global investor, it is in the Russell Global Index. Investability is determined based on legal, political, institutional and liquidity considerations that are applied in a globally consistent manner¹. This approach results in a broad global equity index which is divisible into thousands of modular indexes, and covers over 98% of global equity.

Russell's observation of global manager behavior has shown us that managers are increasingly seeking equity investments regardless of their geographic location. It has never been easier to do so. In addition to the growth and competitive performance of global equity markets, technology is transforming their function with the advent of electronic exchanges. The design of the Russell Global Index capitalizes on this new world of opportunity by focusing index inclusion, first, on the characteristics of companies themselves instead of possibly delaying company membership from a particular country because of legacy index constraints or other subjective biases.

Equally distinctive is our decision to design the Russell Global Index with global definitions of company size as opposed to most global index providers, who classify companies into capitalization size tiers such as large and small cap using country-relative standards. The country-relative approach to indexing can distort global and regional capitalization indexes. Companies may be defined as large-cap, for example, if they are among the largest companies representing a set percentage of its country's market capitalization. The result is that it is possible to find a "small" \$10+ billion company in one country and a "large" \$500 million company in another country using the same percentage-based market capitalization criteria. Placing a \$10+ billion company into a global small cap index results in undue impact on index performance compared to its much smaller "peers" from other countries, and an inaccurate representation of the global small cap market.

Russell carefully researched issues regarding this design decision and determined that using global definitions of company size leads to indexes that more consistently represent both manager practice and the global equity universe. Barry Feldman and Kelly Haughton's Russell Research Commentary to be published later this year, *Design of Capitalization Size Tiers for the Russell Global Indexes*, presents the results of this research. A synopsis is presented here.

¹ For details see the Russell Global Equity Indexes: Construction and Methodology, Russell Investments, January 2007

Manager behavior, as reflected in the Russell Manager Database, is found to provide no justification for country-relative company size definitions. We investigated the relationship between the size of the smallest company of a given developed country in a manager's portfolio and that country's particular capitalization percentiles. We compared the 80th percentile of each country's capitalization range, which is used by some index providers as the country relative capitalization size threshold for determining small and large cap, to the smallest company in that country actually held by investment managers. For example, we found that the median smallest Irish company held by an international manager, as of June 2006, had a market capitalization of \$7.2 billion while the 80th percentile capitalization level in Ireland was a much smaller \$4.2 billion. On the other hand, the median smallest French company had a market capitalization of \$5.1 billion, while the 80th percentile capitalization level for France was a much larger \$8.2 billion. These conflicting results are not at all exceptional. The average correlation between median smallest company and country capitalization percentile is only 18% across four manager universes (reflecting nearly 1,000 manager portfolios) and three percentiles (80, 85 and 90). There appears to be no evidence, therefore, that managers investing in companies in developed countries do so on a country-relative basis.

We next compared the size distribution of manager holdings in companies in emerging countries to those in developing countries. Since companies in emerging markets are, on average, smaller, country-relative index design will represent manager practice if the floor on company capitalization is lower in emerging markets nations than in developed. We find the opposite pattern. For managers in the Russell non-U.S. universe, the median smallest emerging markets company is approximately two times the size of the median smallest developed markets company.

Statistical analysis of different index designs indicates that global definition of company size most effectively distinguishes large and small cap companies. Reason implies that the preferred index design is the one with the lowest correlation between large and small cap index aggregates. Further, this will be the index design that provides the investor with the widest range of investment choices and diversification possibilities. For our analysis, we use global and country-relative rules to create hypothetical indexes based on the 80, 85 and 90th percentiles. All indexes are based on the same universe of companies, the Russell Global Equity Universe of approximately 10,000 securities, over the period June 30, 2001 to December 31, 2006. For each percentile, the "excess correlation" of the country-relative index over the global cap tier design is presented in Table 1, with the statistical significance of the difference presented below it.

Table 1: Correlation comparison of global and country-relative indexes.

Comparison	Global	Global ex-U.S.	Developed	Emerging	Developed ex-U.S.-Canada
Country Relative 80 – Global 80	2.36%	4.12%	2.11%	5.44%	5.24%
Statistical Significance	0.002	0.000	0.004	0.000	0.000
Country Relative 85 – Global 85	1.97%	3.62%	1.84%	5.51%	5.25%
Statistical Significance	0.001	0.000	0.004	0.000	0.000
Country Relative 90 – Global 90	1.66%	3.04%	1.59%	5.01%	4.29%
Statistical Significance	0.003	0.000	0.003	0.000	0.000

For every region studied, indexes based on country-relative capitalization percentiles have higher correlation between large and small cap indexes than indexes with global cap size definitions, demonstrating that global definition of company size more effectively distinguishes small cap from large. All differences are significant at the 0.5% level.

In the construction of the Russell Global Index we started with our pioneering and now industry-standard U.S. index methodology and added key global considerations such as a company- and global-relative capitalization-based approach to develop global indexes that represent the market, are objective, transparent and passively replicable at a reasonable cost. In other words, true benchmarks of global equity performance.

For more information on the Russell Global Indexes, including our Construction and Methodology document, please visit our website at www.russell.com/indexes.

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