

# EQUITY STYLE ANALYSIS

## Issues and Methodology

CALLAN ASSOCIATES<sup>®</sup>  
*knowledge for investors*

Callan requests composite performance data and representative holdings on over 5,000 actively managed separate accounts and commingled products (representing more than 1,200 firms) on a quarterly basis. Qualitative information about a product's investment philosophy and research process is requested on an annual basis. Even though such data is structured as a quarterly or an annual time-series, asset managers are able to update their product's information anytime. On an on-going basis, this data is supplemented by commentaries and observations from over 1,200 meetings that Callan's Global Manager Research specialists conduct with asset management firms every year. Participation in Callan's databases is voluntary and free of cost.

Built and maintained entirely in-house, Callan's database is used in every Callan manager search and fund sponsor report, to create style groups, and in the firm's research and customized consulting work. Callan's database represents virtually all of the products that have been marketed to the US tax-exempt institutional investors over the past 30+ years.

By not restricting universes to asset managers that share direct or indirect client relationships, Callan not only covers a more expansive set of firms, but also eliminates two sources of "survivorship-bias."

- Termination of a "client" relationship has no affect on inclusion in, or exclusion from, any style universes. The investment product or management organization would have to cease to exist entirely in order for it to be automatically dropped from our universes. If this were not the case there would be a systematic "survivorship-bias" as "terminated" and underperforming products would be dropped from the style universe only to be replaced by relatively better performing products over time.

- Style groups maintain the historical membership irrespective of the current status of a product; the track record of a product and other associated data is never deleted from Callan's databases and style groups.

Callan does not place all the products and composites it receives data on into "style groups." We employ broader, asset class-based "database groups" to hold this information for more general performance comparisons, and as a starting point for the more detailed analysis that is employed in the creation and maintenance of style universes. Significantly less than half of the funds we receive data on pass the multiple screens required for inclusion in a style group. This results in styles that are sufficiently specific and "pure" — their risk / reward profiles and performance cycles are distinct, distinguishable and relevant.

The purpose of style groups is to create benchmarks for actively managed products using GIPS-compliant composites, not client manager accounts. The patterns of returns are more relevant than the “quality” of returns and consistency of style over multiple time-periods is emphasized — particularly when a style is out-of-favor. As such, style groups are “narrower” peer groups focused on “purity” and “consistency,” and should not be confused with “search” groups, which are “broad” asset class groups. Callan’s search process does not use style groups’ as the starting universe.

The method of style analysis used in the construction and maintenance of Callan Style Groups is both quantitative and qualitative in nature, taking advantage of several types of data about a given candidate. During the style analysis process we look at several elements of portfolio characteristics and attempt to verify apparent investment styles with the manager’s stated investment philosophy, strategy and risk-return patterns. The short-listed candidates are subjected to rigorous back-testing to validate their candidacy. There are three main analytical steps or “screens” that an investment product goes through as a candidate for inclusion in a style group. These three steps are outlined below.

**1) Portfolio Characteristics** – Equity Style Analysis is a three-dimensional time-series evaluation of a portfolio’s holdings relative to other portfolios in the same asset class, relevant benchmarks and existing style groups.

The first dimension is capitalization, as defined by a portfolio’s Weighted Average Market Cap, Weighted Median Market Cap and a portfolio’s allocation to large, medium and small cap stocks.

The second dimension is a portfolio’s tendency to be “growth”, “value” or “core.” Callan has adopted the growth/value Z-score philosophy<sup>1</sup> to evaluate this dimension. Portfolio level growth and value Z-scores are derived from the underlying holdings and the individual stock level Z-scores. By considering both the growth and value Z-scores of a portfolio, one can evaluate whether the portfolio is truly growth, truly value, neither growth nor value, along with its relative style extremity.

The third dimension is a portfolio’s allocation to relevant country / region; this is particularly useful when the researcher is evaluating international/global styles.

---

<sup>1</sup> The growth/value Z-score methodology was pioneered by MSCI. It uses three value factors – Book Value / Price, 12-month forward Earnings / Price, Dividend Yield, to determine a value Z-score for individual stocks and five growth factors – Long Term Forward EPS Growth Rate, Short Term Forward EPS Growth Rate, Current Internal Growth Rate, Long Term Historical EPS Growth Rate, and Long Term Historical Sales/Share Growth Rate to determine a growth Z-score for individual stocks.

**2) Stated Investment Strategy Evaluation** – The manager’s stated investment strategies / processes are a good way to verify that the observed characteristics are the result of a conscious decision on the manager's part to employ investment strategies normally associated with that management style. Verifying this intent maximizes the likelihood that managers placed in a style will maintain it in the future, thereby benefiting from the consistency and "purity" of the Callan Style Group going forward, and minimizing group membership turnover due to style-drift.

This step in the process — along with portfolio characteristics analysis — aids the researcher in distinguishing between styles that may behave similarly with regard to performance, over some but not all time periods. By combining both holdings and strategy screens we avoid "false positives" due to temporarily similar style behaviors, or unintended correlation as a temporary by-product of an intuitively unrelated investment strategy. In addition to evaluating the qualitative information provided by the manager, Callan adds additional value through its institutional knowledge of investment firms and their products obtained through years of meeting with the firms and evaluating their products for our clients. A seasoned asset-class search specialist reviews the short list of candidates for potential “false-positives.”

**3) Back testing** – Candidates short-listed for inclusion are now grouped into their relevant style buckets. Distributions of returns, risk, and tracking error are looked at over multiple time periods to test for the “consistency” and “purity” of a portfolio’s investment style. Theoretically, style analysis based upon the first two steps should lead to selecting portfolios whose risk-return profiles are “pure” and “consistent.” Back testing provides the necessary confirmation of this theory.

Over the past several years, Callan has invested considerable resources to enhance its data warehousing and analytical capabilities. The result has been the ability to gather more data in a timely manner, and the ability to evaluate the quality of data using both algorithmic and procedural processes. Enhancements to our analytic engine have made retrieval of “relevant,” “scrubbed” and “multi-dimensional” information faster and better.

Both these enhancements allow Callan to monitor the existing membership of all style groups for potential style-drift and erroneous data-related issues at the end of every quarter. This step ensures that the style groups remain true to their objective of “purity” and “consistency.” Full blown style analysis is conducted annually to evaluate potential additions.

**STYLE ANALYSIS KEY PROFESSIONALS:**

**Amit Bansal (bansal@callan.com)**  
**Alpay T. Soyoguz, CFA (soyoguz@callan.com)**  
**Ivan S. Cliff, CFA (cliff@callan.com)**

Callan Associates is an innovative, nationally recognized leader in the institutional investment consulting industry. Callan provides consulting services through five lines of business: Fund Sponsor Consulting, Independent Advisor Group, Institutional Consulting Group, Callan Investments Institute. Callan is headquartered in San Francisco, California, and maintains four regional offices located in Atlanta, Chicago, Denver, and Florham Park, N.J. © 2007 Callan Associates, Inc.