

BEACON POINTE

ADVISORS

**BEACON POINTE RESEARCH
WHITE PAPER**

**RETURNS- VS. HOLDINGS-BASED STYLE ANALYSIS
SEPTEMBER 2002**

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HIGHLIGHTS

- *Background:* Many factors are considered in order to determine an investment manager's investment capabilities. Consultants will analyze a wide range of factors, ranging from a firm's ownership structure to its buy and sell discipline. A critical responsibility of the consultant is to analyze and verify an investment manager's style. Understanding a manager's investment style is crucial for determining investment structure and performance analysis.

Returns- and holdings-based style analysis is two different methods of analyzing and verifying a manager's investment style.

Nobel Laureate William Sharpe developed a returns-based style analysis in 1988. The Sharpe methodology allows investors to analyze an investment manager's style using the manager's historical performance returns.

Holdings-based analysis determines a manager's investment style by examining the actual holdings within the portfolio.

- *Conclusion:* Although the institutional investment community has argued as to which methodology is more accurate in determining and verifying a manager's style, Beacon Pointe believes that both methodologies are valuable and should be used simultaneously when analyzing an investment manager's style.

Background

- Returns-Based: Returns-based style analysis is a statistical technique developed by William F. Sharpe that estimates an investment manager's style by determining the mix of passive indices that best matched the manager's historical performance returns.

Returns-based style analysis uses a constrained quadratic optimization to regress an investment manager's portfolio returns against a set of indices. The analysis results in an allocation that most closely represents the performance of the investment manager.

- Holdings-Based: Holdings-based style metrics assign a style and a size score to individual stocks within a portfolio. The *size* score reflects the relative market capitalization of a particular security, while the *style* score indicates a stock's orientation towards value or growth investment strategies based on certain financial characteristics (price/earnings ratio, price-to-book ratio, dividend yield, five-year sales growth, five-year earnings growth, and five-year average return on equity). The overall portfolio style and size scores are calculated by weighting individual security scores by their appropriate portfolio weights.
- Identifying Manager Style: Returns-based style analysis is a valuable tool for identifying an equity manager's investment style over a given time period. In addition to returns-based style analysis, Beacon Pointe uses holdings-based style analysis to not only determine an investment managers style, but also to help detect style drift in a more timely fashion. This report will use two different investment managers to provide a more meaningful comparison of the two methodologies and will establish why both returns- and holdings-based style analysis should be used simultaneously.
- Investment Managers:
 - Provident Investment Counsel – Large Cap Growth (“Provident”)
 - Ariel Capital Management – Midcap Value (“Ariel”)

Style Analysis – Normal Style

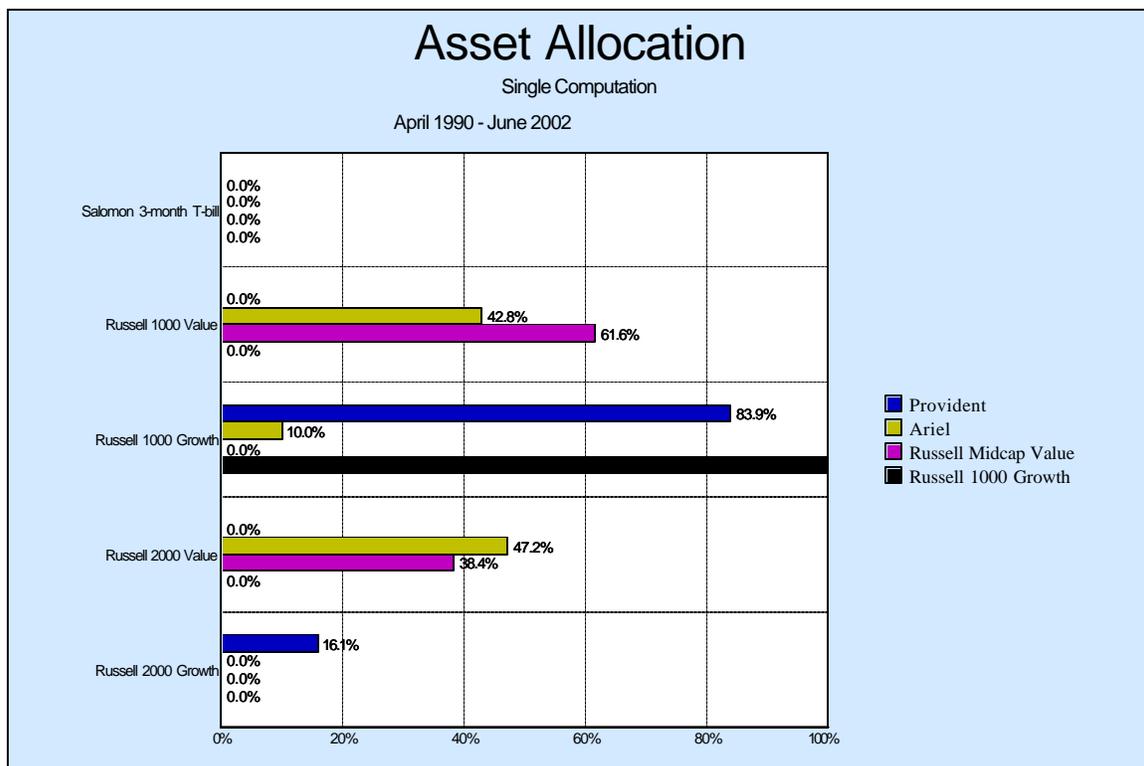
➤ Exhibit 1 below is a returns-based style analysis that calculates Provident’s and Ariel’s average exposure (normal style) to particular investment styles from April 1990 through June 2002. The analysis was completed using the four Russell 3000 sub-indices and the Salomon 3-Month T-Bill. The indices represent the following investment styles:

- Russell 1000 Growth Large Cap Growth
- Russell 1000 Value Large Cap Value
- Russell 2000 Growth Small Cap Growth
- Russell 2000 Value Small Cap Value
- Salomon 3-Month T-Bill Cash

The normal style analysis shows that during this specific period of time, the variability of the Russell 1000 Growth returns can explain 83.9% of the variability of Provident’s performance. The remaining 16.1% can be explained by the Russell 2000 Growth’s performance variability. The returns-based style analysis shows that Provident has a definite large cap growth investment style.

The Russell 1000 Value’s performance variability can explain 42.8% of Ariel’s variability. The Russell 2000 Value explains the remaining 47.2% of Ariel’s performance variability. The returns-based style analysis shows that Ariel has a definite midcap value investment style.

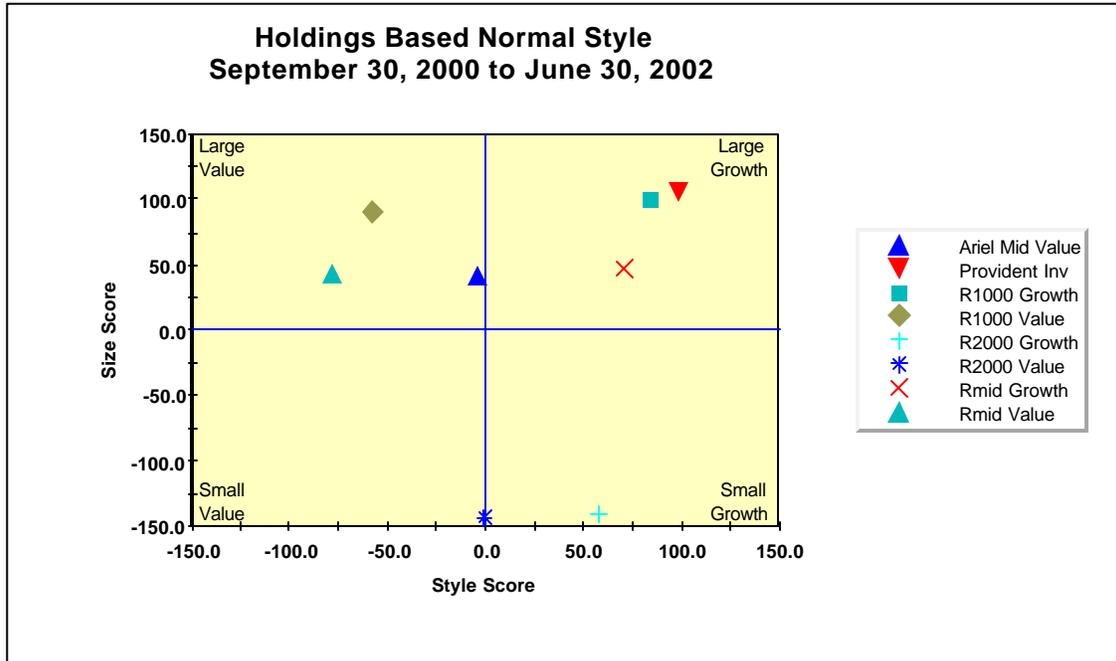
Exhibit 1



Style Analysis – Normal Style

- Exhibit 2 below presents the “normal style” of Provident and Ariel using the holdings-based style analysis methodology. The holdings-based analysis supports the returns-based style analysis for Provident. Ariel, however, seems to have a “core” style based on the holdings.

Exhibit 2



Style Analysis – Style Drift

- Returns- and holdings-based style analysis can also be used to detect style drift. Exhibit 2 and 3 below are rolling style area charts that plot the “effective asset mix” of passive indices for the portfolios over rolling time periods. Rolling 5-year periods were used for Provident and Ariel. Exhibit 2 shows that Provident has consistently maintained a heavy style tilt towards large cap growth. The rolling style area analysis for Ariel shows that Ariel has recently picked up a higher small cap value exposure.

Exhibit 2

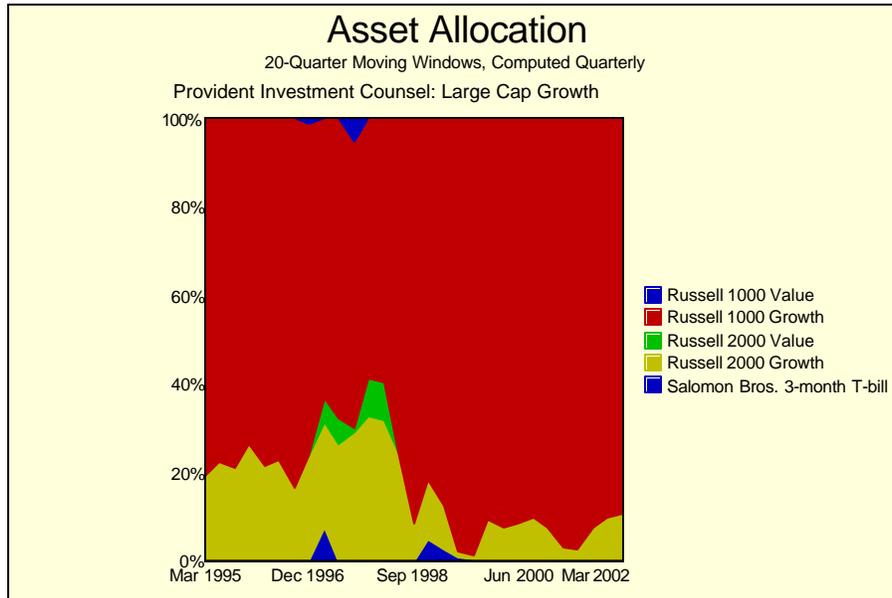
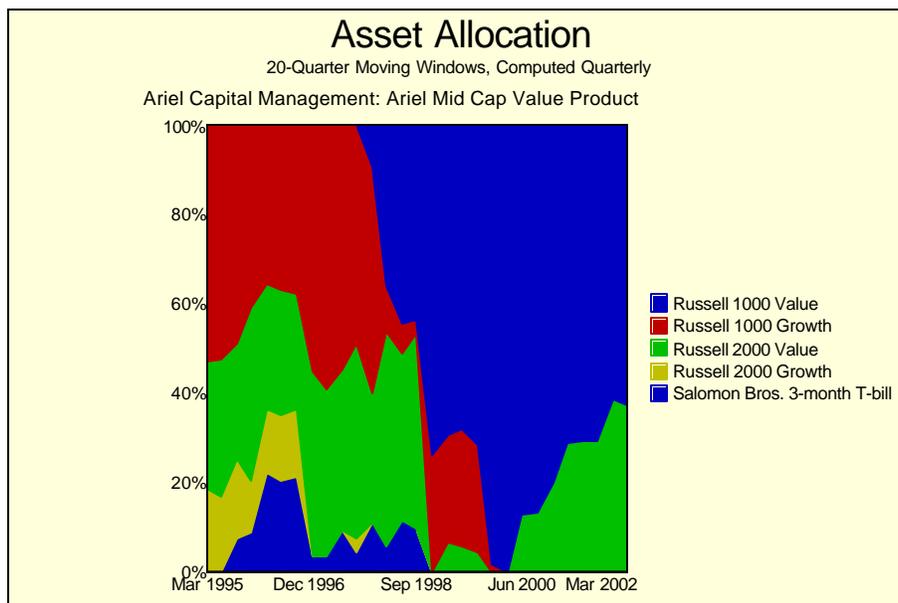


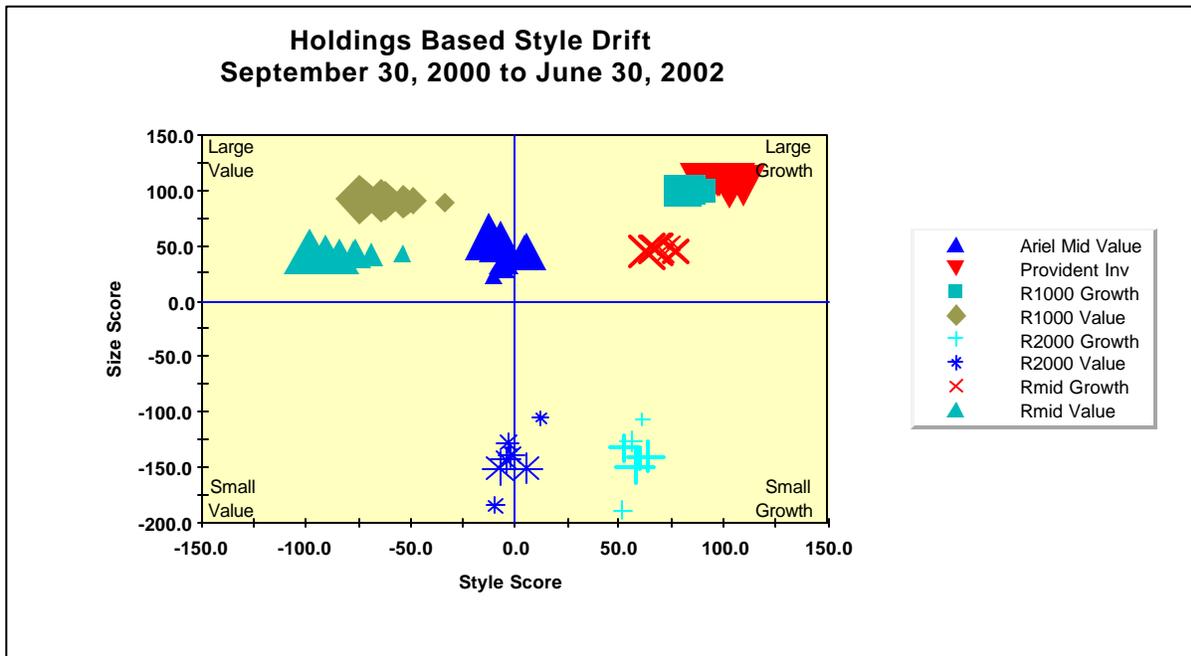
Exhibit 3



Style Analysis – Style Drift

➤ The holdings-based analysis in Exhibit 4 provides a quarter-by-quarter analysis of both Provident’s and Ariel’s investment style relative to the Russell style indices. Exhibit 4 shows that Provident has consistently maintained a large cap growth investment style—in line with the results in Exhibit 2. This analysis, however, does not support the rolling style area analysis for Ariel, as the holdings-based style analysis shows a drift towards larger cap value stocks rather than small value stocks. The more recent style scores, represented by the larger triangles, reflect a more large-cap oriented position. The analysis also shows that Ariel seems to have more of a core tilt than the Russell Midcap Value index. This characteristic was not picked up in the returns-based style analysis.

Exhibit 4



Style Analysis – Fundamental Characteristics

- Fundamental portfolio analysis can be used to verify returns- and holdings-based style analysis. The fundamentals are calculated from the actual portfolio holdings. Exhibit 5 graphs five key portfolio characteristics relative to a large cap growth index. The higher P/E ratio and 5-Year EPS Growth, with the lower Dividend Yield and similar Weighted Market Cap and P/B, confirm the large cap growth investment style.
- Exhibit 6 graphs 5 key portfolio characteristics of the Ariel Midcap Value portfolio relative to a midcap value index. The higher P/E, P/B, and Weighted Market Cap values, combined with the lower Yield, relative to the midcap value index, confirm the core style and larger size inclinations.

Exhibit 5

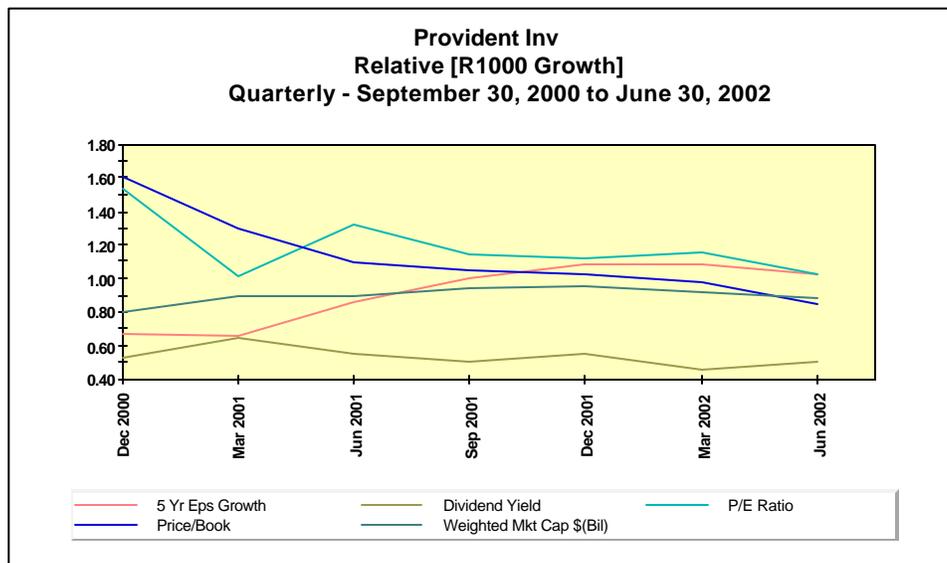
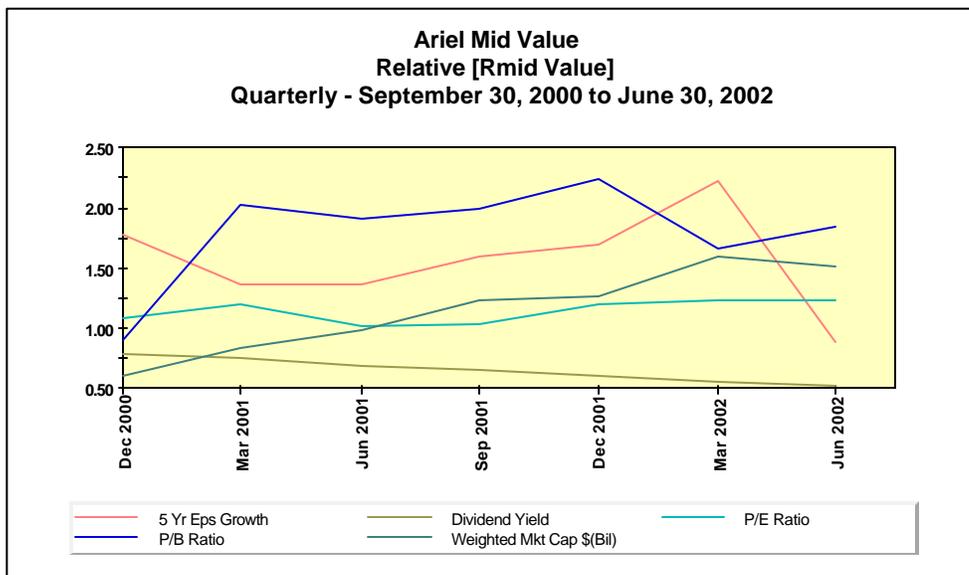


Exhibit 6



Conclusion

- The purpose of this report is to demonstrate and compare two different methods used to determine an investment manager's style. Returns-based style analysis uses a statistical technique developed by William Sharpe, while the holdings-based style analysis uses the actual portfolio holdings to determine the appropriate style.
- The portfolio fundamentals supported both the returns- and holdings-based style analysis for Provident Investment Counsel. The fundamentals, however, determined that the holdings-based style analysis proved more accurate in determining Ariel's investment style.
- Beacon Pointe believes that there are advantages to both methodologies and implements both types of analysis to verify a manager's investment style and to monitor style drift.

Please feel free to contact your Beacon Pointe consultant if you have any questions.

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