

# The **ADVISOR**

ZEPHYR ASSOCIATES, iNC.

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## Style **FLASHES**

*Regional Training Seminars*

August 14, 1998

**Aug. 26, 1998 San Francisco**

September 9, 1998

October 14, 1998

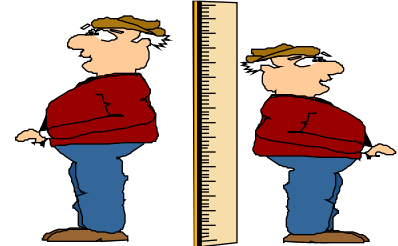
All sessions, except Aug. 26th, will be held at the New York Institute of Finance at 2 World Trade Center, 17th Floor New York. To register for these classes, please contact us at (800)789-5323.

### *New York Institute of Finance classes*

Need to brush up on portfolio theory? How about performance measurement and statistical analysis? Asset allocation and style analysis? All of these topics and more will be the subject of a one-day course presented by the New York Institute of Finance and taught by one of their finance professors. These classes are typically held the day before the Zephyr Associates' training sessions. For information or a class outline, contact Dana Ornstein at NYIF: (212) 859-5012.



Again, if you haven't marked your calendars for September 17 and 18, 1998 for our Fifth Annual User's Conference in Lake Tahoe, be sure to do so. Also, the hotel can only guarantee us rooms through August 16, 1998. The venue will be similar to last year. There will be a number of presentations and concurrent training workshops. A preliminary agenda will be out shortly.



## **Attribution Analysis & Benchmarking**

*The following article discusses the feasibility (it is) and desirability (mostly not) of doing a more detailed analysis of a manager's excess return using **StyleADVISOR**. This discussion naturally leads into a more general discussion of manager benchmarking. To use market or published benchmarks or custom style benchmarks. Bill Sharpe's style analysis theory is used to determine how much of a manager's returns can be passively replicated by an index and how much come from the manager's skill. Except in rare cases this cannot be done by using published benchmarks (S&P 500, Russell 1000 Value, etc.). Despite this fact most (even many **StyleADVISOR** users) plan sponsors, consultants and money managers insist on using such inappropriate market benchmarks to hire and fire managers. Since this is the crux of **StyleADVISOR**, I recommend to all of our users that they read this article and be prepared to offer their comments, pro or con, at our upcoming User's Conference in Lake Tahoe.*

### **Also in this issue:**

**Does Performance influence Style?**

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**Manager Presentations Page**

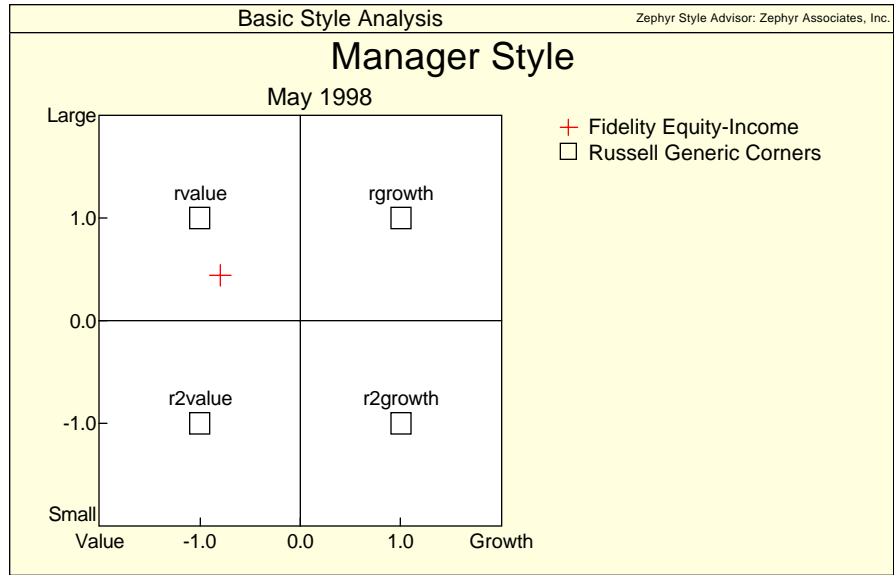
**A New Brokerage Query Field for the Morningstar Database**

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The primary purpose of style analysis is to determine how much of a manager's returns are systematic (a result of the market and style) and how much of the returns can be attributed to manager skill. Systematic returns make up the blended style benchmark in **StyleADVISOR**. The returns representing the manager's skill are the excess returns over the style benchmark. The style benchmark is an investable portfolio that could be passively replicated, since it is a combination of the four Russell style indexes and T-bills. The topic addressed here is whether or not you can do a more detailed analysis of a manager's excess returns in **StyleADVISOR**. Some have suggested that we can break the excess returns into two components. One component that measures a manager's "timing" and another for stock selection. Except for a small percentage of specific cases I am skeptical of this for reasons I will explain. First, let me explain how to do this with **StyleADVISOR**.

"Timing" is a measure of a manager's style bets away from a stated benchmark. The benchmark can be either a generic market or style benchmark, or it can be a blended style benchmark. For our discussion, let's say that a client and a manager agree in advance that the manager's benchmark is to be the Russell Large Value Index. Let's also assume it is fully understood that any style bet the manager takes, either in size or value/growth away from the Russell Index, becomes a tactical bet on the part of the manager. In this context, we'll take as the manager the Fidelity Equity Income Fund.

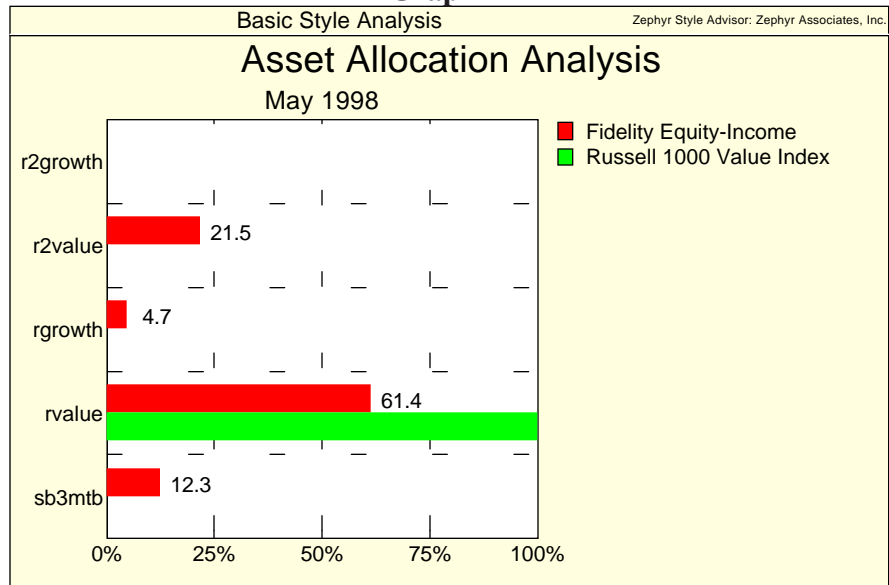
**Graph 1**



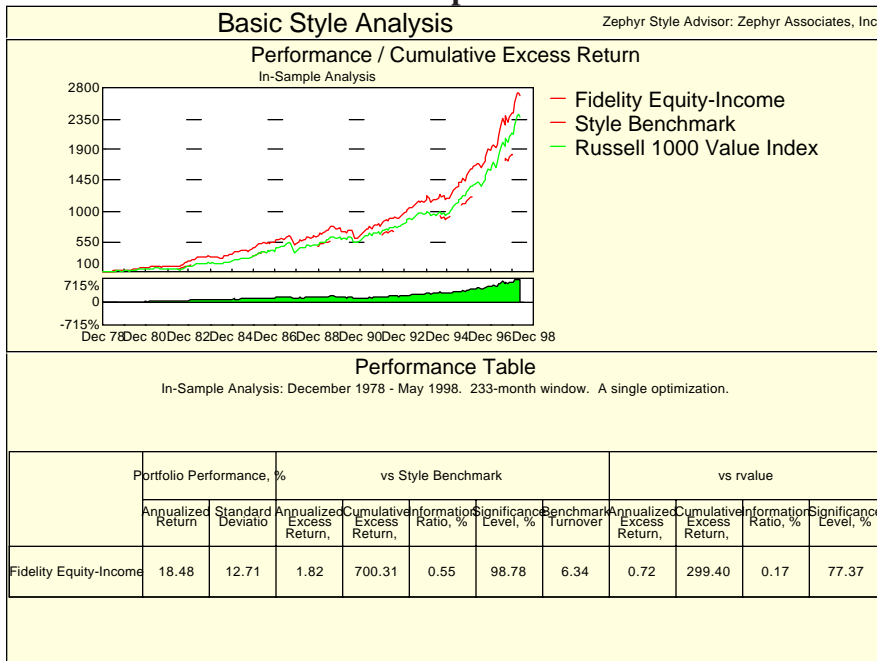
Graph 1 is a style map of the Fidelity Equity Income Fund. In this case, the manager has obviously made the bet that small stocks would do better than large stocks and that a portfolio less value than the Russell Large Value would also do better. This can be seen in the Asset Allocation Analysis (Graph 2), comparing the fund to the Russell Large Value Index. Graph 3 shows the manager's excess return over the Russell Large Value Index to be .72%. The excess return

over the blended style benchmark is 1.82%. Therefore, the manager's tactical bet for the smaller size and less value ("timing"), costs the manager -1.10% annually (.72% - 1.82%). Excess return attributed to stock selection is +1.82%. Given the assumptions that we have outlined, in this case the manager's stock selection has overcompensated for their poor style bet – the manager has beaten its benchmark by .72% annually.

**Graph 2**



**Graph 3**



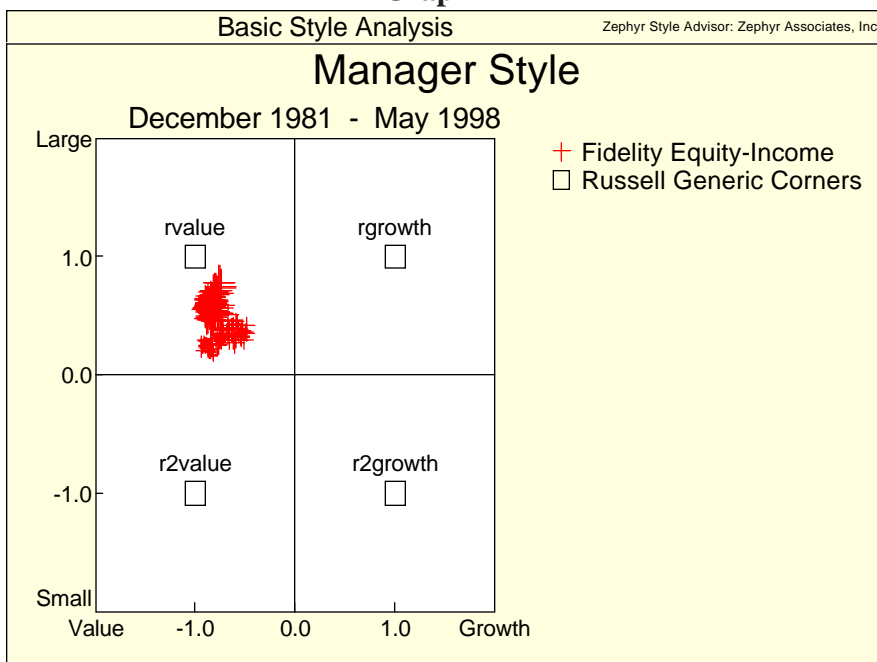
The key point is the manager’s agreement that any style difference between their portfolio and the Russell 1000 Value represents an active investment decision on the manager’s part. I don’t think this is very realistic. Most managers don’t make such bets. Typically, they have a process that leads to a particular style – and that

style differs from the style of the published market and style indices. In the example, the smaller size is typical of a manager with a weighting scheme that is closer to equal weighting than cap weighting. A manager may also have some diversification rules that will not allow for the very large sector weights found

in some of the style indexes. Look at Graph 4, which shows a rolling 3-year history of this fund. I seriously doubt that over the past 18 years a tactical bet was consistently made on small size. It’s much more likely that this style represents the manager’s process.

A more sophisticated way to do this type of attribution analysis is to use the blended style benchmark computed by **StyleADVISOR** (one computation), rather than the Russell Large Value Index, as the manager’s benchmark. Let’s look at the results using the blended style benchmark (61.4% Russell 1000 Value, 21.5% Russell 2000 Value, 4.7% Russell 1000 Growth and 12.3% T-bills) as the manager’s benchmark. The manager’s “timing” is now the difference between the return of this benchmark and the rolling window return. The active decisions by the manager are the short term style changes around their “normal portfolio” (blended style benchmark).

**Graph 4**



In this case, the manager has beaten the blended style benchmark by 1.82%. They have outperformed the rolling 36-month benchmark by 1.64%. The manager’s timing is the difference: +.18%.

What have we done? We defined the manager’s benchmark as the single computation blended benchmark, which accurately described the manager’s style over some period of time. The rolling 36-month period results represent the manager’s tactical timing away from this benchmark. The advantage of this approach is that we don’t use the Russell 1000 Value Index (which

wasn't a good benchmark for the manager to begin with).

Although using the one computation benchmark may be an improvement, there is still the question of whether the manager is making active decisions on a tactical (short-term) basis to change their style. If you tried to tell them they had achieved some excess return or cost to the fund by their style timing bets, I think most managers would look at you like you had two heads.

The only time this type of attribution analysis is appropriate is when the manager and client have agreed in advance that the manager would make these kinds of timing decisions and the manager is to be held accountable for these decisions. Part of the problem with the whole question of benchmarking has to do with what I see as a cavalier attitude on the part of managers—they accept almost any benchmark they are given. The subject of benchmarking is of little interest until they are underperforming their assigned benchmark and in jeopardy of being fired. Then they suddenly start to pay attention.

A manager should never be able to say **“I am not doing well because my style is out of favor”**. That statement in itself says that the manager is not properly benchmarked. Why? Because the assigned benchmark should reflect the manager's style. If the manager's style is not doing well, then the benchmark won't do well, but a skillful manager should still look good on the basis of excess return. The only reason a manager wouldn't do well vs. their benchmark (as long as their style is consistent) is because the manager is

doing a poor job of stock selection.

In our example, neither the Russell Large Value Index nor the S&P 500 Index should be used—neither is a good benchmark for the Fidelity Equity Income Fund. Yet many managers would agree to either benchmark. Maybe managers want poor benchmarks so that in tough times they can always fall back on the famous cliché, “My style is out of favor”.

### More on Benchmarks

If time and money are absolutely no object, I believe the best way to create a benchmark for a manager is to meet with the manager, have them explain their investment process in detail, then build a passive portfolio to replicate that process. What can't be replicated by such a benchmark is the manager's skill.

Let's say a manager tells you that they screen the universe of stocks for stocks with a cap size in a certain range. Then those stocks are screened for various fundamental factors (PE ratio, price to book, earnings, growth, etc.) in predetermined ranges. From that universe of stocks they select those their security analysts rate the highest, and build a portfolio that is equal or close to equal weighted, with no more than 10% in any economic sector. All that can be done passively with a security database and a computer, except for the actual selection of stocks based on the security analysts' recommendations. Selection is what an active management fee pays for. Certainly not for screening a database for fundamentals or cap sizes. Nor are you paying an active fee to build

an equally weighted portfolio with sector constraints. All of that, plus the trading and bookkeeping, can be covered for a very small passive management fee or done internally with little staff and inexpensive software.

A securities based benchmark can be constructed and maintained as a passive replication of this manager's process—except for the manager's actual security analysis and selection. This benchmark reflects the manager's style in terms of average cap size, and value/growth (based on their fundamental screening) and will also be somewhat similar, but not identical, to the portfolio's typical sector weights. Any excess return over this benchmark therefore reflects the manager's skill in such security analysis and selection.

Remember, I said: if time and money were not a consideration. But, of course, they are. (When I was a partner in a money management firm we had such a benchmark constructed for one of our products. To the best of my recollection, it cost about \$10,000 and took several months to construct, and had similar yearly maintenance costs.) I believe the blended style benchmarks **StyleADVISOR** creates capture 95% or more of the information in such a detailed securities based benchmark, with less than 1% of the cost and effort. I also believe **StyleADVISOR's** benchmarks are particularly suited for large institutional managers with well diversified portfolios whose styles can be described very well (high out-of-sample  $R^2$ ) by some combination of the Russell style indexes and T-bills.

Let's look at this a different way. A manager is a bottom up stock picker and has no insights as to what style, in terms of value, growth and size, will do well over the near term (several years). The manager's expertise is strictly in finding undervalued stocks where the current stock price understates the future growth of the company. The manager is hired by an institutional account and given the Russell Large Value Index as a benchmark. I believe the manager would be foolish to do anything other than build an enhanced index fund indexed to the Russell Large Value. Why? Inadvertent style bets will have a much bigger impact than stock selection over a 4 to 5 year period (the time horizon most institutional clients give managers to perform). Consequently, even if a manager is a great stock picker there is a very good chance that any inadvertent size or style bet could wipe out any positive stock returns. Why would a manager who understands this take chances when they could build a portfolio that looked very much like the benchmark and count on superior stock selection to add enough alpha to keep the business? Note that it is the benchmark the client gives the manager that causes the manager to change their process to look more like the benchmark.

Another example: You are a manager whose process typically is to build somewhat equal weighted portfolios but the client gives you a cap weighted benchmark. It only makes sense for you to change your process and cap weight that portfolio. Unless you think small stocks are going to do well, why would you take the risk of

underperforming your benchmark because of a size bet you didn't believe in the first place? If you really are a good stock picker, you should be able to build a cap weighted portfolio that will outperform the cap weighted benchmark.

So what happens in the real world when a manager is told that he or she is held to a specific benchmark selected by the client? One of two things happens. If the manager believes my thesis, the manager will change their process to conform to the benchmark, become a closet enhanced indexer, and build a portfolio that, style-wise at least, looks like the benchmark. The rest of the managers (probably the majority) will say "I don't care what benchmark you give me. I'll manage the money the way I want, and beat any benchmark". This is the cavalier attitude I mentioned earlier. It is extremely naïve for a manager to think their stock selection is so good it could more than make up for the returns from systematic factors (style, size) over short (several years) periods of time. I contend that no matter how skillful, such managers are doomed to be fired by all but the most sophisticated plan sponsors. If lucky, they may retain the business for some time—if their inadvertent style bets work in their favor to make them look good. But it's only a matter of time before such style bets work against them and they have a serious period of underperformance.

These last remarks should cause some controversy. Let me reiterate. **If you give a manager a benchmark that does not reflect the manager's process, then you are going to**

**cause the manager to change that process, or you are hiring a manager that you are ultimately going to fire at the wrong time.**

In my opinion, the best way to let managers manage money the way they want (not force them to become indexers), and not to fire good managers because their styles are out of favor, is to build a benchmark based on their process. And that's exactly what **StyleADVISOR** does. The plan sponsor can then hire and weight managers in such a way that the aggregate of all the managers' style benchmarks adds up to the plan sponsor's overall benchmark (e.g., the Russell 3000).

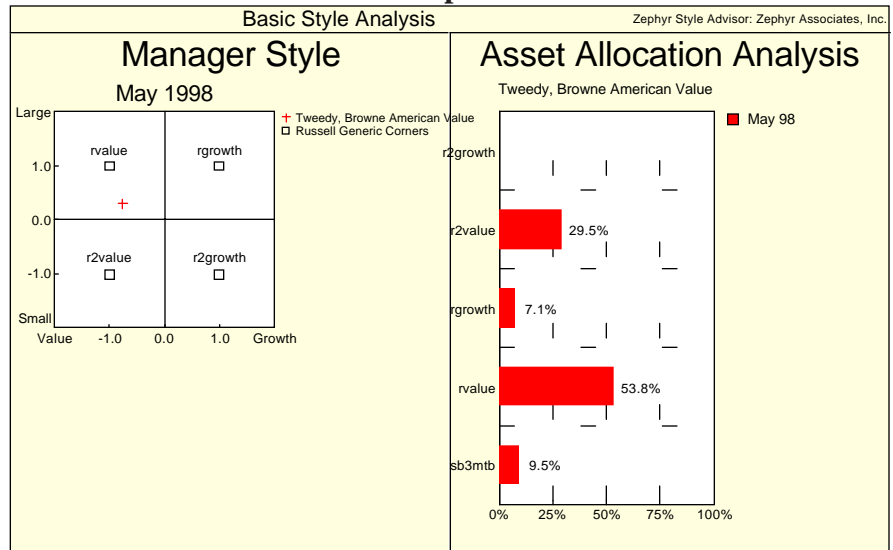
Here is a good example of the problems that occur when you try to use an inappropriate benchmark. I just finished reading the Tweedy Browne American Value annual report. I don't know the people at Tweedy Browne but I suspect they are in the second category of managers above. They have a way of managing money that they are going to do regardless of what benchmark anyone gives them, and are dedicated value managers.

A good portion of this most recent annual report is an attempt to explain why they have underperformed the S&P 500. If their mutual fund investors had a proper understanding of benchmarking this would be an unnecessary discussion. The time they have spent trying to explain why they differ from the S&P 500, they could use to explain why and how they have been able to add value through their superior research and stock selection.

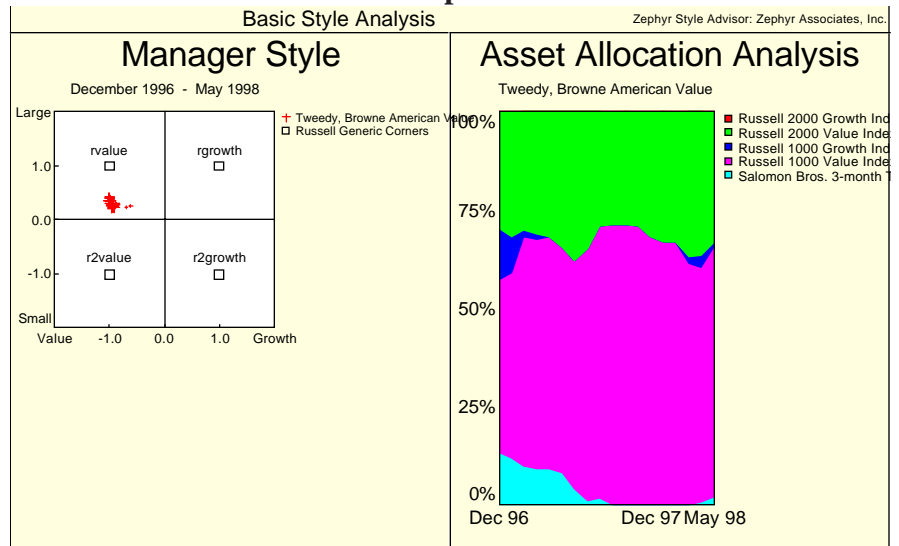
The **StyleADVISOR** style analysis and benchmark shown in Graph 5 is 29.5% small value, 53.8% large value, 7.1% large growth and 9.5% T-bills. Because their style is very consistent this doesn't change much even with the rolling window as shown in Graph 6. So let's examine their single computation blended style benchmark. Notice how the benchmark broadly defines the manager's process. It adjusts for their smaller size by putting 29.5% small value in their benchmark. Although very much a value manager, they are slightly less valuey than the Russell style indexes so they also have 7.1% large growth in their benchmark. They also have lower risk or lower beta than any combination of the Russell Style Indexes so they have 9.5% in T-bills.

Tweedy Browne is not making a tactical short-term bet away from the S&P 500. Their mid-cap value style represents their process (buying low price to book and low PE value stocks). I don't need to pay Tweedy Browne a management fee to invest in mid-cap value stocks. In fact, I can replicate their style passively by investing in index funds (29.5% small value, 53.8% large value, etc.). What I can't replicate is the excess return they provide over the style benchmark that represents their research, experience, skill, etc. Graph 7 shows that excess return amounts to an annualized 3.56% net of fees. Properly benchmarked with **StyleADVISOR**, we can say that there is a high probability (95.29% significance factor) that this performance and the 1.01% information ratio is achieved through

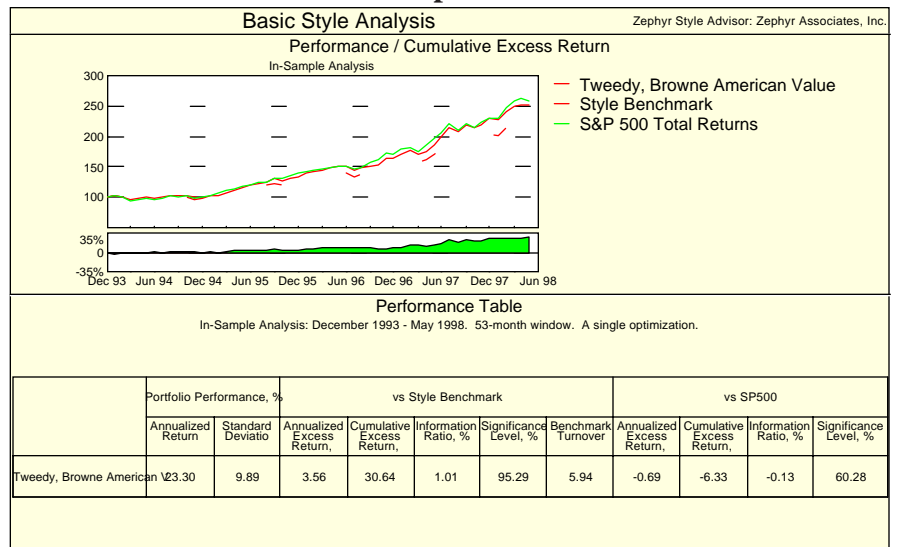
Graph 5



Graph 6



Graph 7



skill rather than luck. A naive investor, using the S&P 500, would say that they see no evidence of skill in a -.13% information ratio to the S&P 500.

I know what some readers will be thinking right now, so let me anticipate the question. Would you expect this, or any other skillful manager, to eventually outperform the market? Of course. If I didn't, I would buy an S&P 500 index fund. I believe, in the long run, that all these styles will converge and end up doing about the same as the market. But over the short run (up to 10 years), there will be huge differences (see the Table on page 8). It is exactly these differences that we are trying to neutralize with our blended style benchmarks.

Here is another comment I believe I might get from the Tweedy Brownes of the world. "We use the S&P 500 because we believe that value investing is a superior style and over a long period it will outperform the market, which is our goal." (I don't want to debate now whether value is superior to growth, but will simply comment that I am sure most growth managers would make the same type of statement about their style. After all, why would any manager have a style they thought was inferior over a long period of time?) This is irrelevant to the issue of benchmarking. If I believe that value is a superior style over the long haul, then why don't I just buy a value index fund (which will also outperform the S&P 500)? The real issue has to do with whether or not I am getting my money's worth by paying an active management fee.

Using the Tweedy Browne American Value Fund as an example, imagine the following dialogue between a mutual fund investor and the manager of the fund.

**Mutual Fund Investor:** "I have owned the Tweedy Browne American Value Fund since inception (4 years and 5 months). I would have made more money if I had invested in the Vanguard S&P 500 Index Fund (23.86% vs. 23.30%)."

**Manager – probable response:** "We believe that over the long term our style of value investing will beat the market. Over the past 4½ years we have had a market where large stocks have outperformed small stocks. Our portfolio cap size is considerably smaller than the S&P 500." (translation: "Our style has been out of favor.")

**Manager – better response:** "The S&P 500 is not an appropriate benchmark to use for our fund over such a short period of time. The stocks that we buy are much more value oriented and the cap size is much smaller. Our style is determined more by our process, the way we build portfolios, than any short-term tactical decision on our part. You knew when you hired us that these are the kinds of stocks that we would buy. You knew that we were more of a mid-cap value manager and our portfolios would look nothing like the S&P 500. We also told you that because of our experience and expert research capabilities that we would do a superior job of stock selection and outperform any reasonable benchmark that you constructed that represented or replicated our style. Using our **StyleADVISOR** blended style benchmark we have done just

that, outperforming by 356 basis points annually. We have more than justified our fees."

As a client, which answer gives you more confidence that you made the right decision in hiring a manager? With the first response, you are being told that you may have to wait 10 or 20 years to find out whether you have made a good decision. In the second response you are told that you have made a good decision and it is supported with factual material.

As a manager, which response would you rather give? "My style is out of favor. Trust me. Just give me a few more years and you will see.", or the second response above?

**Wouldn't you love to have the money that has been wasted by investors firing skillful managers and hiring unskillful managers because they weren't properly benchmarked?**

**StyleADVISOR** has been in existence now for more than 6 years. For 6 years sponsors, consultants and money managers have had the ability to build customized benchmarks for managers cheaply and efficiently. I am dismayed by the fact that so many (including many of our clients) still insist on using inappropriate benchmarks to hire and fire managers. I have purposely made statements in this article that I hope will provoke a dialogue. We will have at least a one hour session at our User's Conference at Lake Tahoe in September devoted to this subject. I hope to have a panel of sponsors and consultants with some diverse view, and also hope we get lots of audience participation.

## Does Performance Influence Style?

Here is a comment that I have heard a number of times since we developed **StyleADVISOR**. “If I am a growth manager and I am doing well when growth is out of favor, I’ll look like a value manager in **StyleADVISOR**.” There is this mistaken idea that a manager’s value added or alpha will change or influence style. This is not true. Would a good performing Japanese manager look like a U.S. manager because their rate of return over the past 5 years was similar to the return from U.S. stocks? No. They would look like a Japanese manager with a big alpha. **It’s the pattern of monthly or quarterly returns, not the rate of return that determines style.** Bill Sharpe cleverly called this “manager’s tracks in the sand”. The only exception to this might be a case where there were few observations, so a couple of unusual returns might influence the style.

To see if I could find any validity to this argument, I examined some actual mutual fund performances. Because it is the period of the largest disparity between value and growth, I chose the 4-year period ending December 1984. The following table demonstrates this.

Doing several scans, my goal was to find good performing growth funds that had annualized returns closer to the value indices. Similarly, I wanted to find poor performing value funds whose returns were closer to the growth indices. If there was any validity to the argument that alpha affects style, the value managers

should look growthy in **StyleADVISOR** and the growth managers should look valuey. The following graphs and tables show that this was not the case.

Graph 8 compares the performance of two strong performing small growth funds to the Russell Small Growth and Russell Small Value Indexes. As you can see, over these 4 years, these funds perform much more in line with the Russell Small Value Index than with the Russell Small Growth Index. Graph 9 shows that these small growth funds do indeed show up as growth funds in **StyleAdvisor**—despite the fact that their 4 year rate of return was much closer to that of the Russell Small Value Index.

Graphs 10-15 similarly show that annualized returns do not determine style. In Graphs 10 and 11 we see two poor performing value funds whose returns were closer to the Small Growth Index, but still show up as small value. Graphs 12 and 13 show two good performing large growth managers. Finally, Graphs 14 and 15 show two poor performing large value funds.

I could not find one case where the manager’s performance or annualized rate of return changed its style.

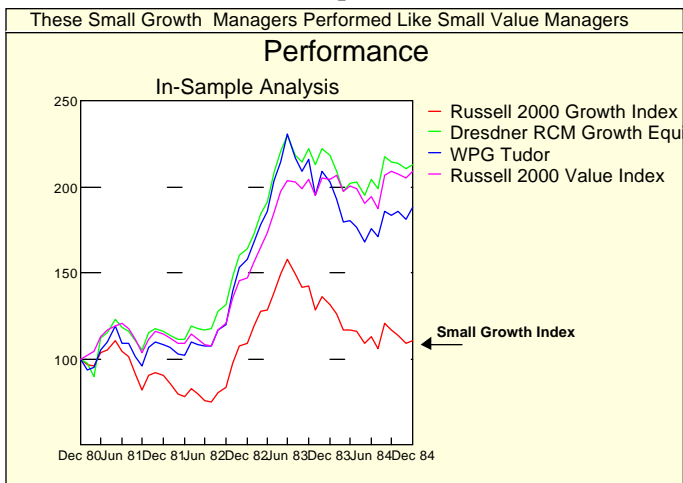
### Zephyr’s Web Site

If you haven’t checked out our web site recently, do so. It has received a total face-lift, mainly through the efforts of Dirk Hobman. We have even added a new on-line technical support section. Each month we put on a new “Tips and Tricks”. While you are there, make it a point to check out other financial sites and the link that we have with the Research Resources in Finance. This site has links to the web sites of the various financial journals, institutional and personal working paper sites, the finance profession, research centers, and more – hundreds of websites of interest to institutional investors. The site is maintained by the Journal of Finance. Check it out.

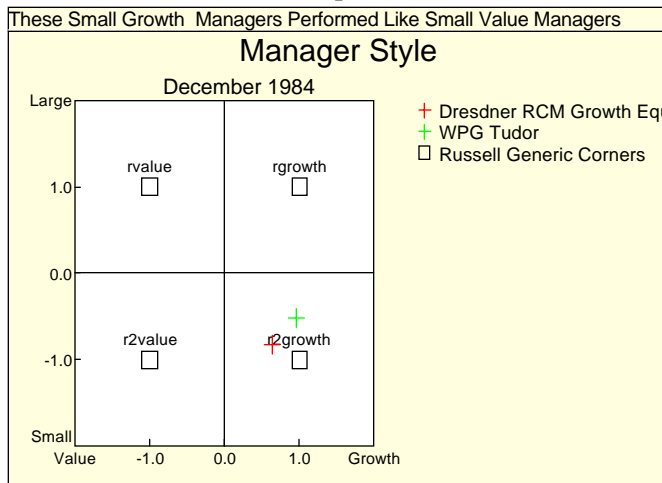
Table 1

<u>Style Indexes</u>	<u>Ann. Ret. - 4 years ending Dec 1984</u>
Russell Large Value	14.47%
Russell Large Growth	5.25%
Russell Small Value	20.28%
Russell Small Growth	2.65%

**Graph8**



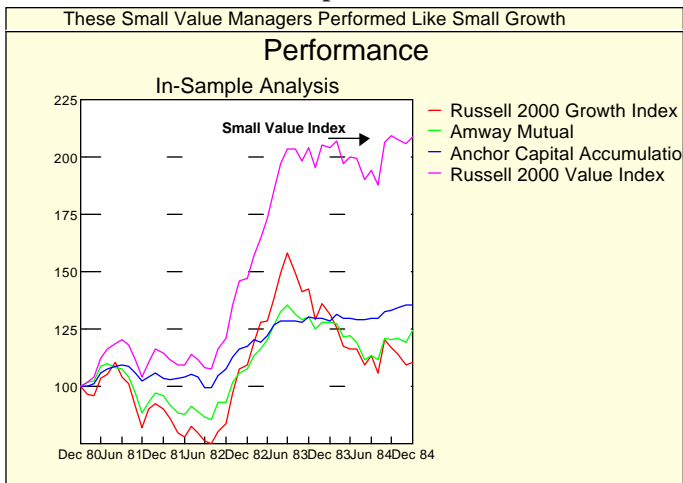
**Graph9**



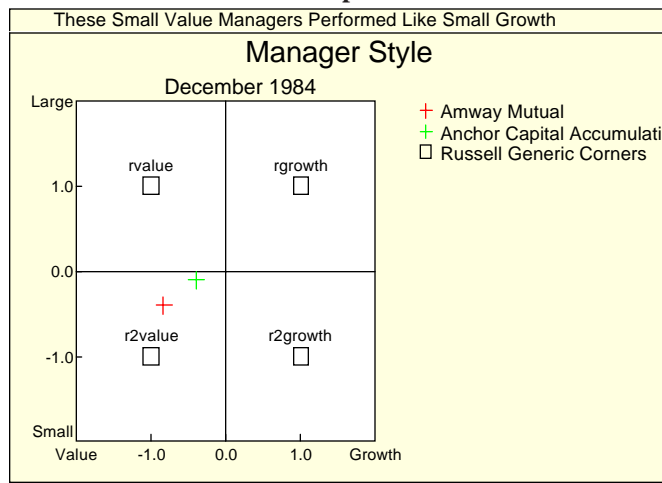
**Table2**

<u>Fund</u>	<u>Ann. Ret. - 4 yrs ending Dec. 1984</u>
Dresdner RCM Growth Equity	20.91%
WPG Tudor	17.16%
<u>Index</u>	
Russell Small Growth	2.65%
Russell Small Value	20.28%

**Graph10**



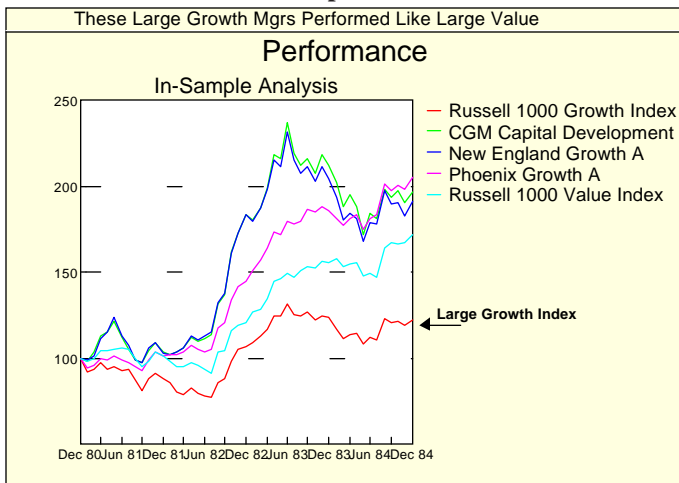
**Graph11**



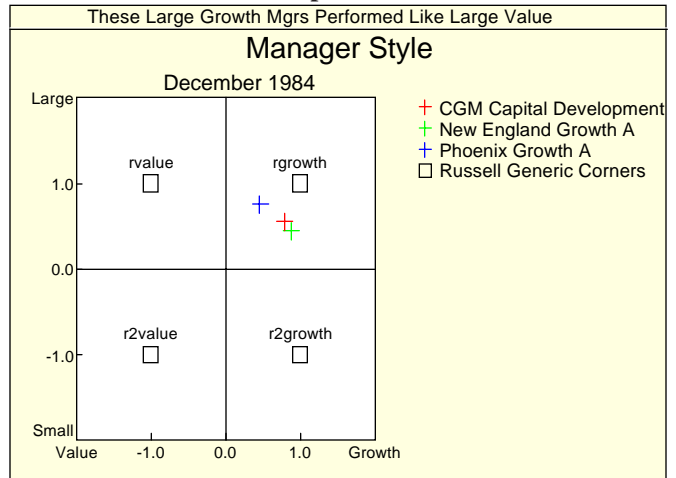
**Table3**

<u>Fund</u>	<u>Ann. Ret. - 4 yrs ending Dec 1984</u>
Amway Mutual	5.70%
Anchor Capital Accumulation	7.99%
<u>Index</u>	
Russell Small Growth	20.28%
Russell Small Value	2.65%

**Graph 12**



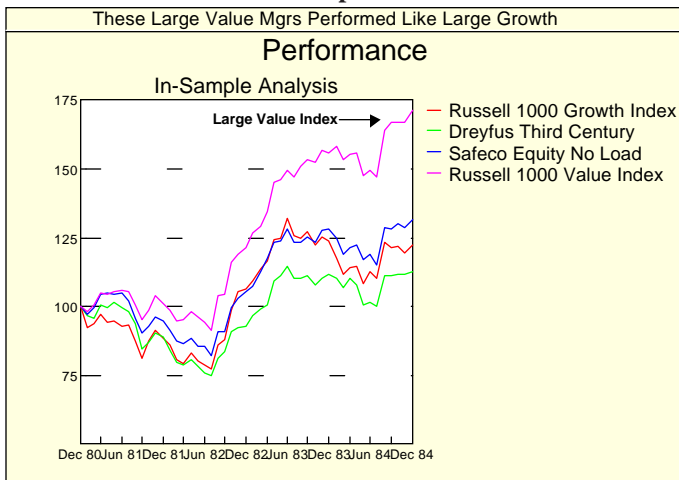
**Graph 13**



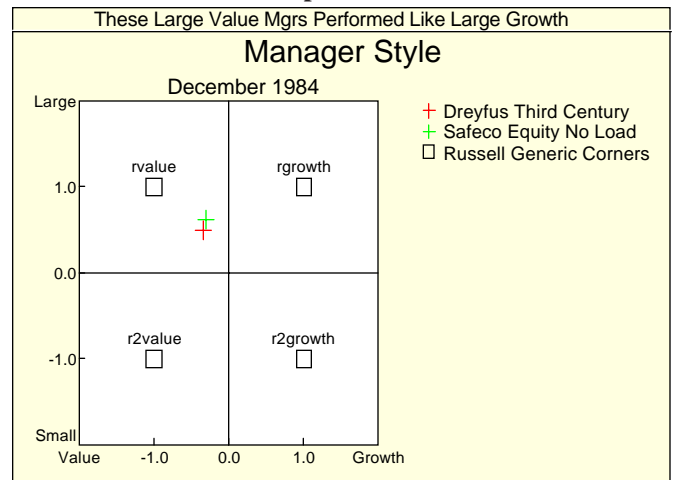
**Table 4**

<u>Fund</u>	<u>Ann. Ret. - 4yrs ending Dec. 1984</u>
<b>CGM Capital Development</b>	<b>18.50%</b>
<b>New England Growth A</b>	<b>17.68%</b>
<b>Phoenix Growth A</b>	<b>19.68%</b>
<b>Index</b>	
<b>Russell Large Growth</b>	<b>5.25%</b>
<b>Russell Large Value</b>	<b>20.28%</b>

**Graph 14**



**Graph 15**



**Table 5**

<u>Fund</u>	<u>Ann. Ret. - 4yrs ending Dec. 1984</u>
<b>Dreyfus Third Century</b>	<b>3.12%</b>
<b>Safeco Equity No Load</b>	<b>7.14%</b>
<b>Index</b>	
<b>Russell Large Value</b>	<b>14.47%</b>
<b>Russell Large Growth</b>	<b>5.25%</b>

## Manager Presentations

Manager presentations can now be found on our web site. For compliance purposes, the presentations will be password protected. Only StyleAdvisor clients who are sophisticated institutional investors will be able to see these presentations. They will not be available to the general public.

We would like these presentations to showcase analyses done with StyleAdvisor (such as style maps, style history, performance statistics). We realize that presentations may include qualitative information not available using StyleAdvisor, and this is an opportunity for managers to present that as well. For more information, or if you need help with such a presentation, call Roma at 1-800-789-5323.

## A New Brokerage Query Field for the Morningstar Database

You can now query the Morningstar database to find which funds are available through specific brokerages. A list of brokerages and their codes can be found in your StyleAdvisor data directory in the file 'msbroker.txt'. The brokerage codes are also available on our web site. Look up the code for the brokerage of interest, then do your query.

To do a scan including only the mutual funds available in the Schwab One Source program, find the code for Schwab One Source in the code file. Then type the code in the query box under brokerage, and click apply. The Select From list will then show only the mutual funds in the Schwab One Source program

## New Staff Addition

Rick Rootsey recently joined Zephyr Associates, Inc.'s senior software development team. Rick graduated from the University of Central Florida (Orlando, FL) in December, 1990 with a BSCS. His last position was with Corel Corp. in Wolfeboro/Gilford, New Hampshire where he created graphics applications including CorelFLOW and CorelCAD. He was also lead team on Bradshaw Football.