

Will The Real Style Please Stand Up

Maybe your money manager is sticking to his strategy, maybe he's "drifting." Maybe your benchmark is drifting too.

By Peter Jankovskis, Ph.D

By adding new stable vs. variable style classifications to traditional value vs. growth style analysis, the author identifies distinct styles of equity management not otherwise readily observed, and explores their distribution among institutional investors and the possible style underweighting it reveals. He then demonstrates how indexes used as standard measures of money managers have "drifted" and thus perhaps distorted style judgments. He concludes this approach could be a significant arrow in a portfolio analyst's quiver.



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Recent sharp swings in the relative performance of growth and value managers have focused attention on the subjects of manager style and manager style drift. We believe using four new style indexes we have developed (*Indexes*, Issue 2) adds an important dimension to the analysis of manager style by considering past return stability and trading volume of the stocks in a manager's portfolio.

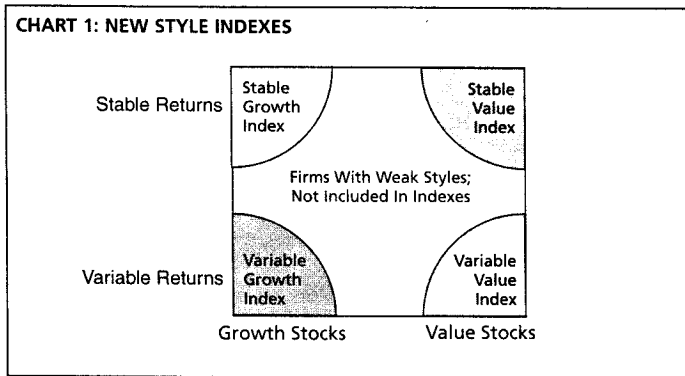
THE FOUR NEW STYLE INDEXES

They are drawn from the S&P 500, and so apply to the US large-cap world. In part they are based on price to earnings ratios and price to book ratios modified to eliminate accounting biases (these are traditional measures of growth and value styles). But they also consider an average of monthly absolute returns, an average of absolute daily returns, and average trading volume relative to free float to classify stocks as stable or variable.

As Chart 1 illustrates, only those stocks with strong characteristics on both axes, value vs. growth and stable vs. variable, are assigned to one of the four basic indexes. The Variable Growth Index contains aggressive growth companies that can be expected to surge during growth led rallies like the ones in mid-1995 and the fourth quarters of 1998 and 1999. In today's market, the Variable Growth Index is dominated by technology firms like Microsoft and Intel, but in the past other groups, like pharmaceuticals and biotechnology, have had their day. The

Stable Growth Index contains stocks with valuations consistent with the traditional growth classification that also exhibit unusually stable returns, like Pepsico and McDonald's, or Bristol-Myers Squibb and Johnson & Johnson, or AT&T. The Variable Value Index contains traditionally cyclical stocks like banks, auto manufacturers and heavy equipment manufacturers. The Stable Value Index has the classic defensive stocks like utilities and major oil companies.

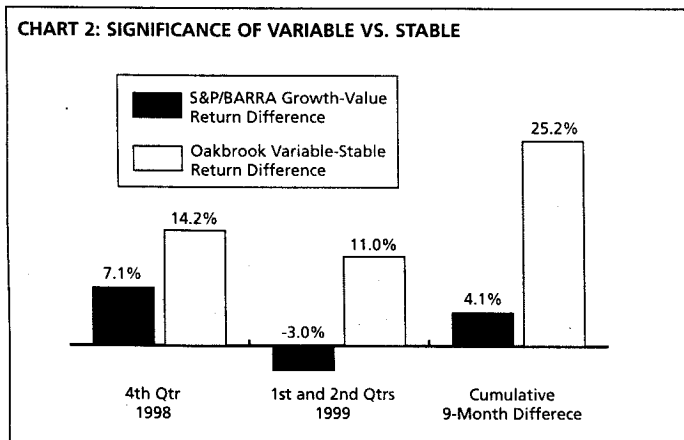
See Appendix for details of the index construction process.



They can be combined in pairs to isolate the specific behaviors: growth or value, stable or variable. Simulated annual returns for the four basic style indexes and four combined indexes are reported in Tables 2 and 3.

WHY THEY MATTER

The returns of the combined indexes show that, at times, the distinction between variable and stable stocks may be even more important than the distinction between growth and value. Consider the equity market's gyrations following the Federal Reserve's interest rate cuts in the fall of 1998. While much has been written on the return disparity between growth and value, the difference in return between variable and stable stocks was actually much larger and longer lasting. As shown in Chart 2, during the fourth quarter of 1998 the S&P/BARRA Growth Index outperformed S&P/BARRA Value by 7.1%. Over the same period, the OakBrook Variable Index outperformed Stable by 14.2%.



Moving into 1999, S&P/BARRA Growth gave up some of its gains, underperforming S&P/BARRA Value by 3% over the first 6 months. The new style indexes show that variable stocks continued to be strong over this period. Our Variable index outperformed our Stable index by 11%. The total difference in return between variable and stable stocks over the 9 months was more than 25%. This was more than 6 times the 4.1% difference in return between growth and value stocks. The common feature of the stocks that benefited most from the Federal Reserve's rate cuts was a history of return variability rather than strong earnings growth.

IDENTIFYING THE REAL STYLE

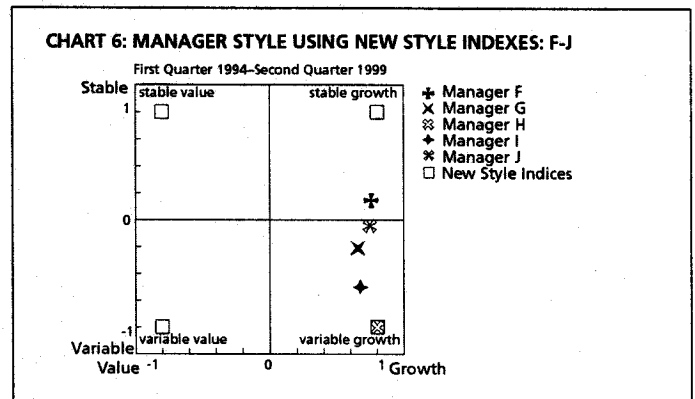
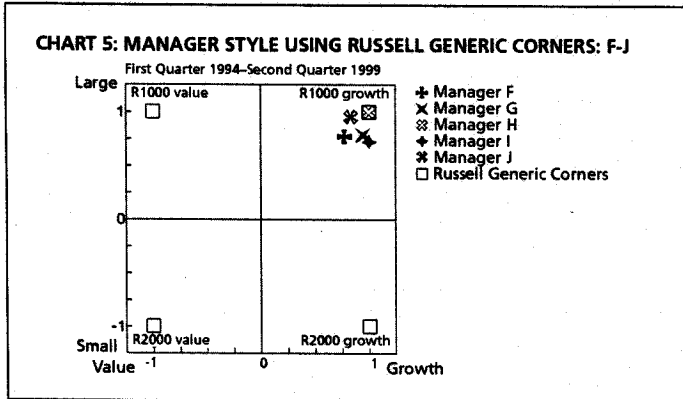
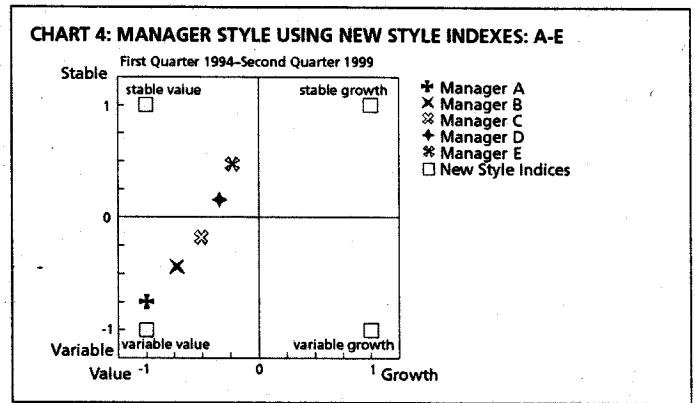
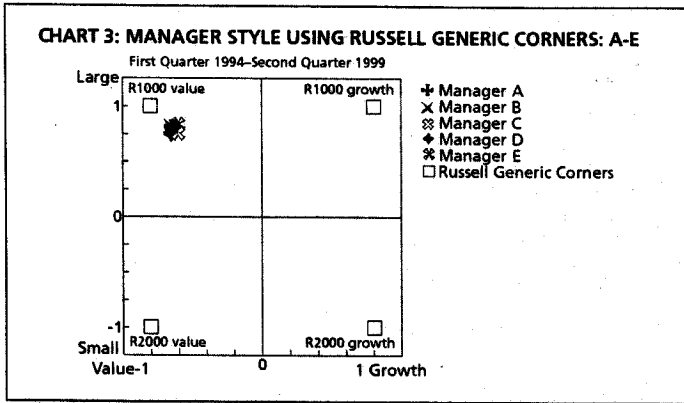
These style indexes may be used to objectively determine manager style. Investors use style analysis to understand a manager's return history as well as to determine whether or not a manager has followed a specific style consistently over time. The new style indexes can be used to enhance this analysis.

Nobel Laureate William F. Sharpe developed one method of style analysis renowned for its speed, simplicity, and accuracy. His return-based style analysis theory asserts that one can classify a manager by fitting a line that describes the manager's returns as a combination of various benchmark indexes. This can be done relatively easily nowadays using the regression commands found in most spreadsheet programs or by using specialized software packages.

Using the Zephyr Associates Style Advisor software package and manager return series drawn from the PSN database, we have constructed style evaluations that illustrate the advantages of using our benchmark indexes. Charts 3 through 6 show how the new indexes can help differentiate large-cap managers. They also show that combining a single large-cap growth manager and a single large-cap value manager in a portfolio may not be enough to provide satisfactory diversification, if variability vs. stability is not also considered.

Chart 3 displays the results of a style analysis of five managers using the Russell 1000 Growth, Russell 1000 Value, Russell 2000 Growth and Russell 2000 Value indexes. All the managers appear to follow the same large-cap value style. Chart 4 displays a style analysis for the same five managers using the new style indexes. Because this set of indexes also classifies stocks on the basis of stability, we see the five managers actually follow a wide variety of styles. Similarly, Charts 5 and 6 show how the new indexes can differentiate managers within the large-cap growth category.

One would expect the concept of stability to be related to portfolio beta and this, in fact, is the case. For example, manager A in Charts 3 and 4 has the highest beta at 1.12 while manager E has the lowest, at 0.78. However, there is more to stability than a renaming of beta. For example, manager B's beta of 0.81 is lower than the betas of managers C (0.95) and D (0.94), while showing more variable return behavior.



WHO IS STABLE AND WHO IS NOT?

We consulted the PSN equity database of institutional equity manager returns and sorted managers according to our four-cornered style framework. The four corners of Table 1 represent managers whose return behavior most closely matched the return behavior of our four basic style indexes. Between the corners fell managers with strong emphases in one of our style axes, growth vs. value, say, but not in the other. Finally, at the center of the table are "core" managers that exhibited no strong bias toward growth, value, stability or variability.

The managers were selected from the PSN database using Zephyr Associates Style Advisor software in a two step process. First, we ran a conventional return-based growth vs. value style analysis with a January 1994 through September 1999 return history. Then, taking the large-cap managers (for whom our classification is applicable), we resorted them using OakBrook's four-cornered classification and placed them in their cells.

The median return characteristics of the cells are consistent with those of the four basic style indexes reported in Tables 2 and 3. Return increases as one moves from left to right and from top to bottom, reflecting the strong historical performance of growth stocks vs. value stocks and variable stocks vs. stable stocks from January

1994 through September 1999. Standard deviation of return and betas increase as one moves from top to bottom, reflecting the increase in the variability of return as one moves from stable to variable managers. Growth managers tend to have higher betas than their value counterparts in each row of the table. This result supports the hypothesis that this analysis measures managers' portfolios as it does individual stocks.

Table 1 reports the institutional, large-cap breakdown we

TABLE 1: STYLE CLASSIFICATIONS AND PERFORMANCE OF LARGE CAP EQUITY MANAGERS* JANUARY 1994 - SEPTEMBER 1999

Stable Value	Stable	Stable Growth
Number of Managers: 58	Number of Managers: 50	Number of Managers: 45
Median Return: 12.89%	Median Return: 16.54%	Median Return: 17.55%
Median Stdev: 10.86%	Median Stdev: 13.15%	Median Stdev: 13.72%
Median Beta: 0.56	Median Beta: 0.81	Median Beta: 0.87
Assets: \$124.7 billion	Assets: \$122.5 billion	Assets: \$64.7 billion
Value	Core	Growth
Number of Managers: 92	Number of Managers: 138	Number of Managers: 145
Median Return: 16.60%	Median Return: 19.74%	Median Return: 21.62%
Median Stdev: 14.70%	Median Stdev: 14.54%	Median Stdev: 14.43%
Median Beta: 0.92	Median Beta: 0.99	Median Beta: 1.01
Assets: \$211.8 billion	Assets: \$356.3 billion	Assets: \$304.5 billion
Variable Value	Variable	Variable Growth
Number of Managers: 38	Number of Managers: 107	Number of Managers: 173
Median Return: 19.14%	Median Return: 21.10%	Median Return: 22.27%
Median Stdev: 16.47%	Median Stdev: 15.99%	Median Stdev: 16.04%
Median Beta: 1.04	Median Beta: 1.10	Median Beta: 1.11
Assets: \$76.4 billion	Assets: \$213.6 billion	Assets: \$335.5 billion

* Excludes \$434.1 billion of assets under management in 18 S&P 500 Index and Enhanced Index Funds classified as growth funds by the returns based analysis.

found. The largest number of managers (173) follow the variable growth style. The total number of value managers (188) is about half the total number of growth managers (363). The number of stable value managers (58) is larger than the number of variable value managers (38), which is consistent with the perception that a portfolio of value stocks should offer safety and stability. A value manager focusing on stable stocks may find the market more receptive to his style.

The situation is reversed for growth managers: The number of variable growth managers (173) is substantially larger than

the number of stable growth managers (45). Once again this may reflect investor expectations; growth investors generally expect higher returns than value investors and are therefore willing to tolerate more risk.

ARE STABLE STOCKS UNDERWEIGHTED?

The table also reports aggregate assets under management figures as of the end of 1998, gathered from the PSN and Mobius databases (S&P 500 Index and Enhanced Index funds are excluded so that the study may focus on style biases in active management). Core management with no particular style bias as measured by our parameters was most popular, with more than \$350 billion under management. Summing assets under management down the leftmost and rightmost columns reveals a total of \$412.8 billion invested in the three available value styles, slightly more than half of the \$704.7 billion invested in the three growth styles. This is consistent with the average weights of value and growth stocks within the S&P 500 based on our style classification, 19.44% and 36.57% respectively. Summing assets under management across the top and bottom rows shows a total of \$311.9 billion invested in the three stable styles, not quite half the \$625.4 billion under management in the three variable styles. This is consistent with the average weights of stable and variable stocks within the S&P 500, 20.28% and 35.73% respectively, reported for June 1997 through December 1998.

While plan sponsors do not appear to have an overall bias toward value, growth, stable or variable stocks based on these figures, a bias does emerge if one focuses on the four specialized styles at the corners of the table. Of the \$601.1 billion total assets in the four corners, only 10.8% is managed in a stable growth style and only 12.7% in a variable value style. Yet the average weights of the two styles within the S&P are nearer to 23.5% and 22.1%, respectively. Similar calculations demonstrate that the variable growth and stable value styles are each overweighted by approximately 10%. While these biases are understandable, given the perceptions that value should provide stability and that volatility is acceptable for growth funds, it may expose plan sponsors to large investment risks. As an inspection of the returns in Table 2 illus-

TABLE 2

OAKBROOK BASIC STYLE INDEX RETURNS

Period	OakBrook Variable Growth	OakBrook Stable Growth	OakBrook Variable Value	OakBrook Stable Value	BARRA Growth	BARRA Value	S&P 500
1985	23.03	45.29	25.78	32.38	33.31	29.68	31.73
1986	14.35	32.01	7.89	28.18	14.50	21.67	18.67
1987	8.58	10.28	2.31	-1.47	6.50	3.68	5.25
1988	5.99	17.31	23.36	21.17	11.95	21.67	16.61
1989	32.31	35.04	16.60	29.79	36.40	25.53	31.69
1990	-3.53	6.44	-18.74	-5.19	0.20	-6.85	-3.10
1991	44.39	31.01	35.95	32.25	38.37	22.56	30.46
1992	4.73	8.17	21.90	10.70	5.06	10.52	7.62
1993	-0.45	7.99	24.01	15.41	1.69	18.59	10.08
1994	8.34	4.16	-1.90	-6.30	3.14	-0.64	1.32
1995	39.60	32.34	41.63	34.21	38.14	37.00	37.58
1996	28.37	16.12	25.70	15.04	23.97	22.00	22.96
1997	34.56	31.28	40.31	29.88	36.53	29.98	33.36
1998	56.85	24.10	15.72	9.83	42.16	14.67	28.58
1999	50.82	-0.97	21.52	-5.49	28.23	12.68	21.04
3 years	47.16	17.28	25.42	10.51	35.52	18.88	27.56
5 years	41.70	19.92	28.56	15.82	33.64	22.94	28.51
10 years	24.56	15.45	19.12	12.08	20.60	15.36	18.17
Overall	21.80	19.29	17.67	15.08	20.38	16.96	18.89
RISK ²							
St dev	19.91	15.00	19.18	12.67	16.18	14.47	14.94
Tracking	8.62	6.11	7.83	9.98	3.56	3.80	0.00
Beta	1.22	0.92	1.19	0.63	1.06	0.94	1.00

* The risk measures used in the table above are defined as follows:

- St dev is the annualized standard deviation of monthly returns from January 1985 thru December 1999.
- Tracking is the annualized tracking error of monthly return relative to the S&P 500.
- Beta is the beta of monthly return relative to the S&P 500.

TABLE 3

OAKBROOK COMBINED STYLE INDEX RETURNS

Period	OakBrook Stable	OakBrook Variable	OakBrook Growth	OakBrook Value	BARRA Growth	BARRA Value	S&P 500
1985	37.74	25.48	34.78	29.60	33.31	29.68	31.73
1986	32.05	10.75	25.29	18.96	14.50	21.67	18.67
1987	6.05	6.23	10.19	1.69	6.50	3.68	5.25
1988	18.37	14.82	10.50	22.94	11.95	21.67	16.61
1989	33.60	22.84	33.74	22.37	36.40	25.53	31.69
1990	3.05	-10.39	3.49	-11.31	0.20	-6.85	-3.10
1991	30.23	42.95	39.97	34.07	38.37	22.56	30.46
1992	7.26	8.49	3.78	14.18	5.06	10.52	7.62
1993	11.57	10.61	2.47	21.15	1.69	18.59	10.08
1994	-0.05	3.57	6.87	-2.80	3.14	-0.64	1.32
1995	34.32	40.03	37.66	37.83	38.14	37.00	37.58
1996	16.08	29.91	24.98	21.77	23.97	22.00	22.96
1997	31.90	36.92	34.59	35.73	36.53	29.98	33.36
1998	20.44	43.30	46.53	14.73	42.16	14.67	28.58
1999	-0.79	44.09	31.45	12.70	28.23	12.68	21.04
3 years	16.37	41.40	37.38	20.62	35.52	18.88	27.56
5 years	19.70	38.75	34.86	24.11	33.64	22.94	28.51
10 years	14.71	23.40	22.06	16.76	20.60	15.36	18.17
Overall	18.04	20.81	22.19	17.41	20.38	16.96	18.89
RISK ²							
St dev	12.97	18.54	17.04	15.03	16.18	14.47	14.94
Tracking	5.96	5.73	5.36	5.12	3.56	3.80	0.00
Beta	0.80	1.20	1.08	0.95	1.06	0.94	1.00

* The risk measures used in the table above are defined as follows:

- St dev is the annualized standard deviation of monthly returns from January 1985 thru December 1999.
- Tracking is the annualized tracking error of monthly return relative to the S&P 500.
- Beta is the beta of monthly return relative to the S&P 500.

trates, variable growth is a poor substitute for stable growth and stable value is a poor substitute for variable value. Collectively, there may be an unplanned exposure to risk here.

WATCH OUT FOR STYLE DRIFT

In addition, the Style Indexes may shed new light on a more insidious problem: the issue of style drift. As an example, consider the Russell-based style analysis displayed in Chart 7. This chart combines analyses conducted over several different periods to give a sense of how a manager's style might have changed over time. The larger the size of a symbol, the more current is the data used in the analysis. Using manager K as an example, we see that during earlier periods in 1996, analyses placed the manager's style squarely in the large cap growth category. However, by 1999 the manager's style appears to have drifted toward a mid-cap value focus. Managers L and M also appear to have drifted away from a growth style toward value. The picture is quite different when return variability and stability are considered. Chart 8 shows all three managers consistently demonstrating stable growth behavior.

The "style" drift observed in the Russell based analysis of Chart 7 may be the result of drift in the Russell benchmark indexes themselves rather than manager style. Chart 9 shows that the Russell Indexes have grown more volatile recently, with the trend being more pronounced for the Russell Growth than the Russell Value. One can measure the magnitude of the drift using the scale on the left axis of the chart. For the value index, the small symbol representing the first style observation is at the same level as the 0.25 mark on the axis. The large symbol denoting the last style observation is just above the zero level, indicating a drift of magnitude 0.25 toward variability over the period. For the growth index, the first style observation is near the zero level, while the last is near -0.5. The difference represents a drift of magnitude 0.5 toward variability. As the association between growth and volatility has become stronger, managers that emphasize stability have appeared less "growthy" and more "value-like" in their behavior without necessarily having changed their real investment styles in any way.

The increase in variability here is a general result that applies across a number of large-cap indexes (see Charts 10 to 13). All of the composite indexes exhibit a drift of magnitude 0.5 toward variability, comparable to the drift observed for the Russell 1000. However, the behavior of the value and growth sub-indexes in Charts 10 and 11 differs from that displayed for the Russell 1000 value and growth indexes. For the Wilshire 750 and S&P 500 based indexes, the drift toward variability of the value sub-index is much larger in magnitude than the drift of the growth sub-index, reversing the relative magnitudes observed for the Russell indexes. This reversal reflects differences in the definitions of growth and value used by the three index providers, as well as the range of capitalizations included in their respective indexes.

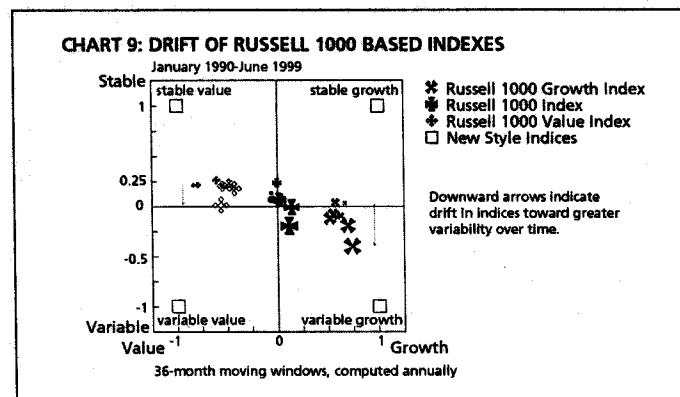
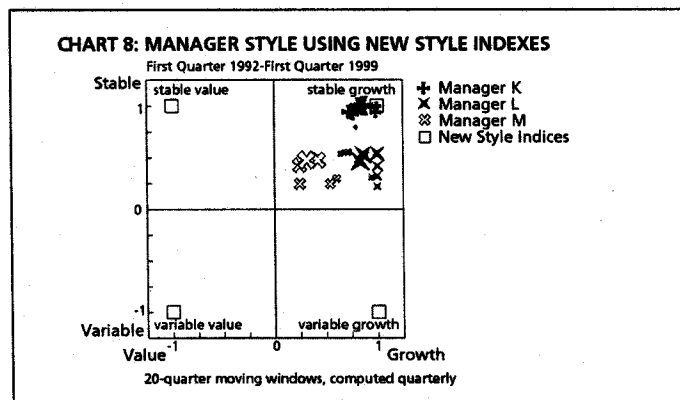
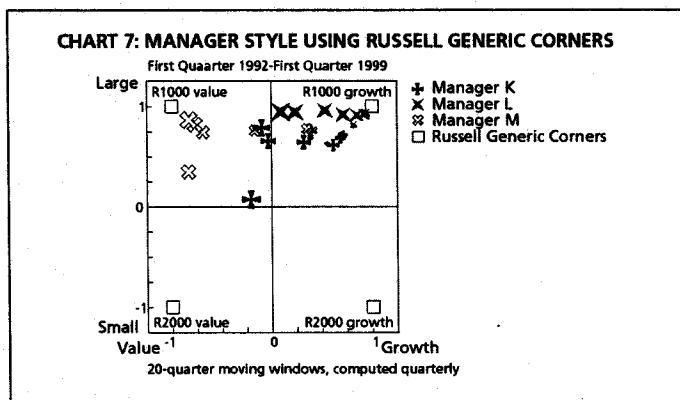
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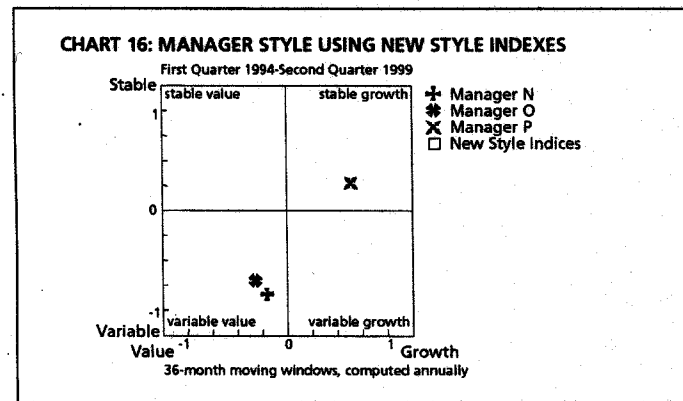
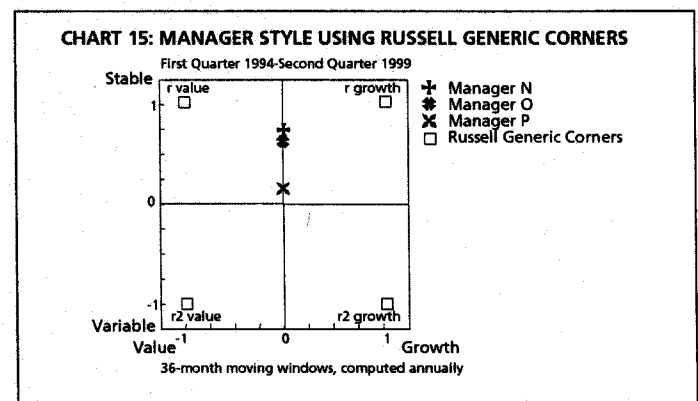
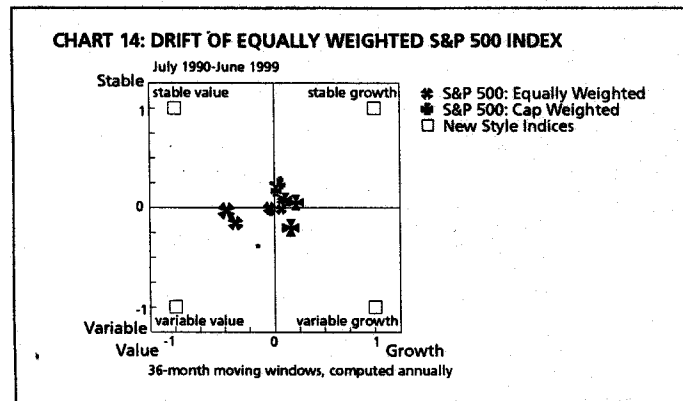
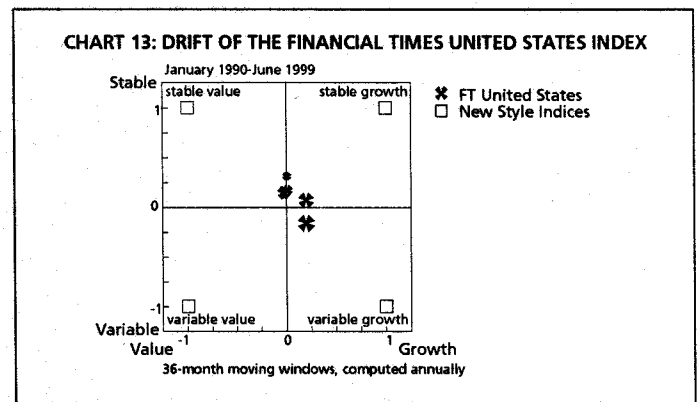
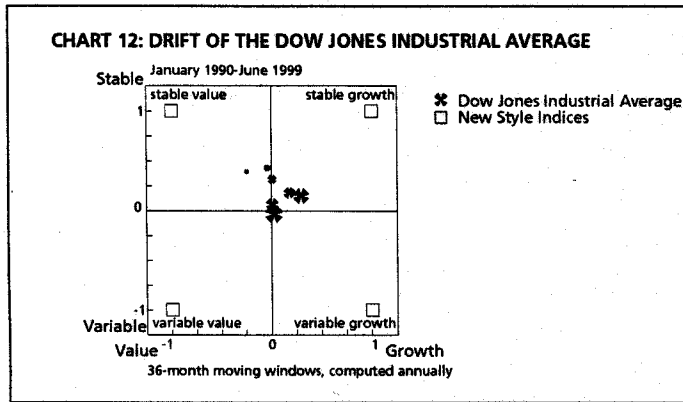
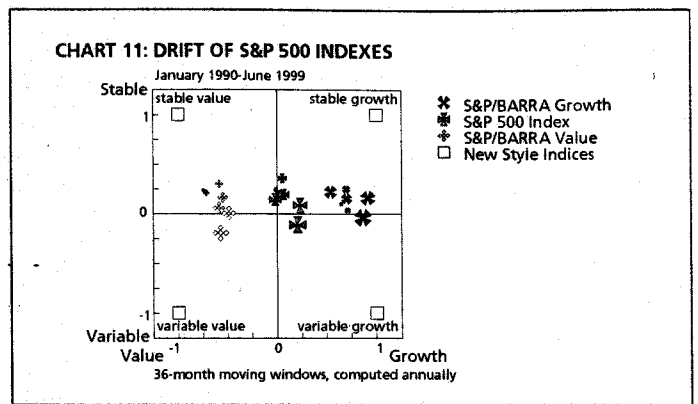
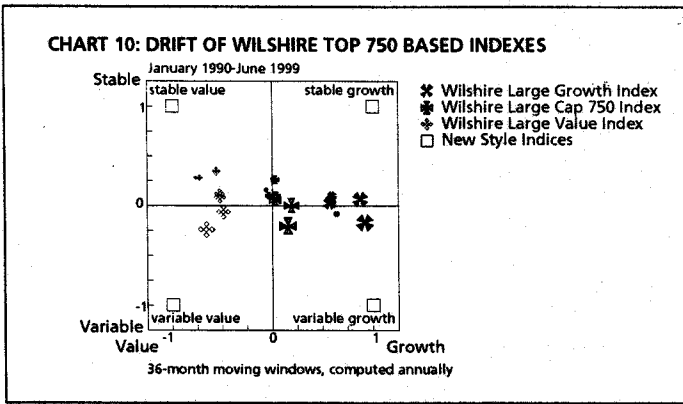
Chart 14, which displays the style drift of the equally weighted S&P 500 index over time. Running counter to the trend displayed in Charts 9 through 13, the equally weighted S&P 500 index has actually grown more stable over the past 6 years. This indicates that the increasing variability of the capitalization weighted S&P 500 index is being driven by the growing concentration of the index in a few highly volatile stocks. The 65 stocks of the Variable Growth Index grew from approximately 12% by cap weight of the S&P 500 in 1993 to 28% of the index in 1999.

It can be difficult to measure manager styles when the rulers used to measure them are changing.

UNCOVERING "HIDDEN" STYLES

Adding the new stable vs. variable classification can also identify growth and value managers that analyses based on other





indexes might miss. Chart 15 displays the results of a return-based style analysis of three large-cap managers using the traditional valuation and capitalization categorization of the Russell Indexes. None appear to follow a distinctive growth or value style. Chart 16 displays a style analysis for the same three managers using the new style indexes that include a stable vs. variable classification. Growth and value styles are clearly present.

The Russell based analysis does not identify the growth and value styles indicated in Chart 16 because the Russell Indexes do not measure stability and variability as separate characteristics of a manager. The strong drift of the Russell 1000 Growth toward more variable stocks over the past few

years has made growth a proxy for variability and value a proxy for stability. As a result, a Russell based analysis of a growth-oriented manager that has stable returns must resolve a tug of war between the manager's underlying growth characteristics and the pull toward value as a stability proxy. The end result, in the case of manager P, is the appearance that the manager's style is neither growth nor value when in fact it is distinctly in the stable growth camp. Similarly, variability is seen as a sign of a growth manager, which leads to the misidentification of variable value managers N and O. Because the new style indexes classify stocks on the basis of stability rather than capitalization, we see that the three managers do actually follow growth or value styles.

SUMMARY

The difference in return between stable and variable large-cap stocks can be as pronounced as the difference in return between growth and value stocks. When used as a foundation for a return-based style analysis, style indexes that categorize

stocks simultaneously on the basis of valuation and stability can identify a wide variety of manager styles that other analyses based on the traditional valuation and capitalization categorizations cannot tell apart.

The results of our returns based style analyses indicate that, in aggregate, plan sponsor portfolios seem well balanced with respect to the growth, value, variable and stable styles, but appear to be underweight stable growth stocks in favor of variable growth and underweight variable value in favor of stable value. Plan sponsors could face a sizeable investment risk as a result. For example, in 1999 the Variable Value Index returned 21.52% while the Stable Value Index returned -5.49%. Finally, taking return stability into account can also improve the analysis of the consistency of a manager's investment style and identify return styles that analyses based on other indexes may miss because of index drift. By adding a new dimension to manager style analysis, the new style indexes can help investors better understand manager style and improve their portfolio diversification. ⊕