



ZEPHYR

ASSOCIATES, INC.

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The ADVISOR

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Style *FLASHES*

Queries???

If you want to locate a manager in one of the manager databases, and don't feel like scrolling through 3000 names, simply enter the name of the manager in the description field under query. The only problem with this is that, if you misspell the managers name, you end up staring at a blank screen and have to start all over again. Next time, try typing > and then the first letter of the name. The list of managers above will now begin from that letter of the alphabet, and you need only scroll a short way to find the manager.

If you are looking for a manager with a minimum or maximum dollar amount under management, you can isolate these managers using the query. For instance, if you only wanted to look at managers with over \$500 million, in the "assets \$mil" query field, replace "all" with >500, and click apply. Only managers with more than \$500 million in assets will be listed above.

You can also query by particular letters or words found in the name or description of a firm's products. For example, in the "name" field of the query menu, replace "all" with

"option", then click apply. Listed will be the names of 6 option writing firms (if you're using the Mobius Database) where "option" is included in the name of their product.

New area graph

You may have already had a chance to use the new asset allocation area graph. Keep in mind that this is only useful for one manager with multiple computation points. If you're doing a style analysis for two or more managers at a time, and/or would like to also include the market benchmark, the program will revert back to our original bar graph. You also have the option of using either the area or bar graph on any analysis you choose. I think this is a nice addition to **StyleADVISOR**. I wish I had thought about it before our competitors.

New StyleADVISOR Users

We are happy to welcome the following new Style Advisor users:

For a Free Demo Disk and list of Clients call (800) StyleAD (789-5323)



StyleANALYSIS

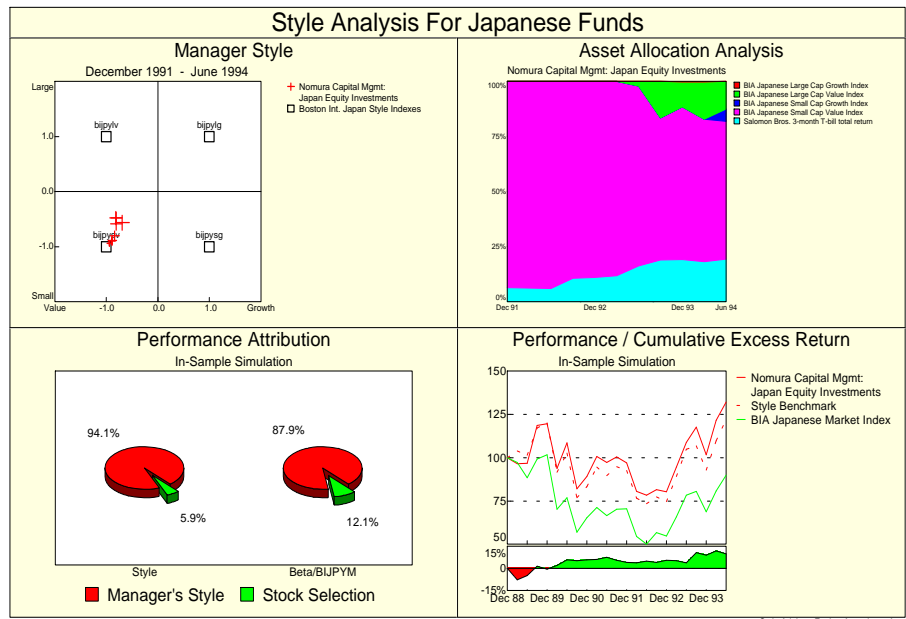
The BIA International Style Indexes

About two years ago, Morgan Stanley Capital International announced the computerization of every data item in their monthly and quarterly publication of the Capital International Perspective beginning December 31, 1974. In January of 1993, Boston International Advisors purchased the MSCI database. Using this database, and applying the methodology explained in the Capaul, Rowley, and Sharpe study reported in the January/February 1993 issue of the Financial Analyst Journal, BIA created a massive set of international style indexes. They currently provide 8 style (lgval, lggro, smval, smgro, value, growth, smallcap, largecap) and 1 market index for each of the 22 countries and 7 regions. This data is provided monthly and goes back for 20 years.

During a meeting that I had with Bill Sharpe over a year ago, I asked him if he knew anyone involved in constructing international style indexes, and he mentioned Boston International. I contacted David Umstead, Director of Research at BIA, to see if he would provide us with these indexes for use with

StyleADVISOR. At the time Dave explained that they had a great deal of time and money invested in the development of these indexes for their own internal use, and had no desire to distribute them to anyone (with the exception of Bill Sharpe who was using the indexes in his research). Boston International did become a **StyleADVISOR** client and has recently agreed to license the use of these indexes to **StyleADVISOR** subscribers. I became their first "licensee" several months ago and began working with the indexes to evaluate their use with Style Advisor. The following is a report of my experiences.

Graph 1



Style Advisor: Zephyr Associates, Inc.

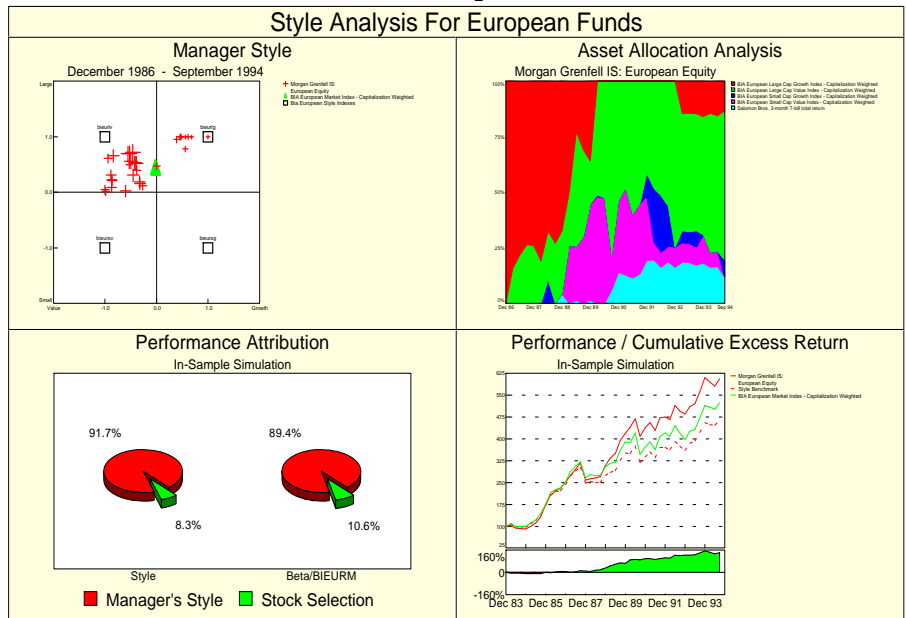
Single Country and Regional Analysis

Using the BIA four style indexes for a country fund is no different than using four domestic style indexes for a domestic equity fund. Graph 1 displays a style analysis performed with **StyleADVISOR** on the Nomura Capital Markets Japanese composite using the BIA four Japanese style indexes. A similar analysis is displayed in Graph 2 for Morgan Grenfell's European Fund using the BIA European style indexes. With style indexes available for 22 separate countries and 7 regions, this type of style analysis can be performed on almost any single country or regional fund.

approaches. Styles can be selected from regions (i.e. Europe, Pacific, North America, Europe - Pacific, Europe-Pacific X Japan, etc.), and/or from the various separate country market indexes. If you are convinced a manager is represented in only a few countries, you can select the four style indexes for each country.

Unfortunately, the palette of indexes becomes too large when selecting four style indexes for more than a few separate countries. For instance, if you were to select four styles for each of the 13 most dominate countries within the EAFE index, you would have 52 indexes, a number that is

Graph 2



Style Advisor: Zephyr Associates, Inc.

International (Non-U.S.) Managers

Style analysis is not as easy for international managers who diversify among many countries and regions. For this kind of analysis, there are a couple of

Table 1

	Median R2	Mean R2
Mobius		
Euro/Pac X Japan 4 styles	79.11	74.12
13 Countries	76.82	71.61
EAFE	59.36	53.33
Morningstar		
Euro/Pac X Japan 4 Styles	82.44	81.42
13 Countries	84.32	81.62
EAFE	71.52	70.38

unmanageable.

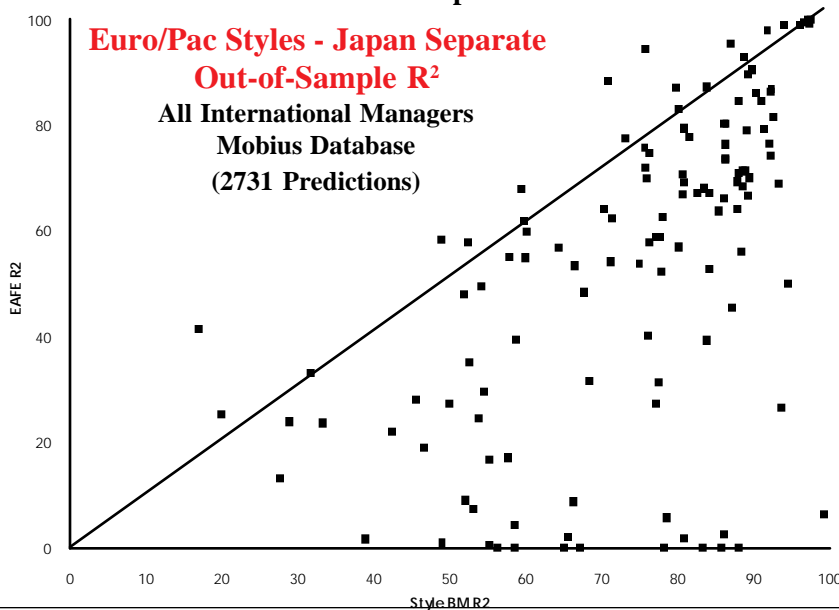
In order to determine the best combination of indexes and countries to use, I did a series of scans using StyleADVISOR. Before performing these scans, I created two universes (sets) of international managers. One from Mobius, and the other from Morningstar. To create my customized universes, **I began with the complete universe of international managers and then eliminated global, country and regional managers, and all managers with less than 4 years of performance.** This elimination was done with the "query" when I selected the managers for the scan. I was left with a set of 125 diversified international managers in Mobius and 50 international mutual funds in Morningstar. Once these sets were created, I was able to perform as many scans as I liked without having to go through this elimination process each time. **Using a number of different style and country indexes for both countries and regions I then performed a number of different analyses.** Each individual analysis was done out of sample using a trailing 3 year window (Despite the fact that the R²'s were much higher in-sample, the results from this type of test are much more significant when done out-of-sample). The trailing window size was 36 months for Morningstar and 12 quarters for Mobius. I then exported the results from each of these scans into an Excel spreadsheet and calculated the median and mean R²'s for both the style and market benchmark (EAFE Index).

My Conclusions

EAFE seems to be the benchmark that everyone hates, but uses. If one of the requirements of a good benchmark is that it captures a lot of information about a manager, then EAFE is a poor benchmark for most international managers. The median and mean R² for the 125 diversified

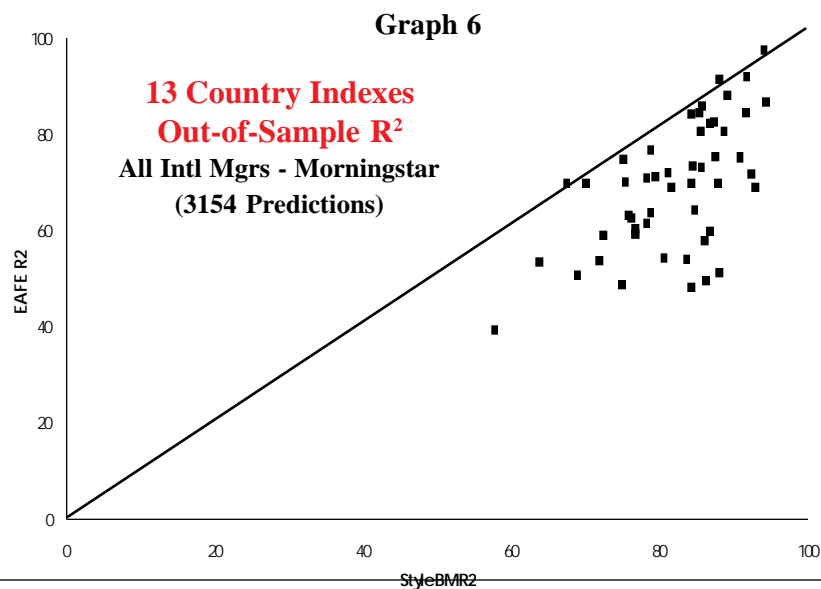
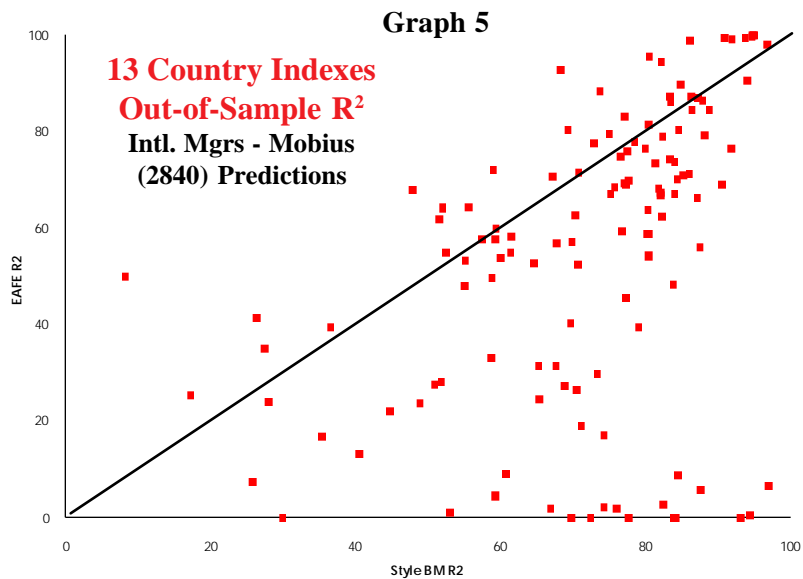
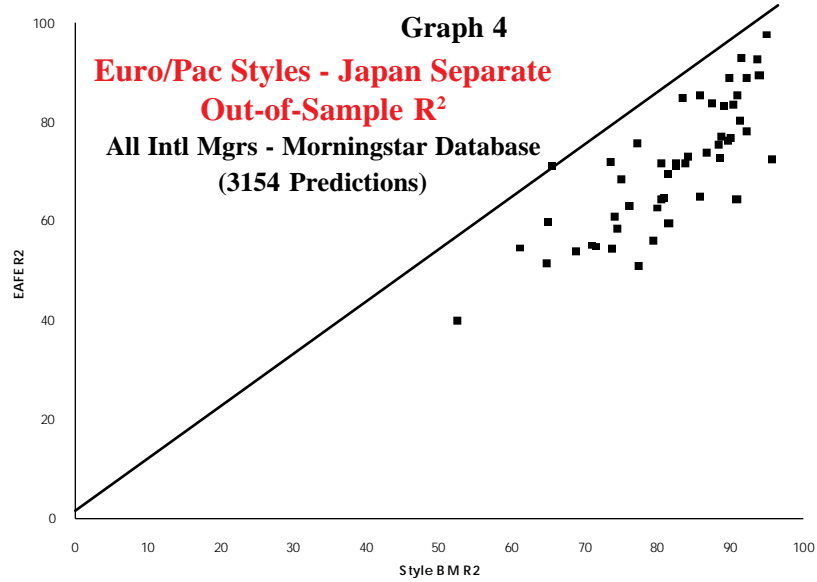
international managers in Mobius, with more than four years track record, is 59% and 53% respectively. Compare this to the mean and median R² of domestic managers to the Russell 3000, which is 79.07% and 84.32% respectively. **For the most part, this poor tracking to the EAFE Index can be attributed to the underweighting of most managers**

Graph 3



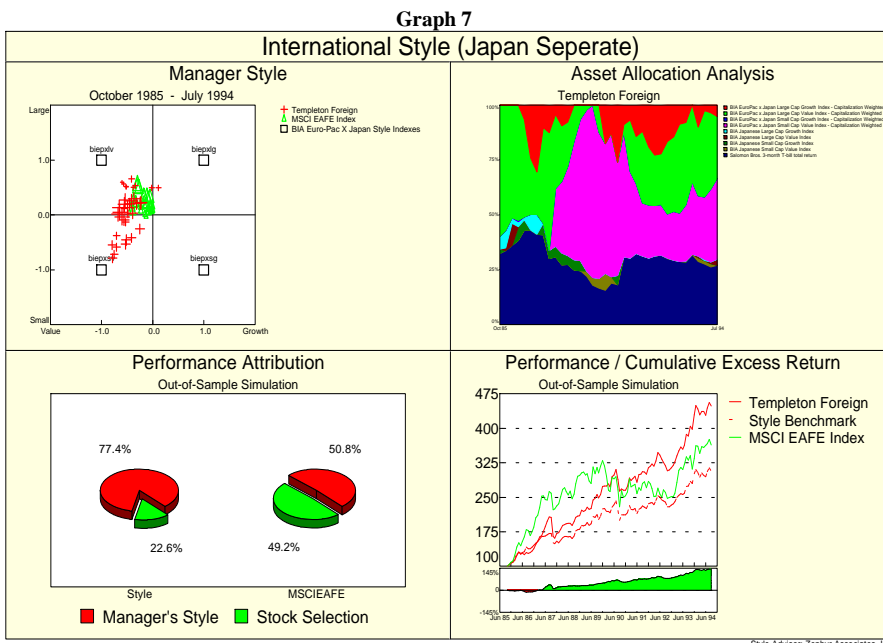
in Japan. I also got relatively low Rsquareds when using the four BIA style indexes on the Europe/Pacific region (which is virtually the same as the EAFE Index). I was able to get a much higher tracking by selecting the BIA style indexes for Europe/Pacific X Japan (biepxlg.ind, biepxlv.ind, biepxsg.ind, biepxsv.ind) and then separately adding in the four Japanese style indexes (bijpysg.ind, bijpysv.ind, bijpylv.ind, and bijpylg.ind). In other words, by treating Japan separately, I was able to achieve a much more accurate picture of the Japanese weightings for each manager. As shown in Table 1, my median out-of-sample Rsquared for the Mobius and Morningstar international managers was 79.11% and 82.44% respectively. We think its a big deal to build style benchmarks for domestic managers that get anywhere from 5-10 percentage points more than the market benchmarks. Here, our style benchmarks are averaging over 20 percentage points higher than the EAFE index! For each of the international managers in Mobius, Graph 3 plots an R² to the style benchmark on the horizontal axis and an R² to the EAFE Index on the vertical axis. If the R²'s were generally about the same, the dots would line up close to, and cluster around the diagonal line. This graph pretty much tells it all. Graph 4 does the same on the Morningstar International Managers.

After numerous tests on various regions, I concluded that the Europe/Pacific X Japan style indexes, with Japan's styles entered separately, is the best palette of indexes to use when performing



an international style analysis. I created a file for international style, where I selected as my style basis a style chart composed of the four Europe/Pacific X Japan style indexes on the four corners. In the “Select Index” menu, I added the four Japanese style indexes so that my palette of indexes in my asset allocation analysis contains 8 indexes. Four indexes for the region, and four additional indexes for Japan. Keep in mind that the style chart (upper left hand graph) does not include the four Japanese styles. Graph 7 provides such an analysis

Another analysis that I have found helpful for international managers is done using a number of country indexes. As I mentioned earlier, I would prefer to look at the style indexes per country, however this necessitates including way too many indexes and creates statistical difficulties. BIA provides capitalization weighted market indexes for 22 countries, monthly, from 1975. For a general kind of analysis, I chose to reduce this number of 21 to a smaller number of countries that would typically be represented in the average portfolio. To select a fewer number of countries from my palette of indexes, I did the following: First, I selected 21 countries for my style index under “Select Indexes”. For the “manager” I selected the MSCI EAFE index. From the “Run” menu I selected “Advanced” and clicked on “Adjusted R²”. The “Adjusted R²” attempts to minimize the number of indexes, while still achieving the highest R². There is a “penalty” in this analysis for using more indexes than necessary. **The adjusted Rsquared should be used whenever you have a large number of indexes and are unsure of which ones to use.** This analysis, and the asset allocation analysis, showed that



only 13 of the 21 market indexes were weighted when using EAFE as a manager. The indexes, and their weights are listed in Table 2 on the following page. You can get the weightings from Morgan Stanley, but this method is quicker, and it also gives me a chance to show off our new asset allocation area graph (graph 8). Table 1 (shown previously) displays

the results of a scan analysis done using these 13 country indexes (see also graphs 5 & 6). The median and mean R² for the Mobius managers was 76.82% and 71.61% respectively, and 84.32%, 81.26% for the Morningstar funds.

I personally have decided to use both the regional style index method

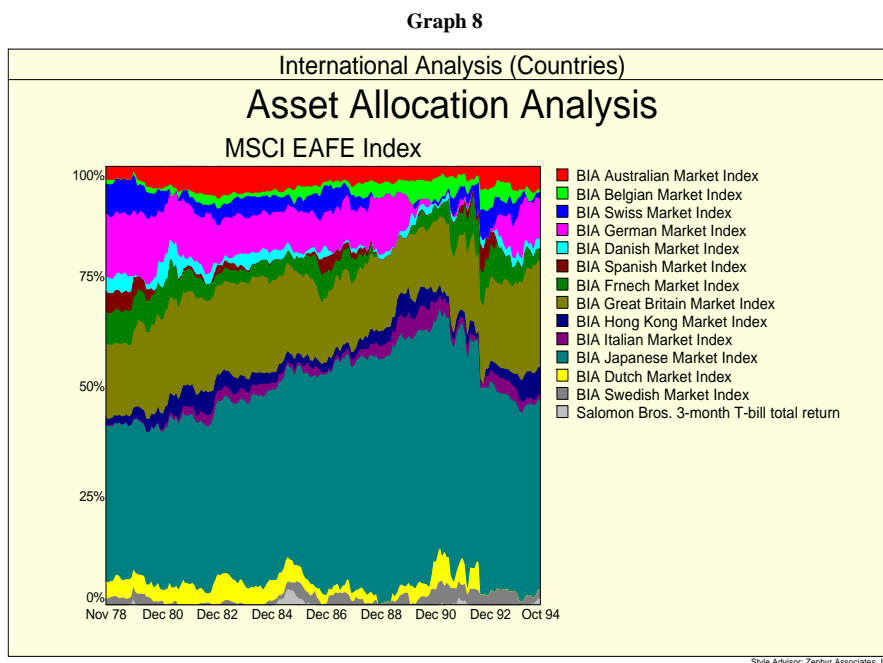


Table 2

Average Country weightings in EAFE from Style Advisor analysis

Australia (biaudm)	0.0345
Belgium (bibefm)	0.0270
Swiss (bichfm)	0.0371
German (bidemm)	0.0682
Danish (bidkkm)	0.0102
Spanish (biespm)	0.0197
French (bifrfm)	0.0403
Great Britain (bigbpm)	0.1832
Hong Kong (bihkdm)	0.0290
Italian (biitlm)	0.0200
Japanese (bijpym)	0.4714
Dutch (binlgm)	0.0446
Swedish (bisekm)	0.0148

mentioned earlier and the 13 country index when I evaluate an international manager. If I find that a particular manager has typically invested in 5 or fewer countries, or that several countries dominate the portfolio, I may then perform a third analysis and select the four styles for each country.

Is There a Reason to Diversify by Style in the International Market?

This is an interesting question which deserves to be explored in much more

Table 5

BIA Euro/Pacific X Japan Styles - R2 Matrix

	LgGro	LgVal	SmGro	SmVal
LgGro	100.00	91.56	91.38	85.85
LgVal		100.00	92.78	91.78
SmGro			100.00	94.74
SmVal				100.00

Table 3

Russell Style Indexes - R2 Matrix

	LgGro	LgVal	SmGro	SmVal
LgGro	100.00	82.42	79.82	69.52
LgVal		100.00	69.96	75.89
SmGro			100.00	88.60
SmVal				100.00

depth than we will do here. It is a subject that I would like to spend some more time on in the future, but for now, a few simple observations.

🔗 **If investment styles are very positively correlated, than all of this style stuff is a waste of time** at least in terms of any benefits to be gained from diversification. We know that

domestic equity styles are much less than perfectly positively correlated, and therefore have real diversification (low risk) benefits (see table 3).

🔗 Fortunately, we see that the same thing seems to also be true in the stock markets of other countries (see table 4)

Table 4

BIA Japanese Style - R2 Matrix

	LgGro	LgVal	SmGro	SmVal
LgGro	100.00	76.88	75.13	68.24
LgVal		100.00	75.86	79.92
SmGro			100.00	88.76
SmVal				100.00

🔗 When we examine the correlation between regional styles, it gets much murkier. No doubt, the combining of markets with investment styles tends to water down the differences (see table 5).

Another reason for performing a style analysis on an international manager, has to do with return expectation. Because value has outperformed growth in the past, many expect this to be true in the future. They would therefore want to identify and hire international value managers (I remain agnostic on this subject for now).

A Couple of Additional Observations

Observation One

There seems to be less consistency of style among international managers when compared to domestic equity managers. I think there may be a number of reasons for this, not the least being the fact that plan sponsors have placed less pressure on international managers to conform to particular styles than they have on domestic equity managers. You will find a similar situation with mutual funds whose retail clients are much less style conscious than are institutional plan sponsors. If I'm right about this, it will probably be less true as more plan sponsors become style conscious internationally and begin making style demands of their international managers (incidentally, I'm not so sure that this is good. I believe that good managers will perform better given less constraints).

Another reason for less style consistency among international managers may be due to the fact that most are top-down, expecting to get their alpha from country selection as opposed to stock selection. These manager may, for the most part, index their stock selections within each country.

Even bottom-up stock pickers may be guilty of this to a lesser extent. Consider the value oriented stock picker who first selects his/her favorite stocks, irrespective of their country. They may then index portions of the portfolio for risk control measures.

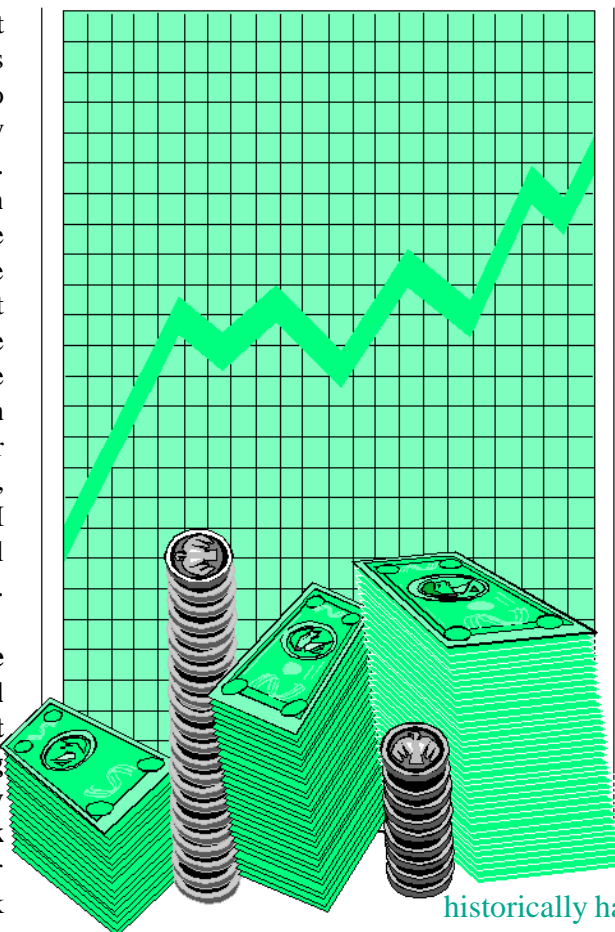
Observation Two

Despite all the things I have

mentioned above, there are many managers who appear to consistently favor particular investment styles. I suggest that you run a scan analysis on any of the international databases, using the BIA style indexes as suggested, and then rank the managers according to style. Then you will see what I mean.

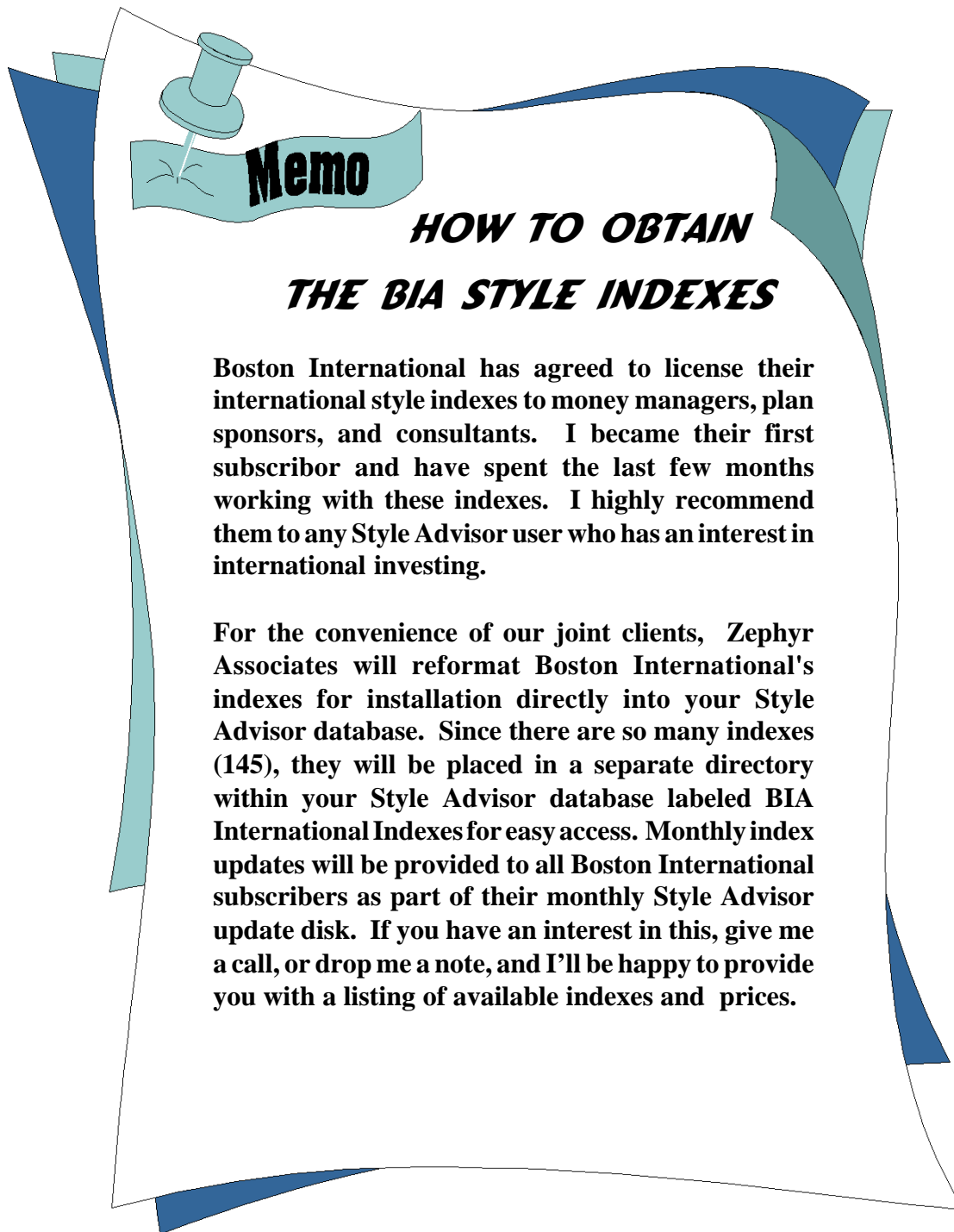
A Project

For those of you who like to play around with this sort of thing, a few suggestions.



Using 21 BIA Country Indexes, construct a minimum variance portfolio. In other words, what combination of countries and weights provides the lowest possible standard deviation. This can be done in about 5 seconds in Style Advisor. See if you can figure it out. Compare how the minimum variance portfolio performs vis-a-vis EAFE over the past 20 years. In the "Fund File" create some funds composed of various country indexes that

historically have had low correlation to one another. Compare their risk and return both when they are rebalanced periodically and when they are bought & held.



Memo

HOW TO OBTAIN THE BIA STYLE INDEXES

Boston International has agreed to license their international style indexes to money managers, plan sponsors, and consultants. I became their first subscriber and have spent the last few months working with these indexes. I highly recommend them to any Style Advisor user who has an interest in international investing.

For the convenience of our joint clients, Zephyr Associates will reformat Boston International's indexes for installation directly into your Style Advisor database. Since there are so many indexes (145), they will be placed in a separate directory within your Style Advisor database labeled BIA International Indexes for easy access. Monthly index updates will be provided to all Boston International subscribers as part of their monthly Style Advisor update disk. If you have an interest in this, give me a call, or drop me a note, and I'll be happy to provide you with a listing of available indexes and prices.