Style Investment Management

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Style is the new “hot topic” in global equity analysis and management. It is, however, really nothing more than simply reducing the scale of the problem of securities and portfolio analysis to a reduced set of investment criteria that make sense.

It is fascinating to explore where this simple idea can lead, and to consider what investment techniques, management practices and investment services can be constructed based upon the concepts, but great care must be taken to be sure that the research is done properly.

Order of the Presentation

- What is Style
  - Historic Development; Relevance Conditions; General Structure; The US Model; Elsewhere
- Applying the Style Framework
  - Investment Managers; Consultants; Sponsors
  - Differing Stages of Development & Perspectives
- Potential for Future Development

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In this presentation I will discuss what I think Style is, how it is being applied in the major markets, where some of us seem to be going wrong, why, and how that might be remedied.

I will describe how investment professionals, from many sides of the fence, incorporate Style and Style concepts in their activities. And I will hazard a few guesses on how that might develop in the future.

I'll also show how we can forecast changes within the Style framework; and demonstrate how Style concepts can be used to review actively managed portfolios within a changing market environment.

Throughout the presentation I'll also discuss how we at SIRA have defined our business and research to avoid the many pitfalls and to ensure that our services can be practically applied by professionals in our industry.

Historic Development
- The Early Years

Graham and Dodd, "Security Analysis" - 1934

◆ **Intrinsic Value Factors**	-------	**Earnings; Dividends; Assets; Cap Structure**
◆ **Future Value Factors**	-------	**Management; Growth in volume/prices/costs; Competition**
◆ **Market Factors**	-------	**Technical; Psychological**

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Benjamin Graham and David Dodd first introduced "Value" investing in their groundbreaking book "Security Analysis" in 1934.

They identified 3 basic criteria: Intrinsic Value; Future Value; and, Market Factors in their general enquiry.

Their intention was to show that there is more to shares than only speculation.

Their focus was on company share value; and their ambition was to offer an analytical methodology capable of building a sensible foundation for investments and investment analysis following the disruption of the Crash and the Depression.

On looking back we can see that their analysis included a healthy measure of respect for “Growth” criteria. But as we can generally expect, that did not stop their contributions from being over simplified, caricatured, and vehemently debated by a posturing opposition.

Historic Development
- Soon After

T Rowe Price Jnr "Picking Growth Stocks" 1939

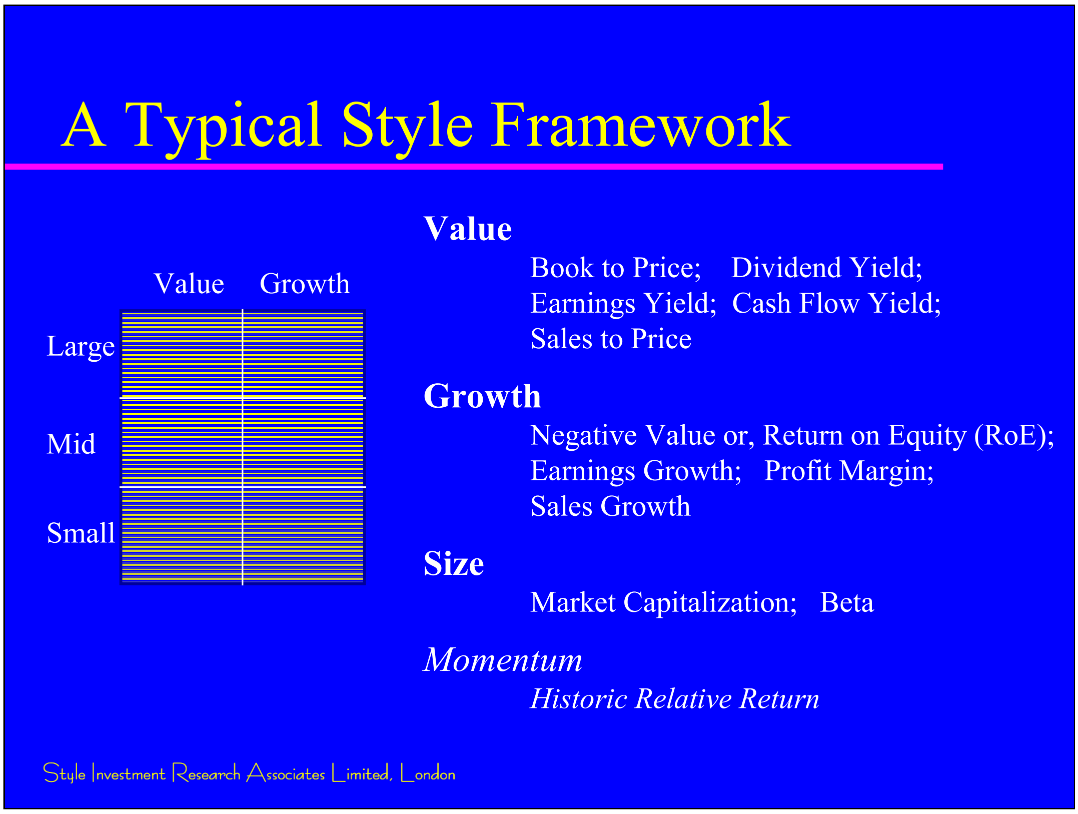
- **The "Fallacy of Investing for High Current Income"**
- **Growth Stocks vs Matured or Decadent Stocks**

In 1939, five years later, T. Rowe Price Jnr, in "Picking Growth Stocks" (Barron's 1939) focused on "The Fallacy of Investing for High Current Income".

The article caricatured Value stocks as mature (at maximum earnings) or even decadent (secular decline in earnings).

They pay out earnings because they have to; and the best developments may be already behind them.

Growth stocks offer "favourable underlying long-term growth in earnings" and so can provide the only way to outrun the erosion of inflation.



At the core of all Style work, is a process for the partitioning of market securities into the main Style categories.

The usual construction on the left outlines the standard way of looking at Value, Growth, Large and Small; but it is very worthwhile going more deeply into the definitions of what constitutes each of the major Styles.

Value is usually comprised of Book to Price and Dividend Yield, but other measures of Value are sometimes also taken into account. Growth has often been taken as simply low Value (Why else would you hold a low Value stock other than expecting Growth … that's what the simple Dividend Discount Model says.) We don't subscribe to that view and consider also a number of other Growth criteria. We also look at size (and risk), momentum, and some other criteria as well.

This framework effectively sets up the categories. Now we have to find a way of verifying that the categories make sense. And for this we need to set up an analysis methodology.

A Conditions Table for Style

CONDITION	SIGNIFICANCE	IMPORTANCE
Identity	Performance of stocks within each Style must cluster in distinct groups.	*****
Consistency	Securities' membership in Style categories should be relatively stable.	***
Attribution	A portfolio's performance should be describable in terms of its Style tilts.	****
Regularity	The relative performance of Style categories should be regular and non-random.	****
Universality	All stocks must be classifiable using the selected Style criteria.	***
Simplicity	Only a limited number of clearly understandable Styles should apply.	****

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Aside from the catchy acronym, and it's implicit warning, there is nothing here but some common sense. But it is important to be explicit about what we mean when we say Style is an important consideration in a market.

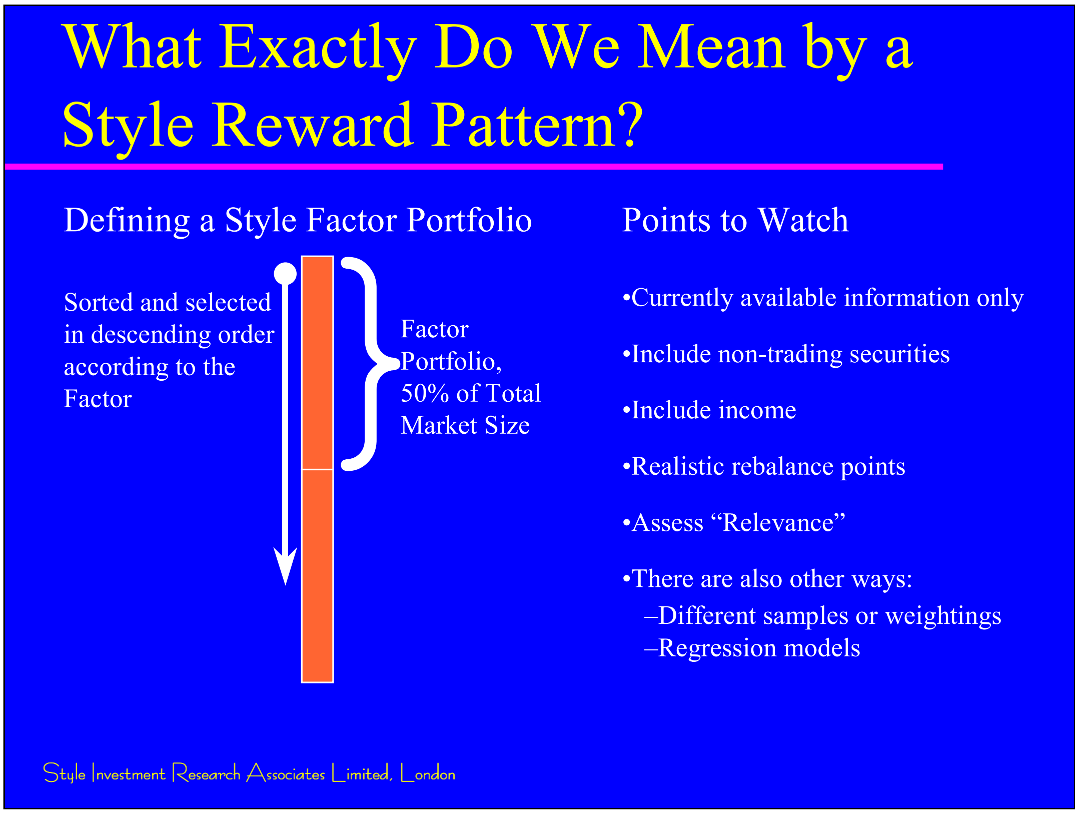
Some see Style as a way of describing the performance of a group of Stocks. We have then to be sure that this performance is a distinct characteristic of the group (a distinct "Identity"); and it's usually also important that membership of the group be relatively consistent ("Consistency").

Many use Style as a way of describing the performance characteristics of their portfolios ("Attribution"). This is clearly related to Style Identity, but it is very worthwhile measuring independently as well.

And frequently active managers try to rotate their Styles to anticipate and ride with Style reward trends; for them it is critical that these Style rewards follow reasonably regular and characterizable patterns ("Regularity").

Universality and Simplicity are obvious.

Note: Exclusivity is not mentioned. I do not believe it is necessary to stipulate that securities, portfolios or managers fall only into one category. Jumping ahead slightly, an Australian banks portfolio might reasonably be considered as both a Value and a Growth portfolio.



To assess the relevance of each Style Factor (B/P, Div Yld, etc.), we construct and run capitalization-weighted Style Factor portfolios and compare their total return performance against the total return of the associated market portfolio. Note how important it is to ensure that biases do not creep in and that turnover is not excessive.

It is important to point out the differences between our analysis and some others, who have chosen the simpler equally-weighted-restricted-sample method, or by regression analysis.

Market weighting enables taking a very broad sample through the market. Equal weighting cannot accommodate such large samples since the influences of small companies would dominate the results.

Market weighting parallels the investment process of larger institutional investors.

Market weighting enables direct comparison against the returns of the major indices. (Note also that the "Value" indices of both MSCI and the FT are market weighted.)

Market weighting enables Sector Adjustment (more below), this is impossible to define sensibly using equally weighted methods.

Market weighting enables Regional Style Analyses - examining the significance and reward patterns of Style criteria among a number of related markets. This is currently particularly important for many European investors.

And regression analysis does not offer clear evidence of investible portfolios; it's usually dominated by the very many smaller companies in the market and, worse, is unreliable due to the undue influence of outliers.

Also note particularly that we have to address the question of relevance. Just what do we mean by Style and how can we be sure that we are talking about something worthwhile?

Some Statistical Considerations

Identity	Measuring the certainty that the pattern of Style rewards cannot be attributed to random portfolio selection
Consistency	A measure of the turnover of the Style Group
Attribution	A measure of the effectiveness of the Style configuration in describing portfolio performance
Regularity	Measures of the regularity of the short to medium term performance of the Style reward pattern
	Mean Aversion -vs- Mean Reversion

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These are the key assessment tests we need to run in each market and for each Style to review its relevance.

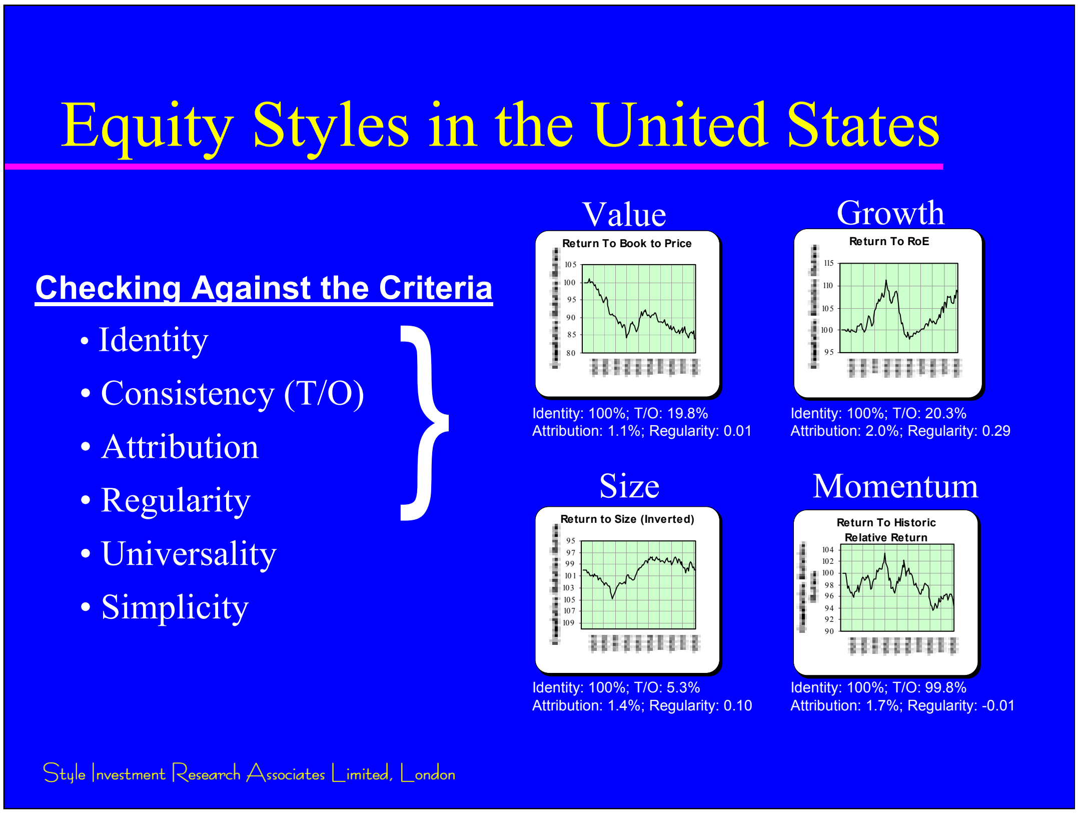
Identity is a result of Monte Carlo simulations. Can we be sure that the relative performance of the Style Factor portfolio is nothing more than could be generated by a randomly selected portfolio? Using Monte Carlo simulation techniques, we calculate an Identity statistic for each Style Factor (ranging from 0% to 100%).

Consistency is a simple measure of the turnover of the securities within each Style.

Attribution is a measure of the effectiveness of each Style in explaining security and portfolio performance over the recent past.

Regularity measures both the smoothness of each Style's performance pattern as well as its mean averting or mean reverting tendencies.

This is particularly useful since cyclical mean averting patterns encourage tactical timing policies while longer term trending mean reverting patterns can be used to define medium term strategies.



Evidence from the US shows what this system of analysis reveals.

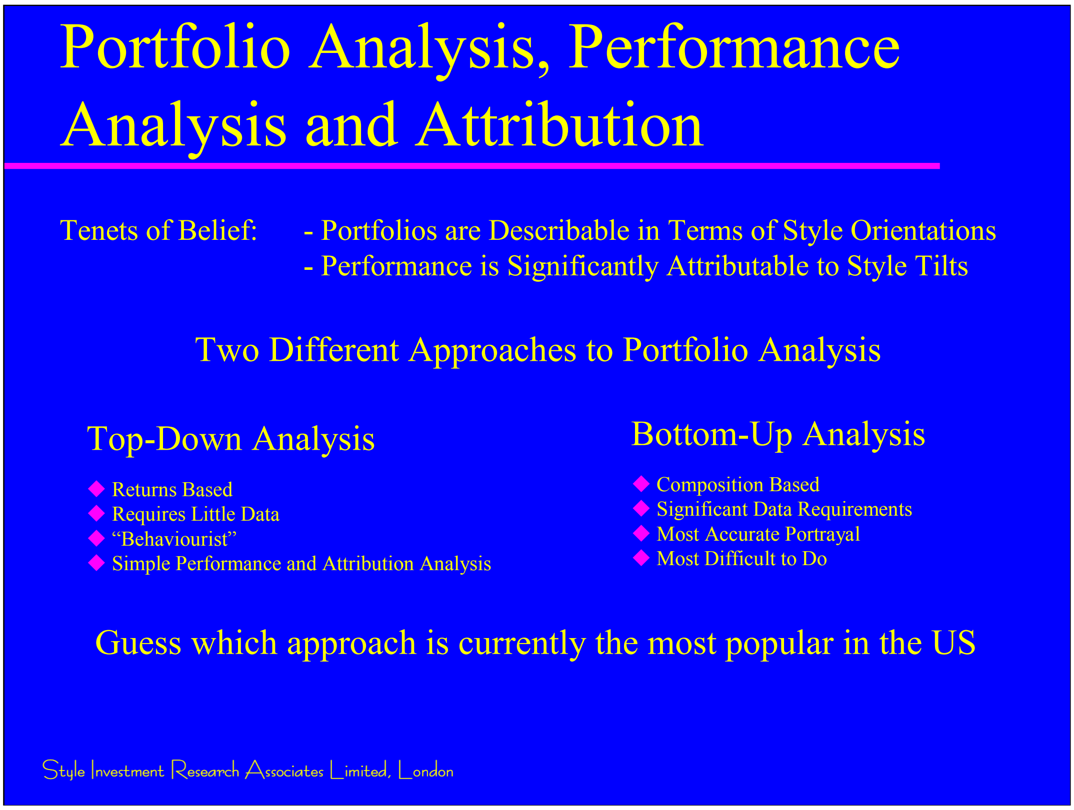
Note: Each of the basic Style return patterns (using B/P, RoE, Size, Recent Relative Return) is clearly "identified" according to our very demanding tests.

The Identity and Consistence data are very convincing. So we can be sure that there is a defined Style framework operating.

And it should not be surprising that this is so. In the US Graham and Dodd introduced the concept of Value investing more than 60 years ago; T. Rowe Price disputed its merit and recommended Growth just under 60 years ago, and the debate has raged ever since. And the market has segmented accordingly.

Regularity is also very interesting. Over the short term, past performance of the key Value criteria offers no guidance regarding future performance - the market looks to be short term "weak form" efficient in pricing Value stocks. However, there appears to be strong cyclicality in the main Growth criterion and Size.

Next we look at Attribution and the problem of Style-based Portfolio Analysis, Performance Analysis and Attribution.



There is no question that Styles can be detected within the composition of a portfolio. It's simply a matter of adding up the Style characteristics of the securities held. This is called Bottom-Up analysis.

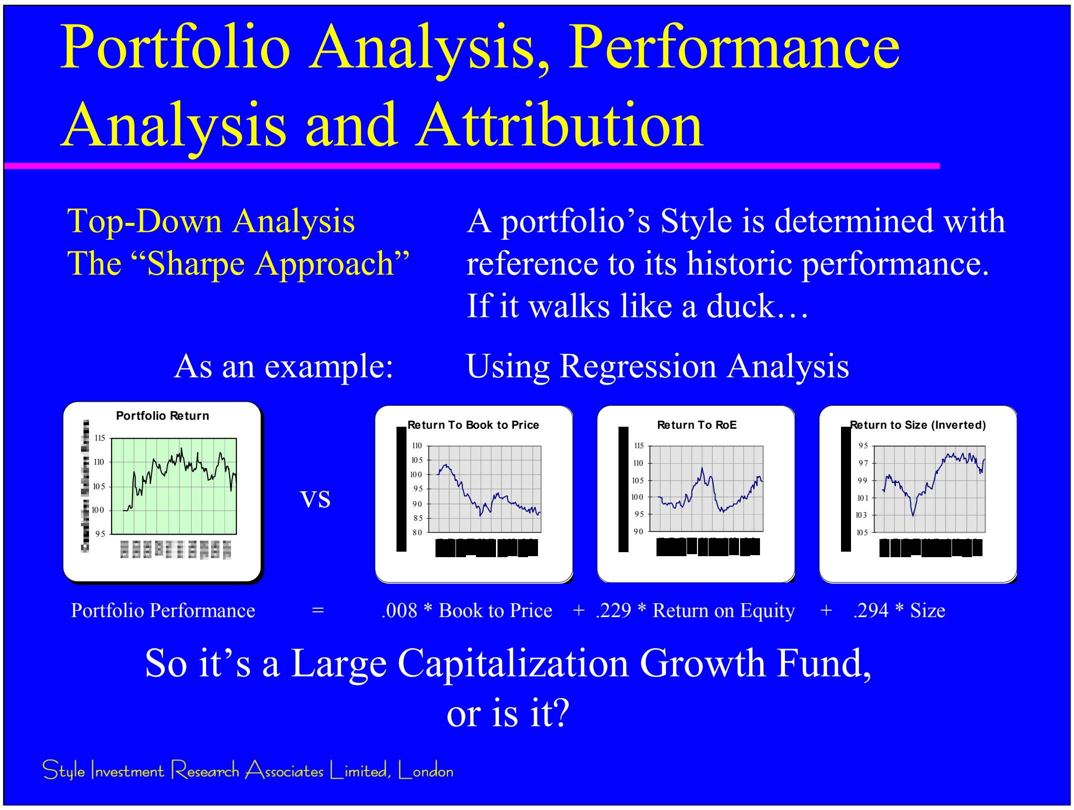
The troubles are, however:

> That turns out to be difficult to do - you need a lot of data; and
>
> You still don't know how successful this Style decomposition will be in explaining the performance of a portfolio.

So the simpler Top-Down analysis has recently become very popular:

> There are minimal data requirements - it can be run from publicly available performance data and standard commercial Style reward series; and
>
> Since it is based on historic performance fitting, there is an immediate application to performance analysis. (Note that the question of the successfulness of this analysis for individual portfolios is still in doubt.).

Unfortunately, however, the simple and popular Top-Down analysis may not be all it's cracked-up to be, particularly in Europe and in other non-US markets. To understand why we have to look a bit deeper.



The Top-Down regression analysis mechanism has been used with some measure of success to characterize portfolios and attribute their performance to particular Style orientations.

This is the gist of the contribution by Bill Sharpe (Journal of Portfolio Management, Winter 1992).

> Portfolio returns define (by regression analysis) Style composition. This works in aggregate (92% across the industry) - but not so well for individual portfolios.
>
> Portfolio are then classified by their revealed Styles.
>
> Performance can then be compared against what would have been expected from the Style composition - the remainder is Stock Selection!?

A few problems, however:

> The accuracy for individual portfolios is poor. Principally this is due to the implicit requirement that the portfolio’s Style tilts must be consistent throughout the estimation period; but there are other reasons as well. This also calls crucially into question the accuracy of the Stock Selection assessments.
>
> It’s too easy - and because of that it has become too popular too quickly.

Problems in Applying Style

- In the analysis of international markets
  - International markets are different, maybe even more complex
  - The Styles used in the US may not apply
  - Perhaps no Styles apply
- In the analysis of international portfolios
  - The Sharpe approach requires Style consistency, but international managers frequently change Style tilts

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In the US, there is no doubt that Style does offer some very significant benefits, even though some contentions still remain. But what about elsewhere in other markets?

Without a similar financial market history it is very unlikely that markets will resemble one another., so the US experiences may not be exportable and relevant.

Although many of the insights from Graham and Dodd and T Rowe Price undoubtedly apply, differences in accounting standards, reporting practices, payout policies, the structure of the savings industries, and long-lasting cultural differences almost guarantee that Styles and investment practices will be different across markets.

But to see what remnant of insight might be available from adopting a Style approach we have to go back a bit and trace out how Style works in one market where we know it has been applied with some measure of success already. The US.

Complexity, Differences and Reservations

- Starting very close to the beginning

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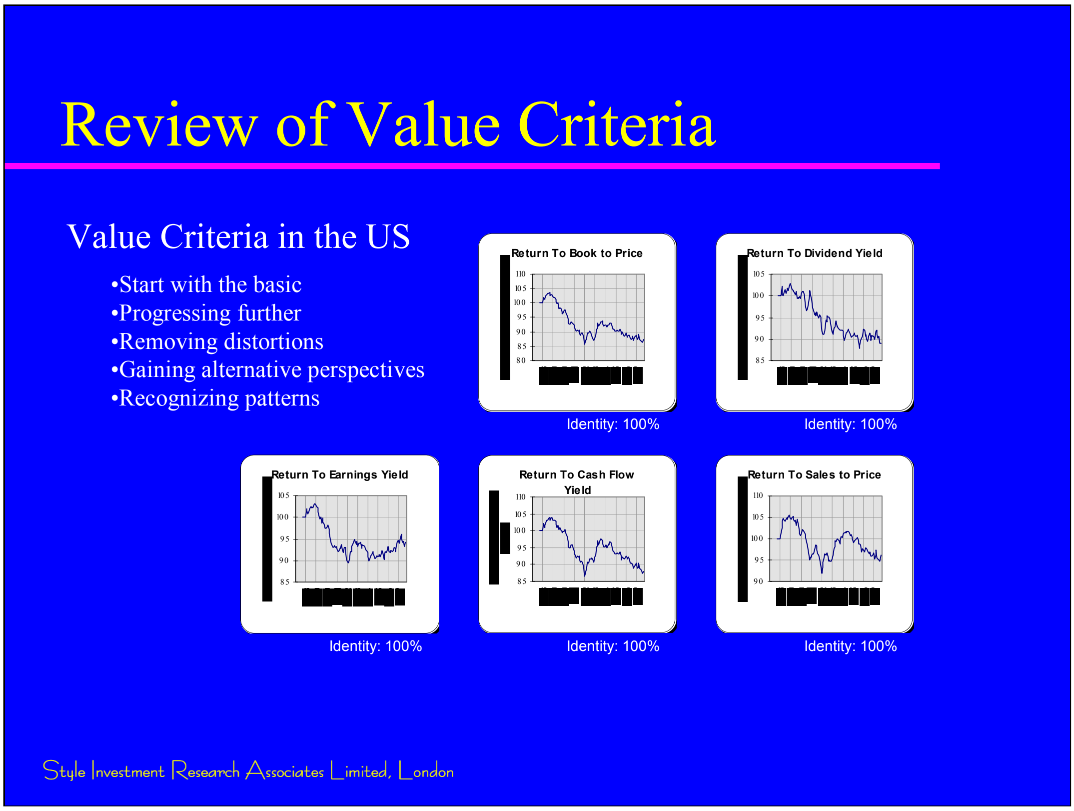
Let’s look to recreate the arguments for Style from first principles. First Value, first in the US.



We have chosen the criteria with a purpose.

B/P is the traditional measure from the balance sheet; Dividend Yield is the traditional flow measure using the P&L account. Unfortunately dividends are subject to corporate dividend policy and market/shareholder pressure, so it may pay to look deeper to Earnings Yield. This, however, is also subject to distortions and can depend on the treatment of extraordinary and exceptional items. So, on to Cashflow Yield. But this can depend on deliberate shifts in depreciations and amortizations; so we narrow down again to Sales to Price.

Note particularly:

- All the reward patterns are “identified” as clearly distinct Styles.

- In the US the return patterns of each of these Style Factors tells the same story. It is clear that there is a Value group comprised of all of these candidate Style Factors.

- Note also that Earnings Yield is breaking away a bit … for good reason.

Now let's look at some other important markets.

1 Factors are not synchronized within markets or across markets.
2 The Factor groupings differ market to market.
3 The reward patterns go up and down.
4 All Factors are distinctly identified as relevant; none can be ignored.

Looking for International Value

◆ Value rewards are not consistent	Very limited Synchronization
◆ Markets are not the same	Value groups differ across markets
◆ Value influences change over time	Value is just a theme like any other
◆ Value is very important	“Identity” measures are all high

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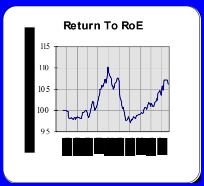
Restating the conclusions about Value, its particular country-specific characteristics, and its universal importance.

What is Growth?

Looking in the US at some of the key measures of Growth and Growth Potential



Identity: 100%

Identity: 100%

Identity: 100%

Identity: 100%

The rewards to the principal Growth criteria are very similar to one another and

in the US they mirror the rewards to the main Value criteria!

Identity: 100%

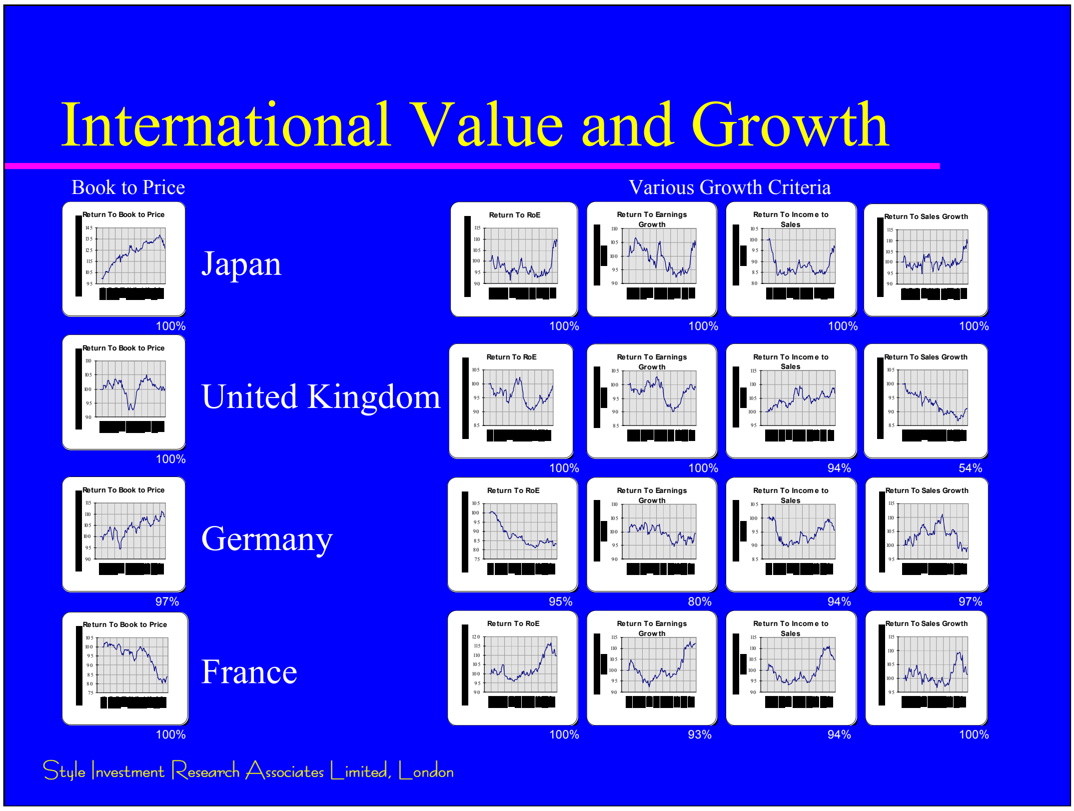
Now let's examine Growth.

Remember my arguments that low Value should not be considered as Growth? Well, in the US, we can safely dismiss that argument as unnecessary sophistication. If we look at the return patterns of the analytical factors which we use to define Growth (RoE, Earnings Growth, Profit Margin, Sales Growth), we see why.

- First, the Growth criteria rewards are all reassuringly similar (indicating that Growth is a well defined Style).

- Second, they are *almost a perfect reflection of the rewards to Value*, matching up with the rewards to negative or low Value.

And that is what the simplified US-based approach has been saying all along. In the US it appears that the performance of low Value companies is the same as the performance of genuine Growth companies (from analytical Growth criteria). So the Growth = low Value association is natural. (Though still not quite right since it describes performance patterns of a group of stocks, not the accounting attributes of individual stocks.)



Now let's see how Growth and Value compare in other markets.

1 Factors are not synchronized within markets or across markets.
2 Factor groupings differ market to market.
3 The reward patterns go up and down.
4 All the Factors are clearly identified as relevant; none can be ignored.
5 The Growth = low Value association is nowhere near as clear! Note, especially, Japan and Germany.

International Value and Growth

◆ Growth rewards are not consistent	Very limited synchronization
◆ Markets are not the same	Growth groups differ across markets
◆ Growth rewards change over time	Growth is just a theme like any other
◆ Growth is not just negative Value	Growth factors don't mirror Value
◆ Growth is important	"Identity" measures are all high

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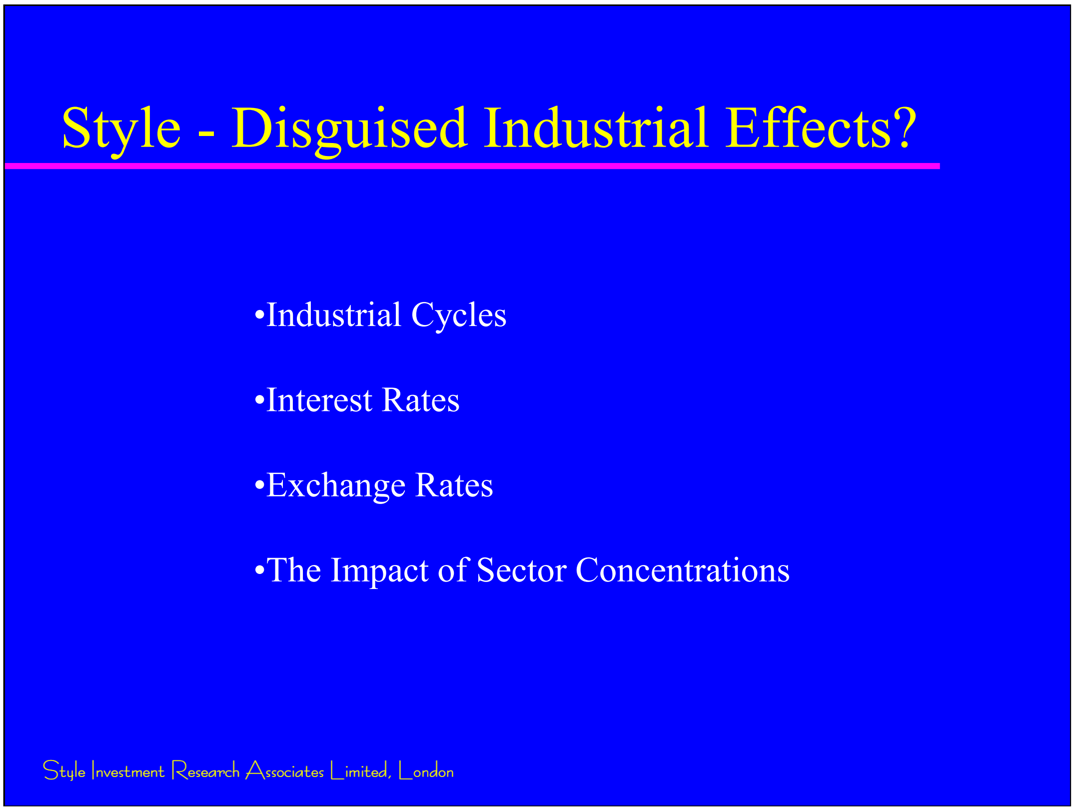
Restating the conclusions on Growth. Note: Growth is important. We must not be put off Style concepts by the poor translation of the simple US model. The Growth Factors are important.

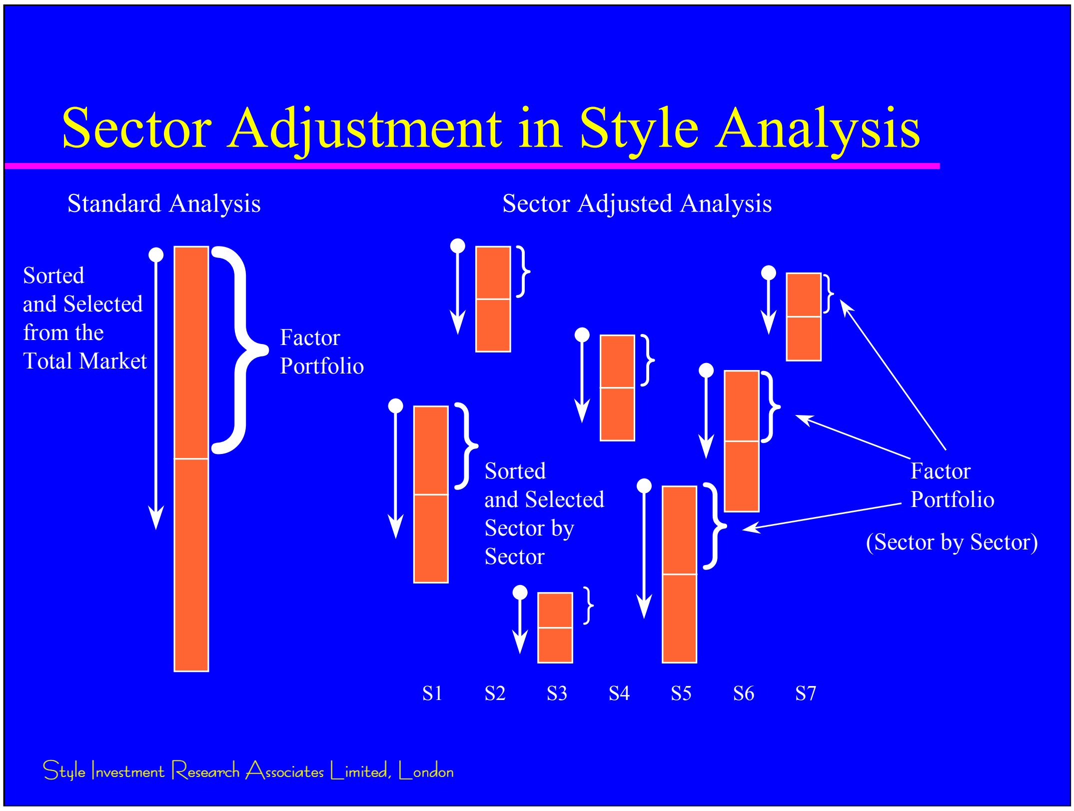


But perhaps Style is just a repackaging of more primary influences. What about interest rates, exchange rates, or industry effects?

Somehow I don't think we would mind if we observed that Style cycles were associated with interest rates or exchange rates. That might even provide some extra degree of reassurance in a Style's veracity. But for sectors it's a bit different. I would feel cheated if on closer examination, the only reason a particular Style performed as it did was because of some industry concentrations within that Style and a pronounced industry cycle. For example: Is it only because banks are both primary beneficiaries of the profits cycle and dominant within the principal Value indices that UK Value stocks do well as corporate profits and earnings rise?

I would only accept that Style patterns had genuine characteristics if they applied within sectors as well.

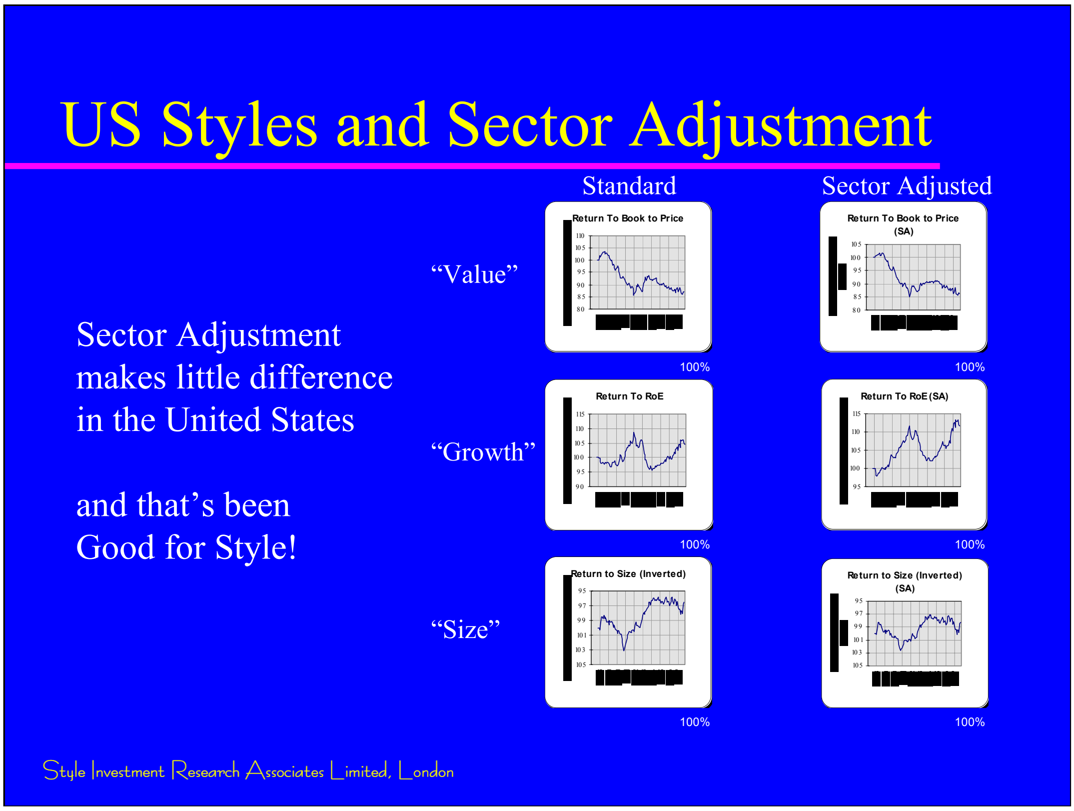
There is another reason why we should want to remove the impact of sectors on Style return analysis. This is related to the practicalities of managers' investment processes and their usual separation of sector allocation decisions from Style considerations. More about this later on.



To check this out, we must define Style portfolios "cleaned-up" of sector influences. The diagram explains how we do this; we sort companies by the Factor, but look only at the sector-relative Factor scores, not the absolute Factor values. We then proceed as before.

What we would like to see is that the general shapes of most of the Style Factor portfolio reward histories remain pretty well the same - showing that Style reward patterns survive the elimination of any sector influences. But we would also like to see a few differences to make the whole clean-up process worthwhile. And of course, we continue to require relevance.

And that's exactly what we find … almost everywhere.



In the US, the wide diversity of company accounting characteristics within each sector reduces the likelihood of sector concentrations and the clean-up process has little effect.

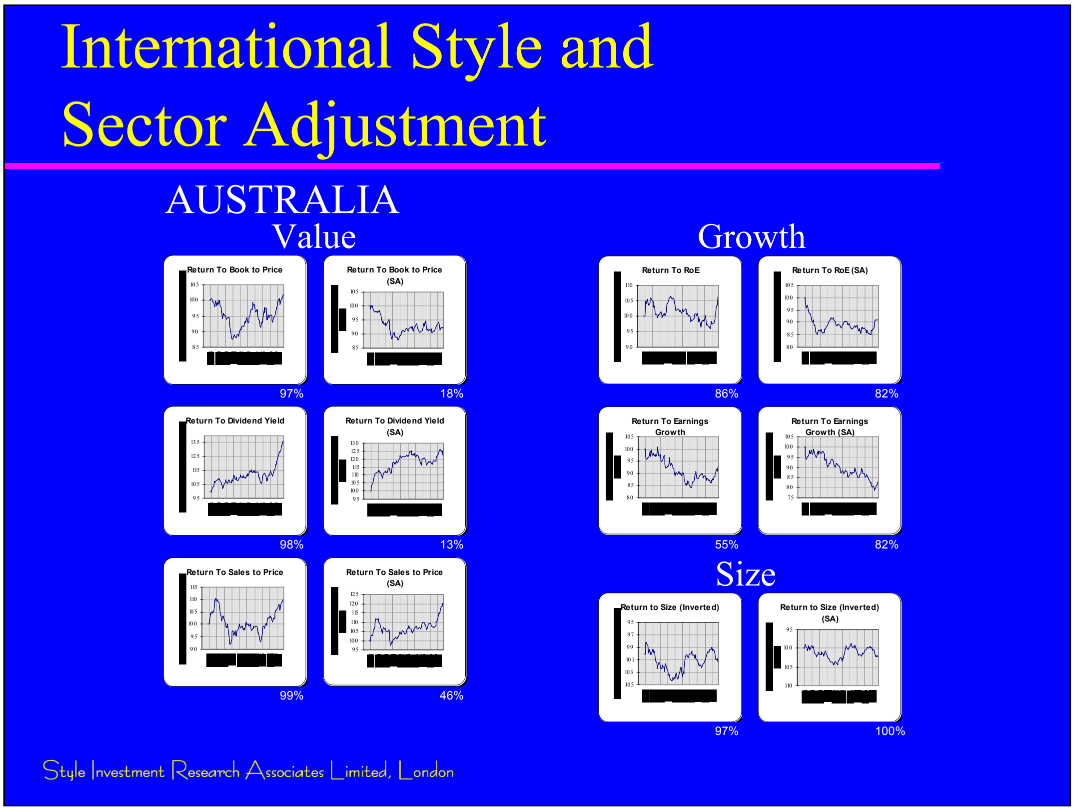
So Style influences are genuine in the US and are not just Sector influences in disguise.

Pretty much the same is true in most other major markets. But note significant differences in the UK and French Value Style, and in Japanese and German Growth.

In particular, in the UK, genuine Value has done much more poorly than the standard analysis would lead one to think. Basically, since the standard Value analysis portfolio is overweight in financials, the relative outperformance of the this major sector during 1997 artificially supported the standard assessment of Value.

In France the positive turn towards Value which occurred during mid 1997 was initially more evident in sector adjusted analysis than in the standard view.

And the cleaned-up Style reward patterns are relevant.

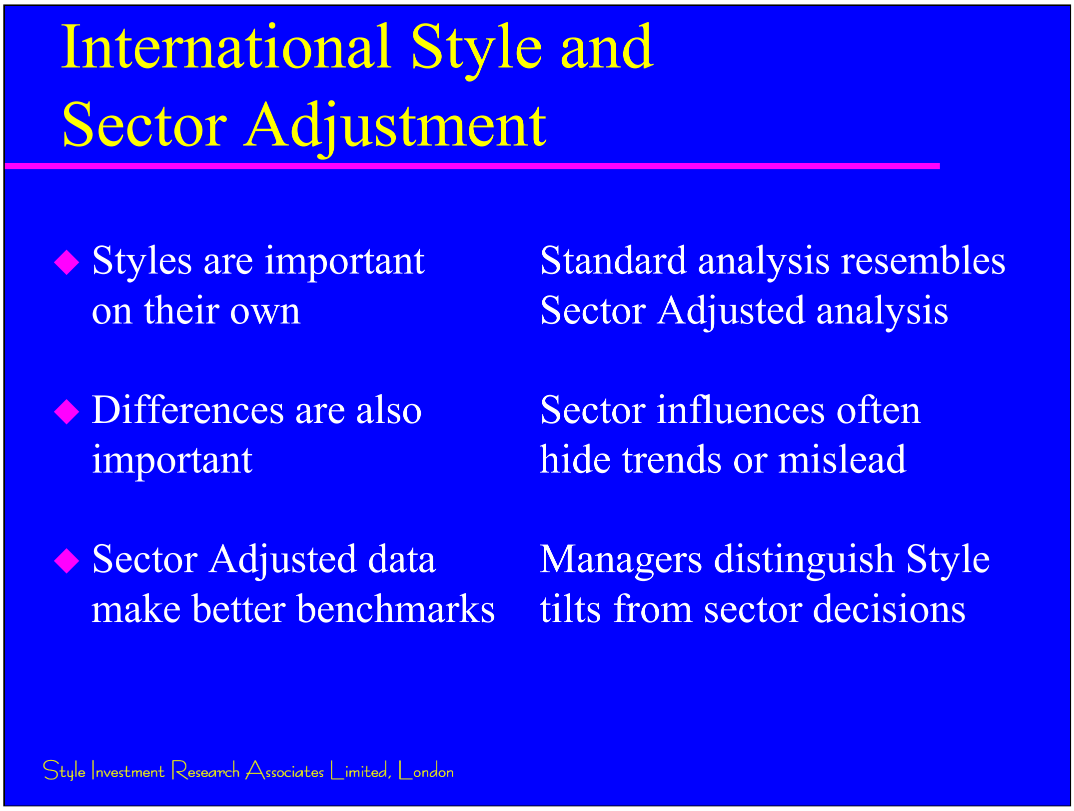


Looking at Australia, the process is even more revealing. Australian banks are both high Book to Price and high Return on Equity (apparently both high Value and high Growth). Consequently their recent sharp advance pushed both the key Value and principal Growth criteria sharply higher.

Cleaned-up of the "sector pollution", we note that the true Style effects were very much less dramatic and, according to some of the most basic criteria, basically non-existent.

Growth and Size, on the other hand, do survive and are much more likely to be genuine Styles within the market.

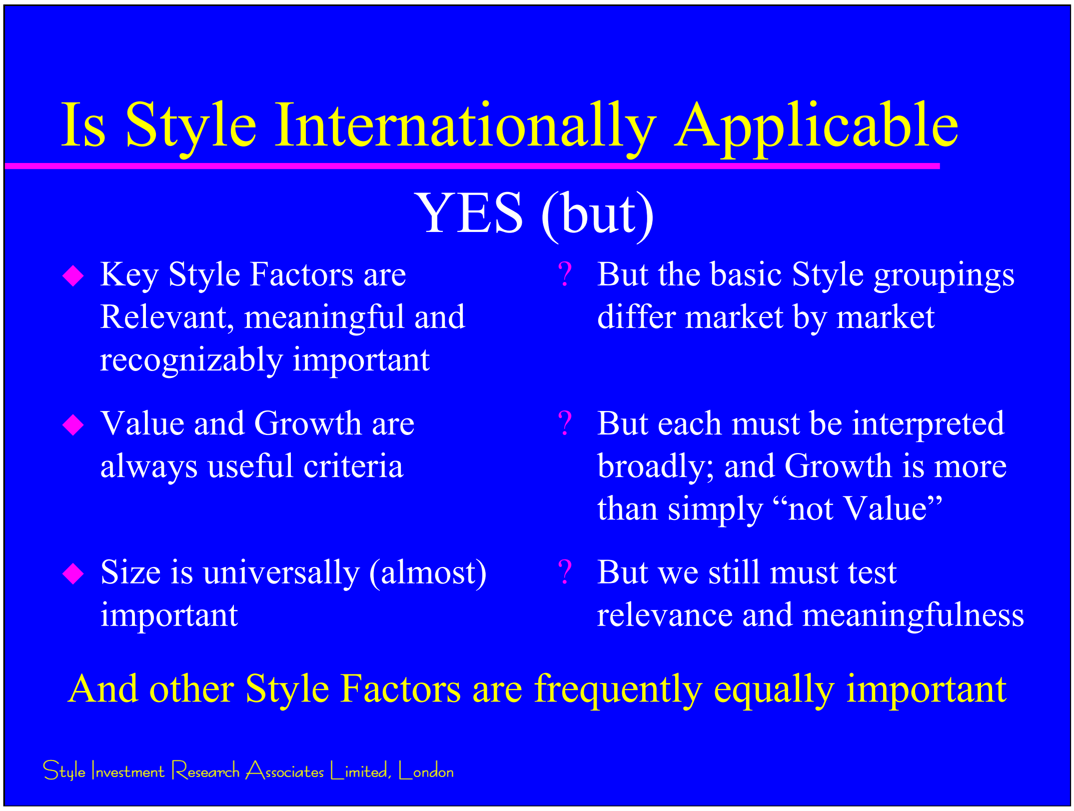
It is very important to clean Style up.



Note: Read the first two points, then continue with:

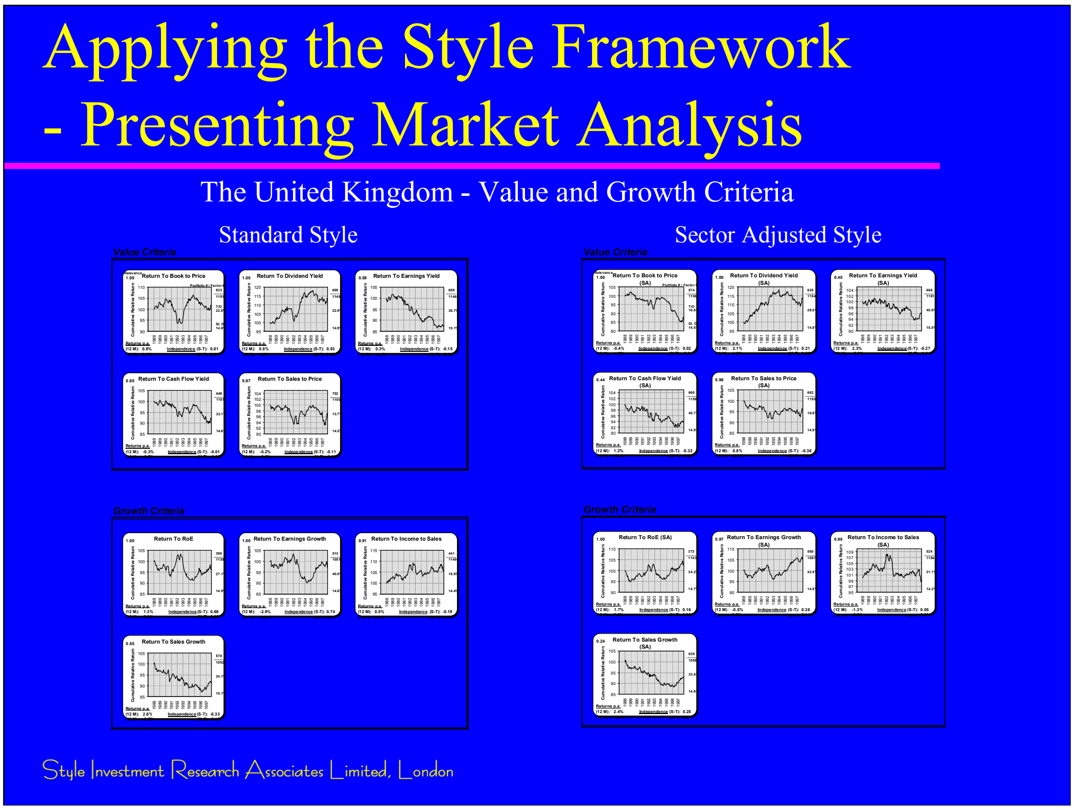
Sector neutrality is important for another, related reason alluded to earlier. It is truer to the way fund managers actually manage investments. When a Chief Investment Officer determines that the investment team will, for example, tilt aggressively towards, say, Value, the CIO does not usually intend to move funds systematically from low Value sectors to high Value sectors. Rather, what is required is that within each sector, low Value stocks are to be sold in favour of purchases of higher Value stocks.

It is consequently more sensible to assess that decision against a “cleaned-up” Value Style reward pattern rather than a standard which implicitly assumes dramatic shifts and tilts in sector positions.



So, overall, Style is important. It is genuinely relevant and offers a very worthwhile method of reviewing markets and portfolios, but care must be exercised.

Read slide.

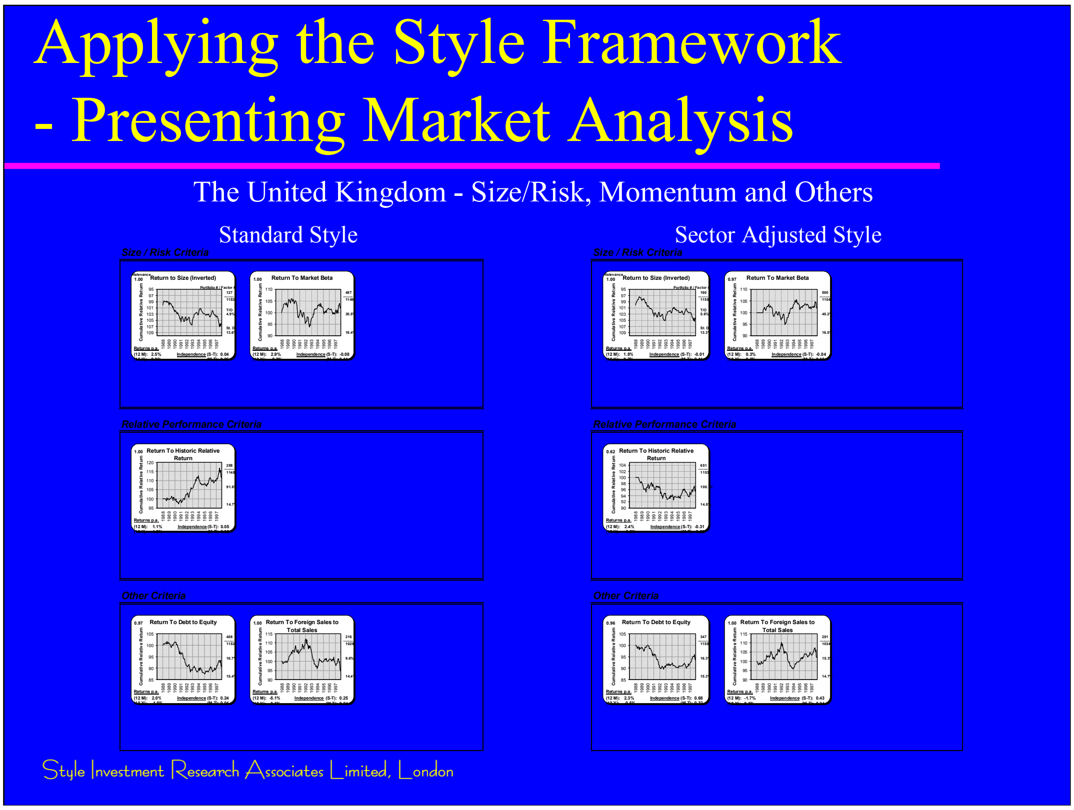


For each of the 17 major markets reviewed, we present Value and Growth criteria in both Standard and Sector Adjusted form. The analysis also shows a number of very useful statistics:

Identity; Regularity; # of Securities
Historic Returns; Turnover; Volatility

In the UK a number of very interesting features are evident.

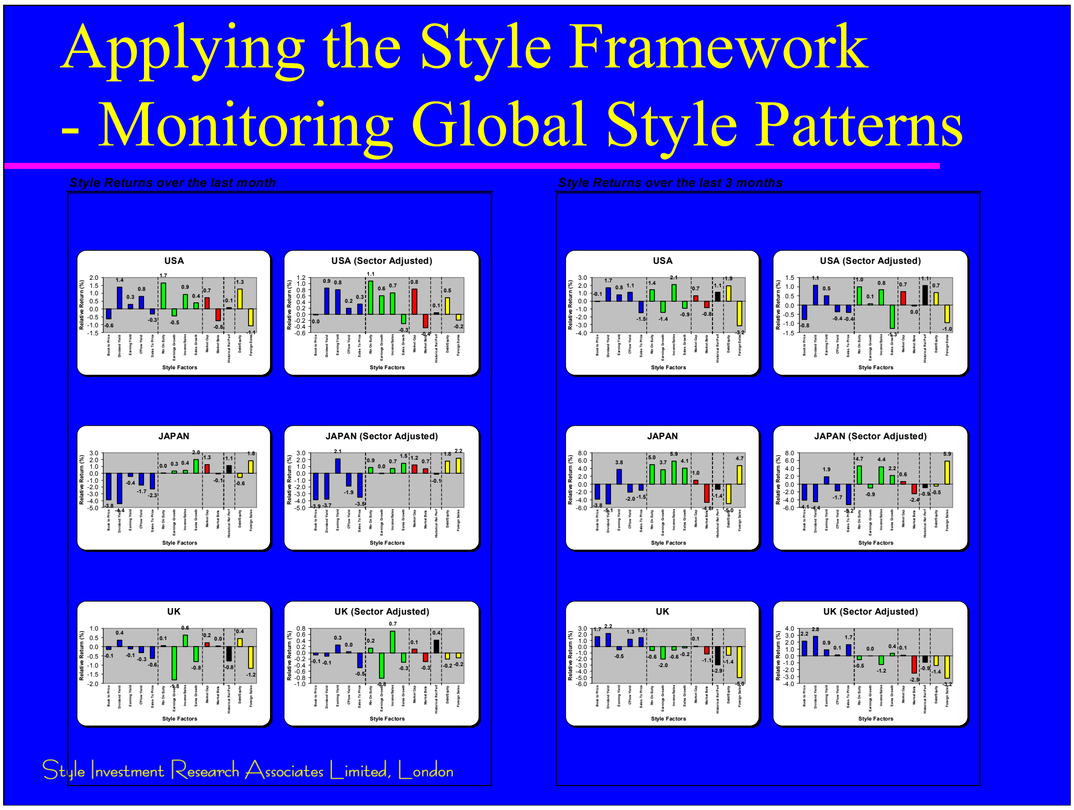
Most of the criteria are relevant.
There is clear evidence of criteria grouping according to Styles.
Sector Adjustment does matter a lot, and for good reason!
Value (B/P) is not dominated by Size effects.
There are no clear favourites from Volatility considerations.
Regularity indicates tactical and systematic opportunities.
Value is “sort of” the reverse of Growth.



We also show Size/Risk and Momentum histories and statistics in both Standard and Sector Adjusted form as well.

Note:

- Size/Risk does provide a significant and generally cohesive Style
- Momentum is mostly a Sector phenomenon (note the drop in Identity!)
- Other Criteria are also very clearly identified as distinct Styles.

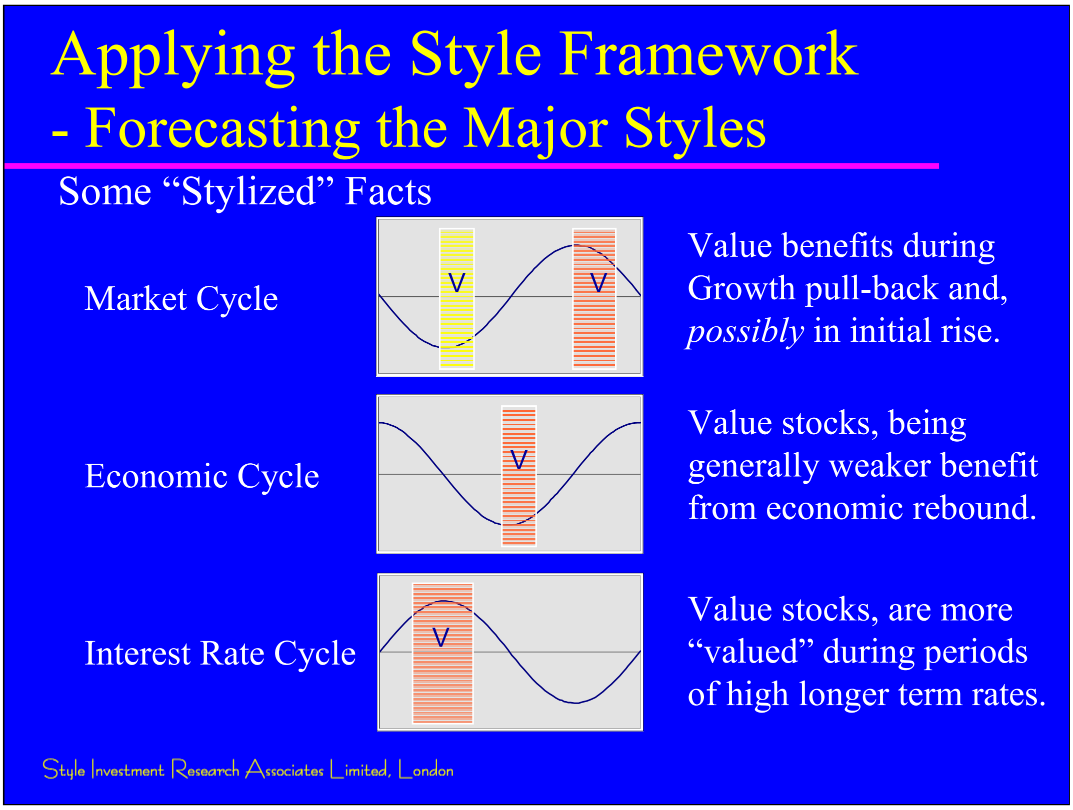


We also review all the major markets month to month.

Each month we review each Style Factor within each market over the past month, and the past three months.

For our clients it is very important that this information be current, comprehensive, and easy to take in.

The analysis is available on the first Monday of each month (on the basis of the previous month's closing prices). The presentation of the analysis is graphically arranged so that emerging trends across regions can be clearly recognized.



Many analysts associate swings in the Value cycle with swings in corporate profitability, saying:

> "As profits rise and appear plentiful in the market, then the premium paid for profitability and growth diminishes, and Value stocks outperform, and vice versa."

This is a useful view, but I believe that it is especially useful to look a bit more deeply into the subject by reviewing the progression and characteristics of three related cycles. The slide shows a schematic representation of the market cycle (which I have shown as leading the economic cycle), the economic cycle (which I have shown as leading the interest rate cycle), and the interest rate cycle itself.

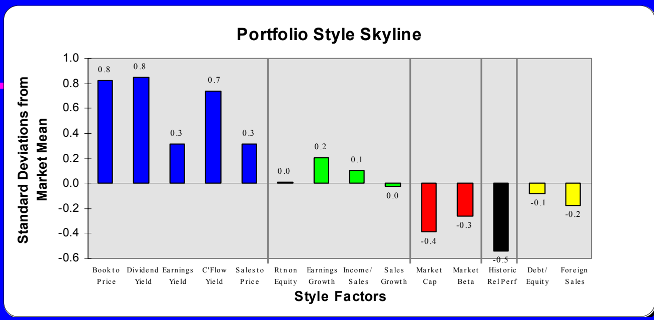
While each of these cycles will, of course, slip, slide, and stretch against the others (at the moment the market cycle has stretched significantly to the right), I believe that the positions shown do make sense. Marked on each cycle are periods when Value stocks are likely to do relatively well against the market.

It is this type of analysis and thinking which helps in working to forecast Style trends and turns.

Reviewing a Portfolio

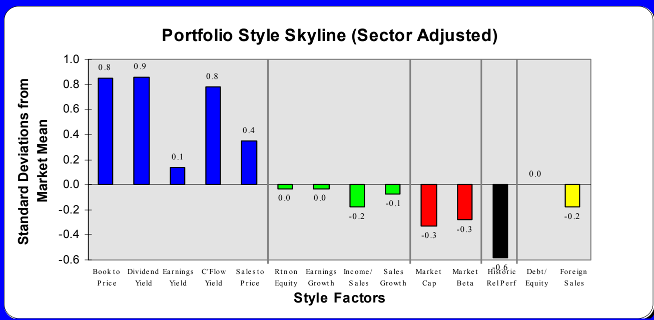
Initial Characteristics

including sector tilts
(note both Value and Growth exposures)



Sector Adjusted Analysis

reveals strong Value bias
(and managers who try to forecast earnings)



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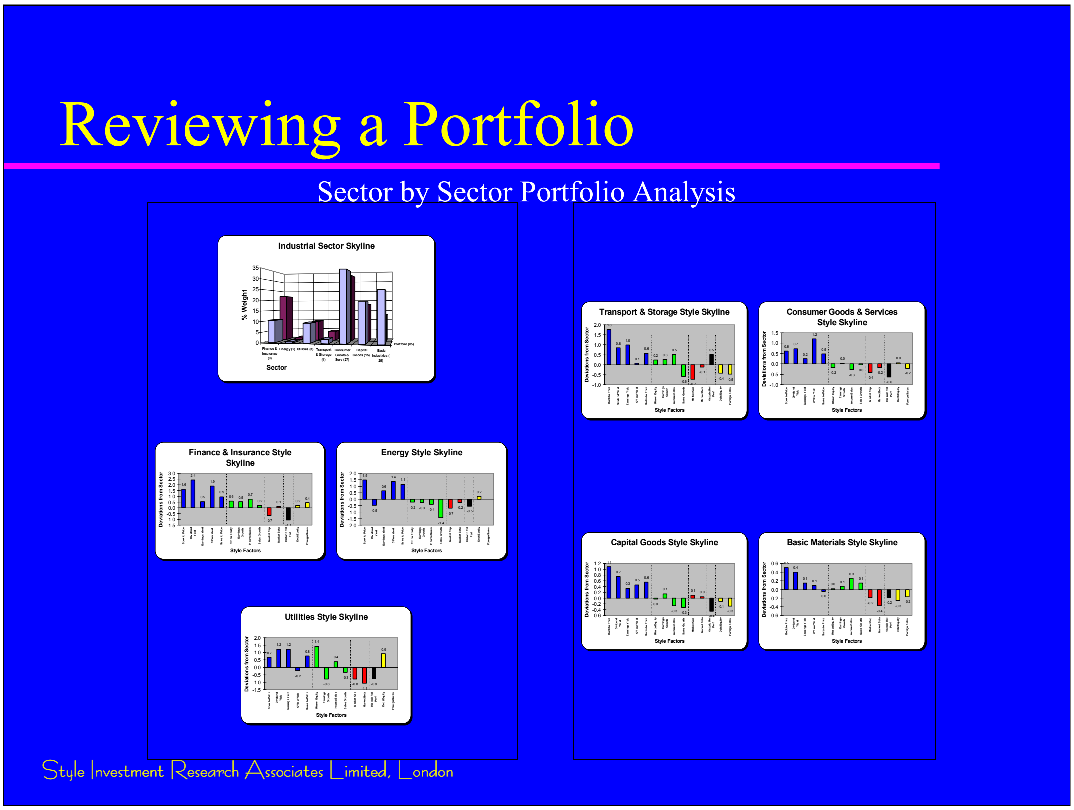
Revisiting the quandry about how to use Style analysis to review equity portfolios; Bottom-Up analysis offers significant benefits!

Our technique builds up a picture of the Style tilts of a portfolio directly from holdings and displays the tilts by broad Styles (Value, Growth, Size/Risk, Momentum, Others) in both standard (top) and "cleaned-up" (bottom) terms.

In this example, the portfolio appears initially as a Value portfolio with some small positive tilts in Growth, a modest Small Cap bias, low Beta Risk, and low in momentum stocks. Cleaned-up, the Growth bets disappear. There was an overweight position in a high Growth sector, but, on average, the portfolio held no Growth positions, neither positive nor negative, within sectors. It is curious that there were no Growth bets at all, particularly since most Value managers choose to "hedge" or extend the Value bets with Growth positions as well.

The low Earnings Yield is curious, especially since in the market concerned, Earnings Yield is known as an important Style Factor. The CIO observed that while his team was happy to hold strategic positions in most Value criteria, they thought they should forecast earnings turn-arounds rather than simply buy the high Earnings Yield companies without thinking. The low Earnings Yield is, in a way, a measure of the manager's active forecasting efforts.



The analysis continues to provide further insights into the structure and intentions of the portfolio manager(s).

We review:

- The overall Sector positions relative to the market.

  To reveal Sector bets, in aggregate.

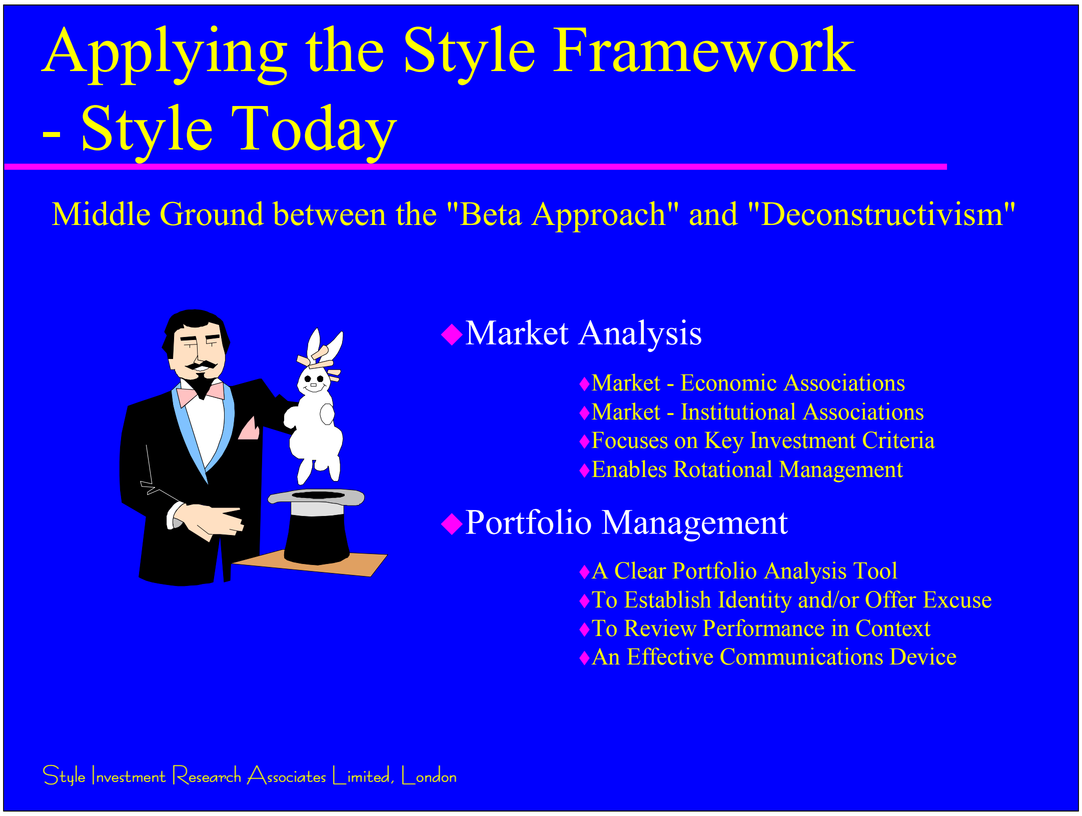
- The Style tilts within each Sector

  To detect Style consistency or disparities within the portfolio.

We also provide a complete listing of all securities, showing each data item at Market, Sector, and individual security level.

The depth of analysis facilitates a comprehensive review of portfolio managers' activities across a wide range of key investment criteria.

Used in association with the analysis available in the Global Style Advisor, we can ensure that the criteria focused upon are relevant, not simply from a check list.



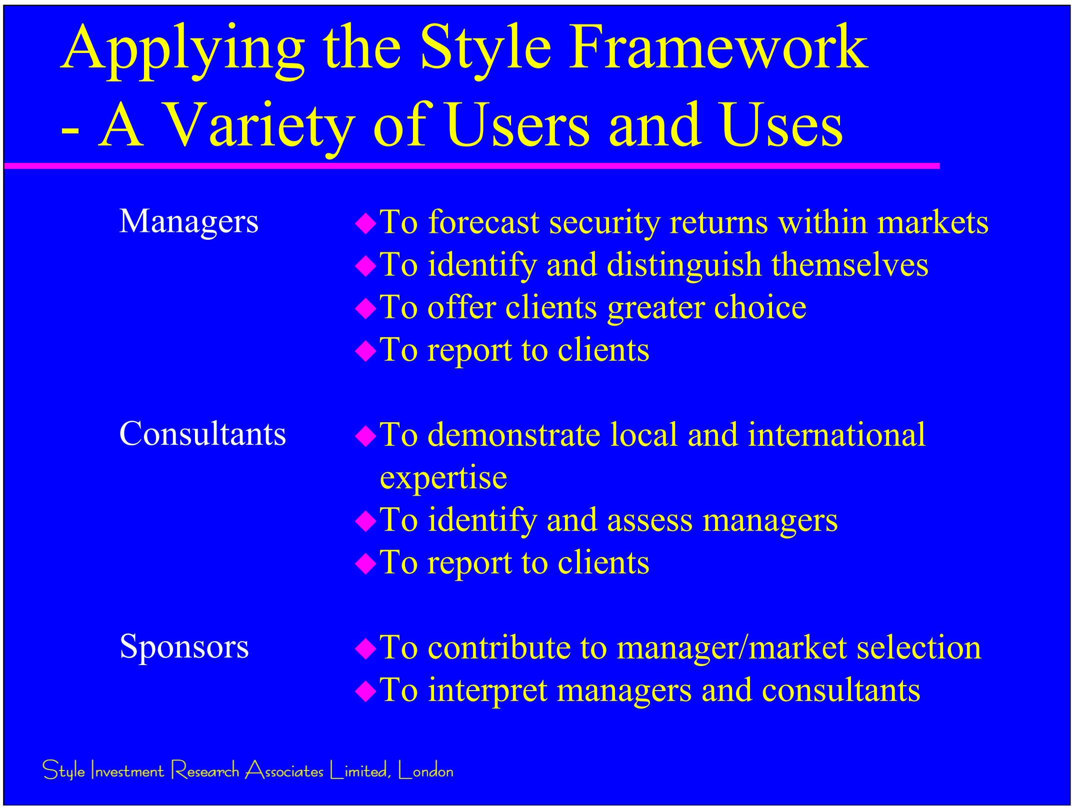
Today Style occupies the intellectually attractive middle ground between the overly simple CAPM, Beta approach and the overly complex stock-by-stock-only "deconstructivist" approach which recognizes no enduring patterns or basic theme relationships in equity securities prices.

Style has progressed a great deal.

The subject was “redefined”, and “re-popularized” by Bill Sharpe (JPM, Winter 1992) incorporating only a very simple but very appealing ”Top Down" method for analysis (explained in slides 10 & 11), but it has now gone much further than that.

Today, Style Analysis Style offers new, appealing and different investment methods and broadening business opportunities to Managers, Consultants and Sponsors alike:

- Style Management (for Managers & Consultants)
- Performance Analysis (for Managers, Consultants & Sponsors)
- Manager Selection (for Consultants & Sponsors)



In Summary.

Style is too important to be treated poorly.

It is being actively used by serious professionals in all segments of our industry, and it is influencing management practices, consultant recommendations, and investor returns. Style considerations are also influencing market returns.

Read the slide.

Applying the Style Framework
- The Cynical View - The Dark Side

Managers
- To provide a management tool
- To be able to outperform somewhere
- To be represented in the maximum number of appointable categories
- To appear knowledgeable and impress clients

Consultants
- To generate more mandates
- Another tool to beat up managers
- To appear knowledgeable and impress clients

Sponsors
- To make their jobs intelligible and more interesting
- To interpret managers and consultants
- To appear knowledgeable and impress clients

Style Investment Research Associates Limited, London

All successful innovations flourish as much for their abuses as much as for their uses.

These are a few. I'm sure the industry will discover others.

Potential for Future Development

- Style in the Pan-European Marketplace
- Style in the Emerging Markets
- Style Derivatives and Style Swaps

Although SIRA is introducing Style-based products and investment services in each of these areas, this is not a marketing pitch. These areas are important.

Europe is converging towards a single market - and so are the Style reward patterns. Foreign investors consider Europe as a whole, so we must try to understand what they see. And most US based investors will try to assess Europe according to criteria they feel comfortable with.

Data from South East Asia is only now becoming long enough to be able to say sensible things about performance patterns in the area. Is Style relevant in the region? What Styles must we focus on? Can we look at consistent Styles across the whole region or among groups of markets? These and other critical questions need answers.

The brokers will want to get in on the act, and they can be a force for good. One needs capital to be able to structure large index-sized swaps. And Style swaps also offer a useful new product for investors who wish to implement or alter a Style tilt but who do not want to disrupt their portfolios, external managers, or the market and who don't have the ability to choreograph large programme trades themselves.