

Outside-the-style-box-thinking: *Breaking down barriers to better returns*

Introduction

What's your style? In the investment world, this has become the all important question. Style boxes categorize stocks based on size (large, mid and small cap) and whether the stock is a value or growth holding, or something in between. Portfolios can then be classified in the same way, based on the kinds of stocks they hold.

The Basics...

Many asset allocators place half of their funds with value managers and half with growth managers

Studies show that such a 50/50 split is not an optimal strategy

The style box is a useful tool for tailoring portfolio risk, but a rigid approach which constrains managers to stay within one cell hinders performance

By employing a core strategy with a growth tilt, the Smith Group LCC/G portfolio crosses style box barriers, helping to achieve above-market returns at below-market risk

Many asset allocators use the style box as a diversification tool. A 50/50 split between value and growth portfolios is often pursued as an overall strategy. Individual portfolio managers are constrained to stay inside their style cell, so to speak, so as not to throw off the strategy. But is this effective from a risk/return standpoint?

That is the question we address in this paper. Drawing on our own research and that of others, we find that a 50/50 value-growth split under-performs alternative strategies, such as an actively managed core portfolio. Our own Large Cap Core/Growth (LCC/G) portfolio, which crosses style boundaries, illustrates this finding.

Background

The theoretical foundations of the style box were laid with research that related stock returns and risk with firm size and price-to-earnings (P/E) ratios. The original style box was a simple four cell grid. The row of the style box indicated the market capitalization of the stock in question, large or small. The column indicated

whether the stock was considered value or growth.

Does a certain stock have a low P/E ratio? If so, it must be selling at a discount to earnings because the market perceives some weakness in the firm. Buyers of the stock believe it is a bargain, and the market has overreacted to any weakness with the firm. This is a value stock.

Growth stocks, on the other hand, tend to have higher P/E ratios. While they do not sell at discount prices, buyers believe their price will increase as earnings grow faster than the market is anticipating.

Morningstar, Inc. introduced an updated version of the style box in 1992. It has become the standard. It added an extra row and column in between the large/small and value/growth classifications. The resulting grid has nine cells, as shown in Figure 1.

Figure 1. The Morningstar Style Box

	Value	Core	Growth
Large Cap	Low Risk	Low Risk	Medium Risk
Mid Cap	Low Risk	Medium Risk	High Risk
Small Cap	Medium Risk	High Risk	High Risk

The mid cap row provides an additional measure for capitalization, while the core column is for stocks which fall somewhere between value and growth, having some characteristics of both types.

When the style box is applied to entire portfolios, rather than individual stocks, the middle column is often referred to as "blend". In that case it represents either a portfolio made up of core stocks, or one made up of a combination of value and growth stocks.

The style box has gained popularity among investors. It provides them with an easy way to classify their hold-

Ings. The conventional wisdom is that “bigness” and value are low risk characteristics, while “smallness” and growth are high risk characteristics. This implies the overall risk breakdown shown in Figure 1.

Following the conventional wisdom regarding the style box and risk, investors can use the style box to tailor their overall risk strategy. One popular strategy with asset allocators is to place half of their money with one or more value managers, and half with one or more growth managers. Each individual manager is then required to stay within his or her cell to maintain the strategy’s integrity.

Does the style box work?

Given the importance that the style box has attained in the investing world, it is worthwhile to ascertain what its value-add is. Does it do what it claims to do? Is it being used appropriately by investors?

As a start, we can ask whether the conventional wisdom regarding risk and the style box is correct. In other words, is it really the case that the risk level of stocks follows the pattern laid out in Figure 1 above?

Yes, according to a 2001 paper by Frederick Schadler and Stanley Eakins.¹ Using standard deviation as a measure of risk in stock returns, they find that the picture shown in Figure 1 is justified. Value and bigness imply less risk, while growth and smallness imply more risk.

Prior research has confirmed that the risk profile expected of the cells in the style box holds true

These findings suggest that there is value in using the style box to structure an investment strategy. It allows you to tailor the risk level you are seeking. But is the 50% value 50% growth approach pursued by many investors the best strategy?

Craig Israelson took on this question in a 2005 article.² He compared the returns of a “four-corner” investment strategy (equally weighted in large value, small value, large growth and small growth portfolios) to a “middle-of-the-road” strategy (equally weighted in mid cap value, mid cap growth, large blend and small blend portfolios). He found the middle-of-the-road strategy produced superior returns to the four-corner strategy over five, ten and fifteen year periods.

So what was the problem with the four-corner strategy? “Too restrictive,” was Israelson’s conclusion. In his opin-

ion he is not alone. Richard Grinold’s paper, “The fundamental law of active management” made the case that portfolio returns are an increasing function of the portfolio manager’s skill and a decreasing function of the number of constraints placed upon the portfolio manager.

Skilled managers of blended funds may have an advantage over “corner managers” in that they are less constrained. They can select from a wider universe of stocks. They can evaluate both value and growth opportunities.

Rob Brown in “At Odds with Style Boxes” echoes this statement.⁴ He explains that a rigid style box discipline forces managers to tailor their portfolio to the cell they are in, rather than to their own research and analytical strengths, which may well extend beyond the walls of the cell.

Research has shown that portfolios which ‘drift’ across style box categories out-perform those which remain locked in one cell

Quantitative support for this idea is found in a paper by Charles Howard and Craig Callahan. They find evidence that funds which “drift” between cells of the style box outperform those which stay within one cell. They note that managers who are not constrained to stay within one cell can take advantage of the fact that returns to value and growth go through pendulum swings. For a period of time one approach becomes favored by the market and beats the other approach. Eventually this situation reverses itself in an ongoing cycle. Managers stuck in a single cell are unable to take advantage of these swings by “tilting” their portfolios one way or the other as market conditions dictate.

A paper by Andrea Au and Tony Foley offers additional reasoning why style-restricted diversification strategies may be less than ideal. They find empirical evidence that core funds which hold both value and growth stocks outperform funds split 50/50 between value-only and growth-only portfolios. In explaining this result, they cite three things. First are the additional turnover costs incurred by rebalancing of style-restricted funds. Second, they find that scale economies in management can be achieved when there is one core portfolio rather than a pair of value and growth portfolios. Finally, they note that advantageous tax strategies can be employed in a core portfolio. During a period when one strategy (value or growth) is outperforming the other, under-performing securities can be sold and the losses used to offset gains from the outperforming holdings. They conclude that “a

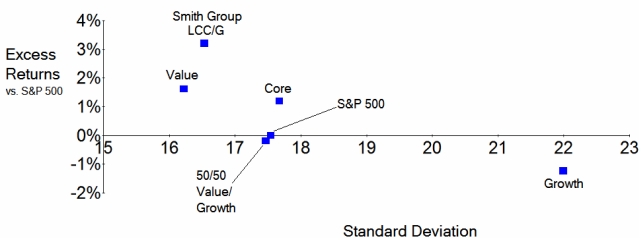
well-constructed, genuinely style-neutral core portfolio will likely be a better use of an investor’s risk budget.”

The Smith Group’s findings

Callan Associates, Incorporated (CAI) classifies professionally managed equity funds into their appropriate style box categories. We used this data to test the assertion that a 50/50 split between value and growth funds is an optimal strategy. We focused on large cap funds only because we wanted to compare the results to our own Large Cap Core/Growth (LCC/G) portfolio.

Figure 2 shows the average return and standard deviation for each portfolio grouping. In the figure, the vertical axis shows average annual excess return versus the S&P 500 over the ten year period. The horizontal axis shows standard deviation. We compare six categories altogether – the CAI database of value, core, and growth managers as well as a 50/50 split between the CAI value and growth managers, the S&P 500, and the Smith Group LCC/G.

Figure 2. Return and risk comparison for the 10 year period ended 9/30/2006 (source: Callan Associates, Inc.)



Note that returns to actively managed core portfolios beat returns to both the S&P 500 and a 50/50 value-growth split, while maintaining a similar level of risk. The data behind Figure 2 is shown in Table 1 below.

Table 1. Return and risk comparison for the 10 year period ended 9/30/2006 (source: Callan Associates, Inc.)

Fund Categories	Excess Return	Standard Deviation
Smith Group LCC/G	3.15%	16.54%
Value	1.63%	16.22%
Core	1.16%	17.68%
Growth	-1.24%	21.99%
50/50 Value-Growth	-0.22%	17.47%
S&P 500	0.00%	17.54%

Notice that the 50/50 value-growth returns were below the returns of even the passive S&P 500. The risk level of the two categories is virtually identical. What we can take from this is that, from a risk/return standpoint, the popularity of the 50/50 value-growth strategy does not appear to be deserved.

How does the Smith Group LCC/G stack up?

The LCC/G portfolio is a core portfolio with a growth tilt. As such it is managed from a broader horizon than would be possible in a value-only or growth-only universe. According to our findings so far, this should mean that it can achieve returns superior to a 50/50 split between value and growth portfolios. Figure 2 and Table 1 support this view.

The LCC/G has an annual excess return of 3.15% over the ten-year comparison period, higher than that of any of the other categories. The LCC/G also has a lower standard deviation than each category except value, which is slightly lower. While the LCC/G has a growth tilt, it out-performs the growth average. The analytical process behind the LCC/G is designed to identify growth stocks while also tightly controlling risk. This fits with our overall goal of increasing returns while decreasing volatility.

The Smith Group LCC/G portfolio:

- ✓ Is a core portfolio with a growth tilt
- ✓ Crosses style barriers
- ✓ Incorporates precise risk control

What is the moral of the story?

The lesson that can be learned from the style box research is a well known one – all things in moderation. The style box is a useful tool for classifying investments according to general risk level. Like many good things, however, the style box can be abused. This happens when investors become too dependent on it, handcuffing half of their managers into growth cells and the other half into value cells, constraining those managers’ skills and ignoring the remaining 1/3 of the style box. The evidence says that this practice not only limits the universe of stocks from which managers can select, it limits the returns that managers can achieve. While a 50/50 value-growth split has the advantage of simplicity, the evidence says that a more flexible approach offers a reward that more than compensates – the potential for greater returns.

¹Schadler, Frederick P. and Stanley G. Eakins. "A stock selection model using Morningstar's style box." Financial Services Review 10 (2001): 129-144.

²Israelson, Craig. "Don't Box Me In." Financial Planning September 2005: 167-170.

³Grinold, Richard C. "The fundamental law of active management." Journal of Portfolio Management Spring 1989: 30-37.

⁴Brown, Rob. "At Odds With Style Boxes." OnWallStreet November 2006: 76.

⁵Howard, Charles T. and Craig T. Callahan. "The Problematic 'Style' Grid." Icon Advisers, Inc. working paper. July 2005.

⁶Au, Andrea S. and Tony Foley. "The Ideal Blend of Growth and Value." The Journal of Investing Winter 2006: 68-77.

Disclosures

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