



ADVANCED INVESTMENT PARTNERS

100 Main Street Suite 301  
Safety Harbor, FL 34695  
TEL (727) 799-3671 (888) 248-8324 FAX (727) 799-1232

---

## **Style Box Investing: Do You Really Know What's in Your Box**

**Douglas W. Case, CFA**

**2Q 2011**

## **Style Box Investing: Do You Really Know What's in Your Box?**

A recent update of the eVestment Alliance Global Database shows there were 1,108 investment firms reporting performance for 4,015 US equity products. Having options is typically a good thing, but where does one begin when making decisions about which managers' strategies to select and how to combine them when there are 4,015 options?! And that's just for the US equity portion of your portfolio!

An important component of any investment policy is establishing a structure for the investment portfolio. Structure provides an investor with a fundamental discipline in addressing the inherent complexity of making choices among a vast array of uncertain investment options. One approach to structuring the US equity portion of an investor's portfolio, which has become a rather accepted convention, is based on style boxes. The investor selects "the best" value and growth managers for larger and smaller cap stocks and that's it, 4,015 options have been quickly framed into 4 choices.

Can it really be that straightforward? Can such complexity be sufficiently managed by filling out style box assignments? Does style box investing lead to a portfolio of outperforming, best-of-breed managers? Before we look at some recent style box investing results, let's first review the origins and motivations that led to the development of style boxes.

### ***Origins of the Style Box***

Style boxes evolved from the development of style indexes, which in turn emerged from an effort aimed at improving the quality of investment manager evaluations. Using broad market indexes such as the S&P 500 as a benchmark to evaluate the performance of managers that exhibit consistent investment biases – e.g., low P/E managers or aggressive growth managers – is an ineffective approach to assessing manager skill. Broad market comparisons for such managers do not allow for accurate attribution of performance into sources arising from systematic style biases versus true active manager skill.

In part, as recognition of this shortfall in manager benchmarking, Wilshire introduced their US equity "Target Style Indexes" in 1986 as representations of very concentrated growth or value investment styles. Similarly, Russell Investments launched their first US style indexes in 1987 by focusing on managers that were more "Earnings Growth" focused (i.e., growth styled) or "Price-Driven" focused (i.e., value styled)<sup>1</sup>. Wilshire's and Russell's research in this area was a significant advancement towards a more effective approach to controlling for style biases when assessing an investment manager's active skill.

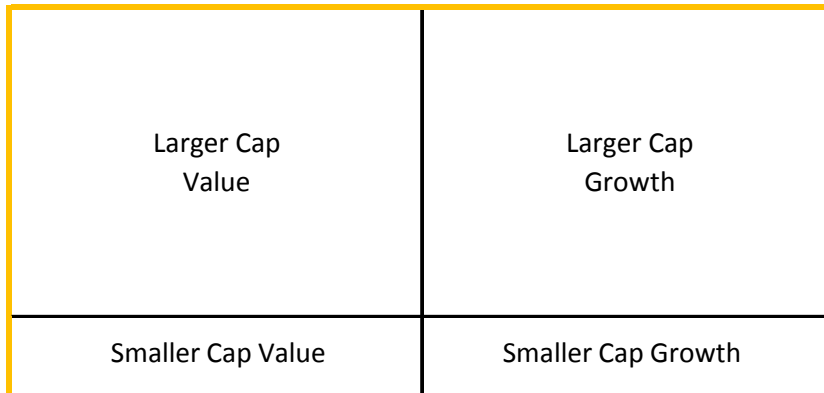
The analytic use of style indexes were considerably strengthened by the research of William Sharpe in his 1988 landmark article, "Determining a Fund's Effective Asset Mix"<sup>2</sup> which he furthered in his 1992 article, "Asset allocation: Management style and performance measurement."<sup>3</sup> These articles laid the foundation for using style indexes to perform returns-based style analyses. And then perhaps the most significant commercialization of the use of style indexes was in 1992 when Morningstar introduced their nine-square Morningstar Style Box<sup>TM</sup> – and voila, the style box was born.

### ***Multi-Manager Portfolio Structuring***

In a similar way that style indexes improved the ease with which investors could benchmark individual managers that exhibited consistent style biases, the introduction of style boxes ultimately led to a simplified scheme for structuring multi-manager equity portfolios. An investor could segment their market exposure into market cap slices and weight them appropriately (e.g., 80% larger cap and 20% smaller cap) and then divide each market cap segment based on style (e.g., 50% value and 50% growth). Therefore, in this example, the "optimal allocation" of your portfolio would be to place 40% each with a

larger cap value and growth manager plus 10% each with a smaller cap value and growth manager – as shown in Chart 1.

Chart 1  
Style Box Portfolio Structure



However, the ease of using style indexes and style boxes does not come without potential shortcomings – mostly in the appropriateness of the style indexes as a manager's benchmark as well as the thoroughness of style boxes in managing aggregate market exposure. Individual managers may have investment biases that are generally in line with a similarly labeled style index, but they may differ in material ways. Therefore, when you combine imperfectly complementary managers into a multi-manager aggregate portfolio, the investor may not achieve the desired – and expected – degree of aggregate market exposure (as suggested in Chart 2).

Chart 2  
Actual Manager Biases vs. Style Box Portfolio Structure

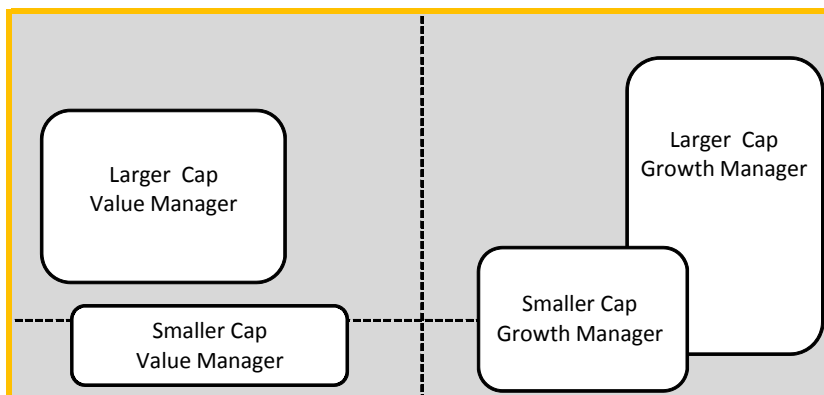


Chart 2 suggests that the style indexes that define the investment biases for each style box may not be an equally good fit for each manager. We observe that the Larger Cap Value Manager is biased towards deep value (i.e., skewed to the left) and is underrepresented in the mega cap segment of the market (i.e., biased downwards within the Larger Cap Value style box). The Larger Cap Growth Manager is skewed to the right indicating more of an aggressive growth bias along with a market cap bias that ventures down

into the Smaller Cap Growth style box. The Small Cap Value Manager appears to be a pretty good fit within the Smaller Cap Value style box while the Smaller Cap Growth Manager is skewed leftward – indicating perhaps a growth-at-a-reasonable-price bias – as well as exhibiting more of an upward, mid cap bias. These individual manager skews within their style boxes combine to introduce sources of aggregate risk and return variability that may not be evident to the style box investor.

The gray areas within Chart 2 reveal the sources of misfit risk within the investor's multi-manager aggregate portfolio. Overall, this example reveals a lack of exposure to mega cap stocks, a lack of core market segment exposure throughout the market cap spectrum (i.e., those stocks that are more balanced in their value and growth characteristics), and an overlapping representation among mid cap growth stocks. A considerable improvement in this investor's multi-manager portfolio's risk profile could be had by introducing a manager specializing in mega cap stocks as well as a core-biased manager. Addressing the overlapping mid cap growth exposure would require an evaluation of the two growth managers in order to determine whether any changes were potentially warranted.

### ***Style Box Investing Results***

Underexposure to the market's core segment has typically not been a concern for investor's pursuing a style box approach to structuring their multi-manager portfolio. The rationale typically advanced is that the investor can hire "best-of-breed" value and growth managers that when combined – in a barbell manner – will outperform the results of the market's overall core profile. Tables 1 and 2 provide some insight into the recent results of a best-of-breed, style box approach.

Using data from the eVestment Alliance Global Database of reported manager returns, we looked at the results of combining value and growth managers versus the results of core managers assuming two different levels of manager selection skill. We define an investor with "superior selection skill" as the ability to select the average or median for top quintile performing managers while "good selection skill" is represented by selecting the average or median for managers in the top two quintiles of performance. This analysis was performed for both larger cap managers and smaller cap managers.<sup>4</sup>

For larger cap managers in Table 1, whether we assume superior or good manager selection skill, the typical convention of a 50/50 combination of value and growth managers rather consistently underperformed a core manager over the trailing 3, 5 and 10 year time periods ending December 31, 2010. While the Value + Growth returns clearly exceeded the return of the S&P 500 index over all trailing periods, the fact that it trailed the Core return suggests that investors have achieved suboptimal results by pursuing a barbell, best-of-breed style box approach to structuring their larger cap market exposure. For the time periods under review, the investor would have been better served to go with the Core manager instead of the Value + Growth combination, or they should have considered adding a Core manager to their style box combination.

**Table 1**  
**Larger Cap Manager Annualized Total Returns**  
**Value + Growth vs. Core**  
**As of 12/31/2010**

**Superior Manager Selection Skill**

	Trailing Returns				Trailing Returns		
	3Yr	5Yr	10Yr		3Yr	5Yr	10Yr
Larger Cap Value Q1 average	1.12	5.38	6.69	Larger Cap Value Q1 median	0.58	5.03	6.42
Larger Cap Growth Q1 average	2.79	6.17	4.15	Larger Cap Growth Q1 median	2.30	5.92	3.97
Value + Growth	1.95	5.78	5.42	Value + Growth	1.44	5.48	5.20
Larger Cap Core Q1 average	2.18	6.59	6.20	Larger Cap Core Q1 median	1.07	5.88	5.64
Value + Growth vs. Core	-0.22	-0.81	-0.78	Value + Growth vs. Core	0.37	-0.41	-0.44

**Good Manager Selection Skill**

	Trailing Returns				Trailing Returns		
	3Yr	5Yr	10Yr		3Yr	5Yr	10Yr
Larger Cap Value Q1, Q2 average	-0.17	4.51	5.98	Larger Cap Value Q1, Q2 median	-0.60	4.11	5.60
Larger Cap Growth Q1, Q2 average	1.43	5.36	3.25	Larger Cap Growth Q1, Q2 median	0.71	5.14	3.04
Value + Growth	0.63	4.94	4.61	Value + Growth	0.06	4.63	4.32
Larger Cap Core Q1, Q2 average	0.81	5.53	5.17	Larger Cap Core Q1, Q2 median	0.13	5.11	4.66
Value + Growth vs. Core	-0.18	-0.60	-0.56	Value + Growth vs. Core	-0.08	-0.48	-0.35
S&P 500 Index	-2.87	2.28	1.41	S&P 500 Index	-2.87	2.28	1.41

Data Sources: eVestment Alliance Global Database; Standard & Poors.

The comparison of results among smaller cap managers in Table 2 were more mixed. In general, the Value + Growth returns were closer to those of the Core with no clear sign of one alternative being better than the other. Therefore, the barbell, best-of-breed style box approach to structuring an investor's smaller cap market exposure seems to have yielded reasonable results for the time periods under review.

**Table 2**  
**Smaller Cap Manager Annualized Total Returns**  
**Value + Growth vs. Core**  
**As of 12/31/2010**

<b>Superior Manager Selection Skill</b>								
	Trailing Returns				Trailing Returns			
	3Yr	5Yr	10Yr		3Yr	5Yr	10Yr	
Smaller Cap Value Q1 average	10.28	10.24	14.11	Smaller Cap Value Q1 median	9.31	9.68	13.84	
Smaller Cap Growth Q1 average	7.45	9.95	9.40	Smaller Cap Growth Q1 median	6.67	9.29	8.98	
Value + Growth	8.86	10.10	11.76	Value + Growth	7.99	9.49	11.41	
Smaller Cap Core Q1 average	8.92	9.81	11.81	Smaller Cap Core Q1 median	7.98	9.61	11.56	
Value + Growth vs. Core	-0.06	0.29	-0.05	Value + Growth vs. Core	0.01	-0.13	-0.15	
<b>Good Manager Selection Skill</b>								
	Trailing Returns				Trailing Returns			
	3Yr	5Yr	10Yr		3Yr	5Yr	10Yr	
Smaller Cap Value Q1, Q2 average	8.54	8.89	13.13	Smaller Cap Value Q1, Q2 median	7.80	8.30	12.68	
Smaller Cap Growth Q1, Q2 average	5.66	8.61	8.10	Smaller Cap Growth Q1, Q2 median	5.18	8.12	7.62	
Value + Growth	7.10	8.75	10.61	Value + Growth	6.49	8.21	10.15	
Smaller Cap Core Q1, Q2 average	6.93	8.45	10.76	Smaller Cap Core Q1, Q2 median	6.19	7.99	10.43	
Value + Growth vs. Core	0.17	0.30	-0.15	Value + Growth vs. Core	0.30	0.22	-0.29	
Russell 2500 Index	1.89	4.49	6.79	Russell 2500 Index	1.89	4.49	6.79	

Data Source: eVestment Alliance Global Database.

### **Other Considerations**

We've seen that style box investing may not have delivered the expected best-of-breed results over the last ten years. While style box investing has become a conventional approach to structuring a multi-manager portfolio, there may be some other considerations that make this approach less attractive.

The results that we have shown assume a constant 50/50 mix of value and growth manager exposure. However, the reality is that in order to realize the returns associated with this constant mix, the investor would need to rebalance their portfolio – periodically taking assets from the relatively stronger manager and placing it with the other manager – which would result in transaction costs. Such costs would reduce the realized returns from the Value + Growth manager combination.

There is also the potential for cross-manager trading and its associated transaction costs. Stocks can move from value to growth managers and vice versa as the fundamentals and merits of a stock evolve over time. The appreciating value stock may be sold by the price-sensitive value manager only to be bought by the growth manager for its improving growth characteristics. This turnover is a result of each manager remaining true to their narrow style while the multi-manager investor incurs the cost of such noisy trading within their aggregate portfolio.

Another consideration is manager fees. Typically, manager fees are lower for higher amounts of assets that are managed for a client. Therefore, consolidating assets with a single Core manager may result in lower aggregate manager fees than splitting the assets between Value and Growth managers.

## Summary

What began with style indexes and their application towards improved manager benchmarking, has evolved into style boxes being used as a conventional approach to structuring multi-manager portfolios. This is an easy to implement and easy to understand approach, but is not without its drawbacks. The hoped for outcome of achieving superior results by combining best-of-breed style managers has not been realized over the last ten years. Therefore, it's not surprising that we are seeing less conviction towards the simplified style box approach to selecting and combining managers, and greater interest in more flexible and robust multi-manager structures.

---

## Notes

- 1) Houghton, Kelly and Jon Christopherson, "Equity Style Indexes: Tools for Better Performance Evaluation and Plan Management," Russell Research Commentary, September 1989.
- 2) Sharpe, William, "Determining a Fund's Effective Asset Mix," Investment Management Review, September/October 1988, pp. 16-29.
- 3) Sharpe, William, "Asset allocation: Management style and performance measurement," The Journal of Portfolio Management, Volume 18, Number 2, Winter 1992, pp. 7-19.
- 4) Manager return data was collected from the eVestment Alliance Global Database as of December 31, 2010. Each manager universe was screened using the following criteria: 1) manager return data available for all time periods and 2) remove multiple products for individual managers based on less complete return history, more concentrated portfolios, ESG biased strategies, tax managed products, and funds subadvised by managers listed independently. The preferred benchmarks for each manager universe are detailed below. The data includes a survivorship bias as only those managers that had uninterrupted returns were considered. The impact of this bias is to skew the return data upwards, but should not adversely impact the conclusions reached by focusing the analysis on superior and good manager selection skill.

Larger Cap Value Managers: Preferred benchmarks included Russell 1000 Value, S&P 500/Citigroup Value or Wilshire Large Cap Value indexes.

Larger Cap Growth Managers: Preferred benchmarks included Russell 1000 Growth or S&P 500/Citigroup Growth indexes.

Larger Cap Core Managers: Preferred benchmarks included Russell 1000 or S&P 500 indexes.

Smaller Cap Value Managers: Preferred benchmarks included Russell 2500 Value, Russell 2000 Value or S&P Small Cap 600/Citigroup Value indexes.

Smaller Cap Growth Managers: Preferred benchmarks included Russell 2500 Growth or Russell 2000 Growth indexes.

Smaller Cap Core Managers: Preferred benchmarks included Russell 2500, Russell 2000, S&P 1000, or S&P 600 indexes.

This information has been prepared for informational purposes only and Advanced Investment Partners, LLC (AIP) is not soliciting any action based upon it. The material is not intended to provide specific

advice or recommendations but, rather, a basis from which strategies can be built, taking into account the specific objectives of each portfolio, in terms of return, time horizon, and risk constraints, as well as diverging investment perspectives and assumptions. The material contains information regarding the investment approach described herein and is not a complete description of the investment objectives, policies, guidelines or portfolio management and research that supports this investment approach. Any decision to engage AIP should be based upon a review of the terms of the investment management agreement and the specific investment objectives, policies and guidelines that apply under the terms of such agreement.

Opinions expressed are AIP's present opinions only and are subject to changes based on market, economic and other conditions and may not actually come to pass. Any historical price(s) or value(s) are also only as of the date indicated. Past performance is no indication of future returns.

Advanced Investment Partners is a registered investment advisor specializing in the professional management of investment portfolios utilizing advanced quantitative techniques.

Not all products will be available to all investors. Please contact AIP for further information regarding this strategy.