

Long/Short Equity Investing Part II: Styles, Strategies, and Implementation Considerations

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This is Part II of a two part series on long/short equity investing. In Part I we focused on defining various types of investment styles and strategies as they relate to long/short equity managers. In Part II we provide a detailed examination of how we categorize managers and a review of implementation considerations when constructing a diversified portfolio of multiple long/short equity managers.

Strategy Categorizations

As discussed in Part I, a key element of our research methodology on long/short managers involves a proprietary categorization process. This segmentation is based upon a number of factors, including the manager's net exposure, investment strategy, and portfolio construction philosophy and its impact on the investor's realized risk/return experience. While no manager will fit perfectly into any of the categories, we use numerous quantitative data points as well as qualitative expectations to find what we believe is the best fit.

- **Category 1: Market Dependent – High Beta.** Managers fitting into Category 1 are those which run long-biased portfolios without *dedicated* short books (i.e., they may not have short positions at all times) and may be willing to use margin leverage to increase long market exposure above 100% of capital. Category 1 managers usually short for alpha, selectively, as opposed to hedging their long book. Unlike most long/short strategies, Category 1 managers usually generate higher than market volatility, exhibit high beta, and may experience significant drawdowns (or periods of loss). During positive equity markets these managers are expected to outperform—but investors need to be prepared for potential underperformance in down markets.
- **Category 2: Core - Flexible/Directional (70-100% Market Exposure).** Category 2 managers are also long-biased managers, but they consistently maintain short books for both alpha generation and hedging purposes. The mandates are generally flexible so they can reduce exposure in poor environments to protect capital, but increase it in upward moving markets to catch a good portion of the market move. Net exposure will typically fall in the 70% or higher range with volatility, beta, and drawdowns that are? lower than Category 1 managers. These managers are expected to outperform in volatile market environments but may (?) lag in strong up markets. However, over a full market cycle (bull and bear), they are expected to outperform due to their ability to capture less downside.
- **Category 3: Core – Hedged (30-70% Market Exposure).** Category 3 managers have conservative mandates with net exposures ranging from 30% to 70%. A short book is maintained at all times and many managers view their short book as a profit center as well as a hedge or volatility reducer. In positive markets, Category 3 managers are expected to lag the market, but historically they have provided significant protection in negative markets due to lower correlation, beta, and drawdown

potential. Similar to Category 2, these managers are expected to lag in strong bull markets but should outperform over a full market cycle given their minimization of drawdowns and the power of compounding.

- **Category 4: Market Dependent – Low Beta (0-30% Market Exposure).** Category 4 managers are generally market neutral, either on a dollar-adjusted (dollars on the long side equal dollars on the short side) or beta-adjusted (beta on the long side matches beta on the short side) basis. As a result, these strategies tend to have near zero correlation to most equity market indices as well as to their peers. Performance is expected to be positive in most environments with volatility significantly lower than market indices. In strong markets they will lag significantly, but they are expected to provide better performance when the reverse is true. We classify these types of managers as market dependent not because they depend on the direction of the market but because they depend on such market factors as volatility and correlation.

Quantitative Metrics

While understanding investment strategies and styles is important when combining managers, there are a number of quantitative characteristics that influence which environments are favorable for certain strategies and which risk/return profiles to expect. Evaluating manager specific risk and return data—both current and historical—can help to establish those expectations. We believe the following quantitative characteristics are integral to creating performance expectations:

- Evaluation of beta (targeted as well as realized)
- Gross and net exposures (current as well as historical)
- Return and volatility across various environments (where track record allows),
- Percentage profitable
- Drawdown
- Capture ratios (i.e., how much of the index return is captured in up as well as down markets)

The categorization analysis below provides an example.

5 Year Risk Metrics	Alpha		Beta		Up Capture		Down Capture	
	R 3000	HFRI Eq Hedge	R 3000	HFRI Eq Hedge	R 3000	HFRI Eq Hedge	R 3000	HFRI Eq Hedge
Category 1 - Market Dependant - High Beta								
Manager A	8%	2%	1.04	2.09	121%	326%	93%	157%
Manager B	5%	(2%)	1.02	2.40	135%	453%	105%	183%
Category 2 - Core - Flexible/Directional								
Manager C	5%	3%	0.55	0.90	52%	117%	61%	97%
Manager D	10%	7%	0.54	1.03	70%	144%	58%	84%
Manager E	18%	16%	0.48	0.69	89%	173%	43%	53%
Category 3 - Core - Hedged								
Manager F	9%	8%	0.31	0.60	40%	89%	31%	48%
Manager G	7%	7%	0.06	0.22	19%	53%	7%	30%
Manager H	7%	5%	0.15	0.45	23%	55%	20%	36%
Category 4 - Market Dependant - Low Beta								
Manager I	8%	7%	0.04	0.21	12%	34%	(16%)	(9%)
Manager J	6%	5%	0.11	0.30	14%	34%	5%	13%
Manager K	10%	9%	0.08	0.22	24%	51%	2%	1%

5 Year Risk Metrics	Return	St Dev	Skewness	Kurtosis	Downside Deviation	3% Sharpe	% Profitable	Worst Month	Correlation		
									R 3000	HFRI Eq Hedge	Barclays Aggr
Category 1 - Market Dependant - High Beta											
Manager A	9.0%	27.3%	(0.22)	0.89	19%	0.34	62%	(21%)	0.70	0.77	0.08
Manager B	5.2%	29.4%	0.14	0.02	17%	0.21	52%	(18%)	0.64	0.82	(0.01)
Category 2 - Core - Flexible/Directional											
Manager C	6.8%	12.0%	(0.60)	0.88	9%	0.36	62%	(10%)	0.85	0.76	0.04
Manager D	11.7%	13.2%	(0.81)	0.72	10%	0.68	72%	(11%)	0.76	0.79	0.01
Manager E	19.0%	14.6%	0.09	0.76	9%	1.07	70%	(9%)	0.60	0.48	0.03
Category 3 - Core - Hedged											
Manager F	10.4%	9.0%	(0.29)	(0.01)	5%	0.81	68%	(6%)	0.62	0.67	0.07
Manager G	7.5%	7.1%	(0.69)	0.39	5%	0.63	68%	(6%)	0.15	0.32	(0.30)
Manager H	7.0%	8.5%	0.16	0.19	5%	0.49	60%	(4%)	0.32	0.54	(0.13)
Category 4 - Market Dependant - Low Beta											
Manager I	8.0%	6.9%	(0.27)	0.60	5%	0.72	67%	(5%)	0.11	0.30	0.20
Manager J	6.0%	7.2%	0.12	(0.02)	4%	0.43	60%	(4%)	0.28	0.43	(0.01)
Manager K	10.1%	5.6%	(0.25)	0.26	3%	1.23	77%	(3%)	0.28	0.40	0.04

In addition to the characteristics in the table, we look at a number of other metrics, including the performance of both the long and short books as well as the alpha generated by each. We also pay close attention to correlations (manager by manager as well as across markets) when pairing managers.

Qualitative Characteristics

As we discussed in Part I, when constructing a portfolio of multiple long/short equity managers it is important to understand not only the style (shorter term trader or longer term investor) of each manager but also to comprehend the strategy (position concentration/diversification; market capitalization; short, medium, or long investment horizons; value/growth biases; volatility targets; and beta or net exposure ranges). In addition, there are certain qualitative characteristics that we believe influence the risk/return experience. Some qualitative characteristics include:

- **Decision Making Process** – single decision maker or multiple, independent decision makers
- **Sector or Geographic Biases** – may result in notable concentrations in the portfolio
- **Thematic Investing** – may result in seemingly unrelated positions or sectors moving in tandem
- **Exposure Management** – exposure (long or short) gained through the use of market proxies (ETFs, futures, swaps, or other market index products) and how frequently or infrequently this method is used

Identifying these characteristics is important to increase the probability that an investor has a well-diversified portfolio not only by manager and category, but also by the underlying holdings, exposures, and styles. Within each category—or at the very least across the categories—one should look to invest in several managers to diversify by investment strategy and style with the objective of gaining exposure to:

- Traders and investors;
- Growth and value stocks;
- Various countries and regions of the world; and
- All market capitalizations.

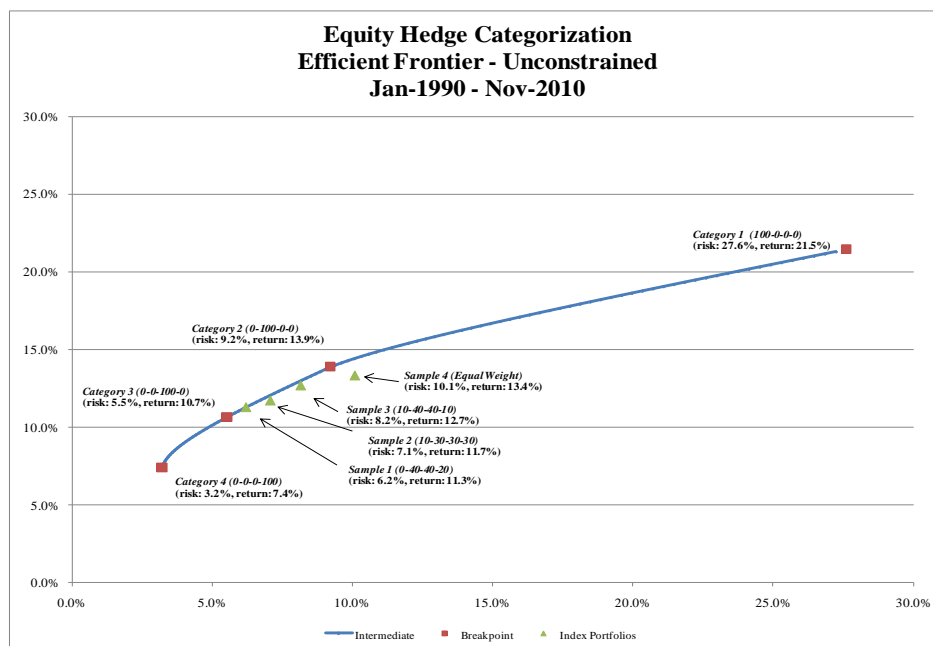
Typically an investor will not have access to all of a manager’s underlying positions. However, employing managers that differ by how they identify opportunities and also taking into consideration the characteristics listed above should help mitigate some of the risks associated with position overlap.

Portfolio Construction

Using the categorization system described above, we are able to create a portfolio diversified by exposure levels, investment strategy, and risk/return profiles. In order to achieve the characteristics an investor is targeting, such as the desired level of directionality (e.g., exposure to market movements or beta), it is important to set the appropriate strategic target allocations per category.

Step One: Set Initial Target Weights

We analyze the possible allocations through a combination of mean variance optimization and qualitative inputs. The chart below is an efficient frontier plotting a variety of allocations to one or more of the four categories. The y-axis represents annualized return while the x-axis represents annualized standard deviation. The goal of the efficient frontier is to identify optimal portfolios. This will help determine the appropriate allocation across the four categories of long/short managers based on desired risk/return characteristics. The red squares indicate risk and return for each of the four categories and the green triangles represent various allocations across the four categories. As one would expect, the lowest risk allocation would be to allocate 100% to Category 4; however, this would also result in the lowest return. On the other end, the highest risk allocation is a 100% allocation to Category 1 managers, though that allocation yields the highest return profile.



To arrive at these sample category returns streams, we modified several indices to best achieve the expected risk/return attributes of each category. This included enhancing the beta of an index to arrive at category one characteristics as well as combining indices to achieve category three characteristics.

Four sample portfolio mixes are included on the efficient frontier. Three represent diversified allocations across the four categories; these were chosen to reflect Categories 2 and 3 as the core of a long/short equity portfolio with varying exposures to the more market dependent categories, specifically Category 1. The fourth is an equal weighted portfolio, which serves as a benchmark to measure other allocations against. The tables below provide examples of the data used to construct the efficient frontiers. As you can see, we prefer to review multiple time periods including periods that fall prior to 2008 to avoid overweighting the impact of extreme market events.

Annualized Risk and Return Metrics for the Period Ending December 31, 2007									
	3 Year			5 Year			10 Year		
	Return	Volatility	Sharpe	Return	Volatility	Sharpe	Return	Volatility	Sharpe
0-40-40-20 Portfolio	9.06%	4.17%	1.40	9.26%	3.96%	1.52	9.71%	6.05%	1.08
10-30-30-30 Portfolio	11.15%	4.84%	1.61	11.84%	4.75%	1.77	10.83%	6.79%	1.12
10-40-40-10 Portfolio	11.86%	5.49%	1.54	12.91%	5.39%	1.74	11.66%	7.92%	1.06
25-25-25-25 Portfolio	15.06%	6.60%	1.72	16.88%	6.78%	1.91	13.29%	9.50%	1.06
<i>S&P 500 Index</i>	8.61%	7.79%	0.72	12.82%	8.60%	1.11	5.91%	14.72%	0.26
<i>MSCI AC World Index</i>	14.94%	8.77%	1.30	18.80%	9.53%	1.56	7.94%	14.35%	0.40
<i>HFRI Equity Hedge Index</i>	10.93%	5.90%	1.29	12.12%	5.67%	1.53	11.95%	9.14%	0.96

Annualized Risk and Return Metrics for the Period Ending November 30, 2010									
	3 Year			5 Year			10 Year		
	Return	Volatility	Sharpe	Return	Volatility	Sharpe	Return	Volatility	Sharpe
0-40-40-20 Portfolio	(0.56%)	8.03%	(0.40)	3.44%	6.86%	0.10	4.66%	5.64%	0.31
10-30-30-30 Portfolio	0.23%	10.27%	(0.22)	4.92%	8.62%	0.26	5.89%	7.16%	0.42
10-40-40-10 Portfolio	0.19%	11.73%	(0.18)	5.21%	9.82%	0.27	6.19%	8.21%	0.41
25-25-25-25 Portfolio	1.20%	15.38%	(0.04)	7.34%	12.71%	0.39	7.96%	10.80%	0.49
<i>S&P 500 Index</i>	(5.14%)	21.78%	(0.27)	0.99%	17.57%	(0.02)	0.81%	16.24%	(0.05)
<i>MSCI AC World Index</i>	(6.35%)	24.47%	(0.27)	3.02%	19.86%	0.10	3.13%	17.46%	0.10
<i>HFRI Equity Hedge Index</i>	(0.67%)	11.92%	(0.25)	4.24%	10.03%	0.17	5.48%	8.44%	0.33

Five Year Annualized Risk and Return Metrics for the Period Ending December 31, 2007								
	Annualized	Annualized	Beta	Sortino	Drawdown	Up	Down	Monthly
	Return	Volatility						
0-40-40-20 Portfolio	9.26%	3.96%	0.33	2.74	(2.27%)	41.30%	20.85%	76.67%
10-30-30-30 Portfolio	11.84%	4.75%	0.45	3.57	(2.25%)	57.20%	28.95%	76.67%
10-40-40-10 Portfolio	12.91%	5.39%	0.51	3.49	(2.69%)	65.67%	35.19%	73.33%
25-25-25-25 Portfolio	16.88%	6.78%	0.69	4.31	(2.94%)	95.91%	46.77%	76.67%
<i>S&P 500 Index</i>	12.82%	8.60%	1.00	2.02	(4.85%)	100.00%	100.00%	71.67%
<i>MSCI AC World Index</i>	18.80%	9.53%	1.04	3.17	(5.41%)	138.02%	88.27%	68.33%
<i>HFRI Equity Hedge Index</i>	12.12%	5.67%	0.49	2.81	(3.44%)	62.18%	37.53%	73.33%

* The S&P 500 Index is used for benchmark relative statistics.

Five Year Annualized Risk and Return Metrics for the Period Ending November 30, 2010								
	Annualized Return	Annualized Volatility	Beta	Sortino	Drawdown	Up Capture	Down Capture	Monthly % Profitable
0-40-40-20 Portfolio	3.44%	6.86%	0.32	0.08	(21.61%)	27.60%	39.90%	65.00%
10-30-30-30 Portfolio	4.92%	8.62%	0.43	0.29	(26.01%)	40.90%	50.10%	66.67%
10-40-40-10 Portfolio	5.21%	9.82%	0.50	0.30	(29.32%)	48.10%	56.40%	65.00%
25-25-25-25 Portfolio	7.34%	12.71%	0.67	0.46	(35.30%)	74.40%	69.20%	63.33%
<i>S&P 500 Index</i>	<i>0.99%</i>	<i>17.57%</i>	<i>1.00</i>	<i>(0.14)</i>	<i>(50.92%)</i>	<i>100.00%</i>	<i>100.00%</i>	<i>65.00%</i>
<i>MSCI AC World Index</i>	<i>3.02%</i>	<i>19.86%</i>	<i>1.09</i>	<i>0.00</i>	<i>(54.57%)</i>	<i>119.83%</i>	<i>101.37%</i>	<i>56.67%</i>
<i>HFRI Equity Hedge Index</i>	<i>4.24%</i>	<i>10.03%</i>	<i>0.48</i>	<i>0.16</i>	<i>(30.59%)</i>	<i>57.48%</i>	<i>25.64%</i>	<i>66.67%</i>

* The S&P 500 Index is used for benchmark relative statistics.

Step Two: Review Weights by Combining Categories

Another critical area to review is the combined strategy exposures. For instance, when setting up our target allocation, we focus on the total weight between multiple category pairings, such as Categories 1 & 2, 3 & 4, etc. This is done in an effort to ensure the portfolio doesn't have too much directional exposure (1 & 2), too little (3 & 4), or too much market sensitivity (1 & 4). Once we feel comfortable with the weightings, we can begin the manager selection process.

Thus far we have discussed the construction process from a systematic standpoint (i.e., the "science"). However, it is important to understand that manager selection and portfolio construction are a mix of art and science. The art comes into play when planning for potential unknown future variables, as well as when applying instincts to the process. Investors must understand that they need to be flexible within a defined framework to account for changes or events related to markets and managers.

In an effort to maximize positive outcomes, one must not only diversify across each of the four categories, but within them as well. We do not believe in manager or strategy concentration. We believe in diversification and understanding exposures and how different market environments will impact the range of outcomes.

While we have reviewed in depth our top-down approach to portfolio construction, we understand that if we do not hire the highest quality managers we will not achieve our objectives. The framework we have established helps us to identify the type of managers we want, how to pair them together, and how to view their differences within a defined framework. The overarching goal is to source and hire the best managers and then fit them into our framework in order to ensure we are not over-allocating to a certain style or strategy.

Concluding Remarks

While it is beyond the scope of this paper to address all implementation issues, we would be remiss if we did not highlight several other factors that investors need to assess such as:

- **Liquidity Term Structure.** We set targets for the liquidity of our client portfolios designed to minimize the risk of a mismatch occurring between cash flow needs and liquidity windows of the underlying funds. We tend to look at the following liquidity periods: month, quarter, semi-annual, and annual. In addition, we factor in the impact of notice and lock up periods.

- **Risk/return Characteristics Beyond the Long/Short Portfolio.** While we have focused on building the long/short equity bucket, it is critical to review the entire equity allocation's risk/return characteristics. The exposures and characteristics provided by an investor's long-only managers may cause us to change the complexion of our long/short allocations either by category or by manager.

As you can see, there many aspects to consider when building a direct long/short equity fund allocation. Part II of this series has attempted to provide investors with some guidance on the quantitative and qualitative aspect of the analytical and portfolio construction process specific to this genre of investing. However, investors shouldn't stop at this piece. Successful portfolio construction needs to consider not only the aspects mentioned in this paper, but *every* facet of investors' objectives.

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