Evaluating Absolute Return Managers

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Abstract One traditional measure of investment performance, the information ratio (IR), is defined as the active return (alpha) divided by the tracking error (the standard deviation of the active return). Calculating an IR is straightforward when the benchmark for performance is a buy-and-hold standard like the S&P 500. For absolute return managers, however, the typical benchmark is zero, meaning that any excess return is classified as alpha and deemed to represent the return from active management or skill. In this paper, we argue that this standard approach confuses beta returns and alpha returns. The former can be earned by following generic strategies that are easily implemented and often replicated by ETFs, while the later are associated with more original or complex strategies that more genuinely reflect unique skills or expertise. We propose a new performance metric that strips out beta returns associated with investment-style factors. This approach leads to a new statistic, the alpha ratio, which can dramatically impact the relative performance rankings of managers and provide a clearer signal of manager skill.

Key words: Hedge Funds, Alpha and Beta Separation, Style Investing

JEL Classification: F21, F31, G11, G23

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Over the last decade, many institutional investors have added "absolute return" strategies to their policy allocation.[1] Generally speaking, managers hired to fulfill an absolute return mandate are expected "to achieve positive absolute return regardless of the market environment."[2] Nevertheless, many absolute return managers have lost money in periods of declining equity markets, suggesting that significant exposure to the equity risk-premium lurks in the average absolute return portfolio. For example, as the global financial crises unfolded, institutional investors were disappointed by the performance of their "absolute return" managers.[3] Nevertheless and despite the disappointment in 2008, at a time when expected returns from traditional asset classes are low and institutional investors are under pressure to earn a more satisfactory level of absolute return, allocations to absolute return managers are likely to increase.[4]

The mixed performance of absolute return managers raises the question of how to select managers better equipped to generate positive returns regardless of the market environment.

[1] For example, the largest university endowment in the United States, the Harvard Endowment, allocated 16% to absolute return in its policy portfolio for 2012, up from 12% in 2005 and 0% in 1995 (see http://www.hmc.harvard.edu/investment-management/policy_portfolio.html).

[2] For example, see Kentucky Retirement Systems (2012).

[3] The HFRX Equal Weighted Strategies Index, which is based on the returns of more than 2,000 hedge funds, declined 21.9% in 2008. The index is prepared by Hedge Fund Research, Inc. and is available through Bloomberg as ticker HFRXEW Index.

[4] Most public pension funds still expect to earn annual returns of 7–8% over the long run (see Walsh and Nakim, 2012).

Jones and Wermers (2011) recommend that investors consider four factors in identifying superior managers: (1) past performance, (2) macroeconomic forecasting, (3) fund/manager characteristics, and (4) analysis of fund holdings. Empirical evidence presented by Brown et al. (2008) goes further. The authors document that by weeding out poorly managed funds, due diligence can itself be a source of alpha. Although many factors come into play before a fiduciary commits large sums to one or several managers, the overall objective is to identify superior managers capable of adding the most incremental value to overall portfolio performance. The goal of this paper is to highlight some of the difficulties in gauging the performance of absolute return managers and to propose a simple methodology for more reliably identifying top managers, leaving to one side the critical due diligence, service, and relationship issues that also play a part in selecting asset managers.

Evaluating Active Portfolio Managers

The *information ratio* (IR), popularized by Grinold and Kahn (2000), has become the standard measure for evaluating the value added by active portfolio managers. Indeed, estimates of the IR (over one year, three years, five years, and since inception) can be found in almost every fund manager's marketing materials for investment performance. Even new managers with shorter track records commonly report their IR, sometimes including periods when the fund was operating in a virtual mode or not open to outside investors. The IR is defined as the active return (alpha) divided by the tracking error (the standard deviation of the active return).

$$IR = \hat{\alpha} / \sigma(\hat{\alpha}) \qquad (1)$$

where $\hat{\alpha}$ is usually derived using regression estimation from the standard CAPM equation.

$$R_t = \hat{\alpha} + \hat{\beta}(R_{M,t} - R_{F,t}) + \varepsilon_t \qquad (2)$$

where

R is the excess return generated by the investment manager, defined as the total return (R_t^*) less the periodic risk-free rate ($R_{F,t}$),

$\hat{\alpha}$ is an estimated measure of active manager skill,

$R_{M,t}$ is the return generated by the benchmark (market index),

$\hat{\beta}$ is an estimated coefficient or factor loading that measures the sensitivity of the manager's returns to the benchmark, and

ε is a random error term.

Equation (2) highlights that alpha (and hence the IR) depends on $R_{M,t}$. In other words, the choice of the benchmark will determine the alpha and hence the measure of management skill. In practice, for most institutional asset managers and many public mutual fund managers, the benchmark is set *a priori*. For example, a manager of institutional funds might have the S&P 500 as a benchmark and could be expected to add 2–4% of alpha on top of this benchmark with a tracking error of 2–4%. In this case, the IR is a good measure of the manager's skill. $R_{M,t}$ is then simply the return on the S&P 500 Index and alpha is easy to measure.

Estimating IR for absolute return managers is more complicated. For absolute return managers, the traditional way to measure alpha has been to assume that portfolio beta is zero or, put differently, that the benchmark return is zero after subtracting the return on the risk-free

rate.[5] In this case, the IR is simply the manager's annual return in excess of the risk-free rate divided by its standard deviation. Equation (1) then simply becomes

$$IR = R / \sigma(R) \tag{3}$$

However, taking zero as a reasonable benchmark could be too simplistic. Waring and Siegel (2006) caution that the return of any portfolio consists of a part that is beta and a part that is alpha. Indeed, using an APT framework, Fung and Hsieh (2002) and, more recently, Edelman et al. (2012) have shown that a significant part of the return of hedge funds and funds of hedge funds could be explained by exposure to risk factors. In other words, estimating alpha in a risk-factor model takes the form

$$\hat{\alpha} = R_t - \sum_i \hat{\beta}_i F_{i,t} + \varepsilon_t \tag{4}$$

where

R is the excess return generated by the investment manager, defined as the total return (R_t^*) less the periodic risk-free rate ($R_{F,t}$),

F_i are risk factors representing different styles of investing, and

$\hat{\beta}_i$ are coefficients or factor loading estimates that measure the sensitivity of the manager's returns to the *n* risk factors.

In this risk-factor setup, Pojarliev and Levich (2008) define an alternative information ratio as

$$IR^* = \hat{\alpha} / \sigma(\hat{\alpha}) \tag{5}$$

[5] For example, see Deutsche Bank (2013).

We refer to this alternative information ratio as the alpha ratio. Depending on whether alpha is measured as in Equation (2) or as in Equation (4), the estimates of IR and IR^* might differ significantly.

An Empirical Example

Estimating Equation (4) requires obtaining return data for absolute return managers (left-hand-side variables) and data for risk factors (right-hand-side variables). Obtaining data for absolute return managers is challenging due to the usual biases affecting hedge fund databases. In particular, backfill and survivorship bias can be severe. Malkiel and Saha (2005) report that backfill bias averages 7.3% per year and survivorship bias averages 4.4% per year. Pojarliev and Levich (2011) estimate a similar survivorship bias (5.3%) for currency hedge funds. Fung and Hsieh (2000) examine various biases that impact the estimate of average hedge fund returns. More recently, Aggarwal and Jorion (2010) investigate bias that resulted from the merger of the Tremont database into the TASS database. Aggarwal and Jorion (2010) report that 60% of the funds added to the TASS database were likely to be survivors (i.e., the funds were selected on the basis of being in operation as of a certain start date). The authors conclude that the resulting survivorship bias is both statistically and economically significant, averaging more than 5% per year. Aiken et al. (2010) measure the self-reporting bias attributable to funds that choose to report versus those that do not. By checking data of limited partners in hedge funds that did not report to a database, the authors show that both omitted funds and funds that elect to stop reporting (and appear to be "dead") underperform. Drawing inferences based on self-reported data thus leads to an economically significant positive bias.

To address these biases, we make use of the same database used in Pojarliev and Levich (2011), i.e., daily return data for currency managers listed on the Deutsche Bank dbSelect managed investments platform.[6] The dbSelect data are unique relative to other hedge fund databases as they include actual return data, made possible because gains and losses are computed by Deutsche Bank based on real trades processed through Deutsche Bank prime brokerage. The daily return data are audited by an independent third party. This makes the return data especially reliable and useful for studying currency hedge funds. Our data build on the over five-year sample from April 2005 until June 2010 used by Pojarliev and Levich (2011) extended through March 2013 or eight years overall.

To estimate Equation (4), we use returns ($R_{j,t}$) from professional currency managers listed on the Deutsche Bank dbSelect platform and style or risk factors ($F_{i,t}$) to represent popular currency trading strategies. Most research focuses on three types of strategies. The carry trade or forward rate bias relies on the general tendency for currencies with high interest rates to appreciate.[7] Technical trend following strategies rely on persistent movements in spot exchange rates.[8] Value investing strategies based on mean reversion to long-run PPP exchange rates are another

[6] Launched in March 2005, dbSelect is an open platform of managed accounts held by Deutsche Bank, which allows investors to allocate to different currency managers. According to information posted on its website, dbSelect attracted $5 billion in AUM from pension funds, fund of funds, private banks, insurance companies, and other investors as of August 2013.

[7] See Froot and Thaler (1990) for a survey and Menkhoff et al. (2012a) and Rosenberg (2013) for recent studies.

[8] See Park and Irwin (2007) **[AUTHOR: In References, first author is spelled Irvin.]** for a survey and Menkhoff et al. (2012b) for a recent study.

approach.[9] Pojarliev and Levich (2008, 2010, 2011) and Nasypbek and Rehman (2011) show that three risk factors, which represent the return on the above well-known currency trading strategies (carry, trend, and value), and the foreign exchange volatility explain a significant part of the variability in the returns of professional currency managers. Not surprisingly, investable foreign exchange indices, seeking to replicate the returns of these generic strategies, have grown substantially over the last few years (Secmen, 2012) and provide return data for the right-hand-side-variables in Equation (4).

In the empirical example below, we use the same proxies for carry, trend, value, and foreign exchange volatility as did Pojarliev and Levich (2010, 2011).[10]

- Carry. As a proxy for the return on the carry factor, we use the Deutsche Bank G10 Harvest Index. This investable index reflects the return of being long the three high-yielding currencies against being short the three low-yielding currencies within the G10 currency universe (the Bloomberg code for this factor is DBHVG10U Index).
- Trend. As a proxy for the trend-following factor, we use the AFX Currency Management Index. The index is based on trading in seven currency pairs weighted by their volume of

[9] See Hafeez and Brehon (2010).

[10] For detailed description of the carry, value, and volatility indices, see Hafeez and Brehon (2010). For detailed description of the trend index, see Lequeux and Acar (1998).

turnover in the spot market, with returns for each pair based on an equally-weighted portfolio of three moving average rules (32, 61, and 117 days).[11]

- Value. As proxy for the value factor, we use the Deutsche Bank FX PPP Index. To gauge fair value, Deutsche Bank prepares a ranking based on the average daily spot rate over the last three months divided by the PPP exchange rate as published annually by the OECD. The FX PPP index reflects the return of being long the three currencies with the highest rank (undervalued currencies) against being short the three currencies with the lowest rank (overvalued currencies) within the G10 currency universe (the Bloomberg code for this factor is DBPPPUSF Index).

- Volatility. This factor does not represent the returns of an investable strategy.[12] We use the Deutsche Bank Currency Volatility Index as the proxy for foreign exchange volatility. This index is calculated as the weighted average of three-month implied volatility for nine major currency pairs (as provided by the British Bankers Association) with weights based on trading volume in the BIS surveys (the Bloomberg code for this factor is CVIX Index).

Table 1 summarizes the results for two managers in our database. We use the same notation as in Pojarliev and Levich (2011) so L27 and L28 stand for manager #27 and manager #28, who were still "live" on the dbSelect platform as of the end of March 2013.

[11] A link to the monthly data for this index is available at the NYU website http://people.stern.nyu.edu/rlevich/research.html.

[12] We use the first difference for this factor in Equation (4) as it does not represent the return of an investment strategy.

Table 1: Information Ratio and Alpha Ratio

	Excess Return	Alpha	Carry Beta	Trend Beta	Value Beta	Volatility Beta	R Square	IR	Alpha Ratio
L27	4.15%	2.92% (1.00)	1.01 (**3.41**)	0.70 (**2.56**)	-0.15 (-0.68)	-0.06 (-0.22)	0.212	0.47	0.38
L28	4.97%	4.87% (**3.01**)	-0.14 (-0.89)	0.08 (0.56)	0.25 (**1.99**)	-0.18 (-1.00)	0.068	1.13	1.15

Source: Eighty-seven monthly observations from January 2006 until March 2013. T-values in parentheses. Boldface indicates statistical significance at 5%.

On the surface, manager L27 and manager L28 earned roughly similar excess returns of 4.15% and 4.97%, gross of fees, annually over the seven-year period. The IRs are 0.47 and 1.13, respectively, reflecting the higher volatility of manager L27. But because performance fees are calculated based on the excess return, both managers would be paid similar performance fees. However, the returns for manager L27 are tightly linked to systematic risk factors that represent "beta returns." Put differently, the return generated by manager L27 could be explained by exposure to basic risk factors (or styles), specifically through exposure to carry and trend.

Manager L27 exhibits significant exposure to carry and trend (and no exposure to value and volatility). After accounting for the exposures to these risk factors, the estimated intercept (or alpha) for L27 drops to less than 3% and it is not significantly different from zero. The calculations for manager L28, on the other hand, show only a small significant exposure to value and a R-square of only 0.068. The alpha for L28 is estimated at 4.87%, or almost identical to her total excess returns. This alpha is estimated based on Equation (4) taking risk factors into account and suggests that manager L28 is delivering high excess returns in ways not related to

common trading strategies popular enough to be represented by our style factors. An alternative IR, labeled alpha ratio (see Equation (5)), is shown in the last column. Calling it the "alpha ratio" highlights the importance of estimating alpha after stripping out beta exposure. Absolute return investment managers commonly report their IR by assuming a zero-beta benchmark. Reporting an alpha ratio puts greater emphasis on an alternative alpha estimate, i.e., the return generated based on skill and not due to exposure to risk factors.

In this example, both the traditional information ratio and the alternative alpha ratio lead to the same inference—that manager L28 is superior to L27, but both managers offer some positive dimension of performance; however, in other cases, the differences could be more stark. For example, in a sample of 34 individual currency managers over a six-year period Pojarliev and Levich (2008) find that 28 managers had positive excess returns and therefore a positive IR. However, eight of those 28 with an IR > 0 had negative alpha and therefore a negative alpha ratio.

The basic message is fairly straightforward. For absolute return managers, by using a zero-beta benchmark the traditional information ratio (*IR*) will be positive when excess returns are positive. With the alternative alpha ratio, however, IR^* will be positive only when alpha is positive. For those managers who generate most of their returns from the common strategies proxied by risk factors, *IR* could be high but IR^* might be negative. As a result, IR^* is more

informative and therefore more useful as a measure of absolute return manager skill than a zero-return benchmark and the traditional *IR* . We discuss this further below.

Policy Implications of the Alpha Ratio Versus the Information Ratio

Why should institutional investors be concerned about how much of the return is alpha and how much is the result of beta exposures? First, proper return attribution should lead to re-pricing of some "active" absolute return products. Investors should not pay alpha fees for exposure to risk factors that could be earned more cheaply. In the example in Table 1, 20% performance fees for manager L27 on the total 4.15% annual excess return cannot be justified if part of the returns could be replicated by exposure to style factors. Second, beta returns are less likely to provide diversification benefits because markets become highly correlated in periods of high volatility (see Chow et al., 1999). More recently, Pojarliev and Levich (2011) show that currency managers whose returns are not linked to risk factors provide greater diversification benefits to investors with large equity exposure than do managers with returns tightly linked to risk factors. While managers L27 and L28 appear to generate roughly equal total returns of about 4–5%, the return generated by manager L28 is more valuable because it is more likely to provide diversification benefits. Finally, evaluated against a zero-beta benchmark, absolute return managers have the incentive to move away from risk taking (taking an active stance in the market) toward harvesting risk premiums (passive management). By doing this, they will not only reap the economic benefits of charging active fees for providing exposure to beta, but are

likely to have higher IRs over the long run than managers engaged in active management.[13] In other words, assuming a zero-beta benchmark provides the wrong incentives for absolute return managers.

While estimates of $\hat{\alpha}$ and IR^* might vary depending on the particular choice of risk factors, investors will benefit by looking at a range of possible estimates rather than following tradition and assuming that all excess return are pure alpha.[14] Given the wide availability of style factor indices and ETF-like securities or synthetics linked to style factors, comparing IRs estimated assuming a zero-beta benchmark seems naïve and not in the best interest of institutional fund managers.

Conclusions

As the global financial crisis unfolded, investors discovered that they were less diversified than they expected. Many absolute return managers delivered negative return along with equity markets, suggesting that what investors had perceived to be alpha was behaving like equity beta. The traditional IR treats all return as alpha return, overstating the skill of some absolute return managers. In this paper, we argue that comparing managers' "alpha ratio"—an alternative information ratio that accounts for exposure to risk factors—is a superior approach for measuring manager skill and identifying funds that stand to offer more value added. Focusing

[13] The average alpha is zero, but the average beta is greater than zero. Counting beta as alpha would lead to higher IR for managers who have both alpha and beta in their portfolios than for managers who generate only alpha. Put differently, IR will be higher than IR^* over time, all else equal.

[14] Melvin and Shand (2011) offer an alternative view of the use of risk factors in currency investing. They conclude that "use of style factors in currency investing is fraught with dangers and is of limited use as a benchmark for currency managers" (p. 13).

attention on a new statistic—the alpha ratio—has the benefit of stripping out all beta returns when reporting excess returns. While estimating the alpha ratio raises questions about appropriate risk factors and could understate the alpha generated by some managers, sticking with the zero-beta benchmark seems a worse option. Next time a manager knocks on the door with a high information ratio, plan sponsors should ask whether the alpha is based on a zero benchmark or something more demanding.

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