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Who Charges More: Hedge Funds or Mutual Funds?*

by Mark Kritzman, Windham Capital Management

At first glance, the answer to the question posed in the title seems obvious. The typical hedge fund charges a base fee that is much higher than the typical mutual fund fee. On top of that, hedge funds take a substantial fraction of the profits in the form of a performance fee. Surely hedge fund fees must be higher than mutual fund fees—or perhaps not. Hedge funds, in principle, hedge out market returns and thereby produce a pure alpha; hence the term "hedge fund." Alpha, in principle, is uncorrelated with market returns. Mutual funds, by contrast, generate returns that comprise a market component and an alpha component. The returns of mutual funds are typically more than 95% correlated with market returns. Taking these factors into account, it is unclear whether hedge funds or mutual funds are more expensive. The following example illustrates the relative cost of investing in hedge funds and mutual funds.

Table 1 shows the monthly returns and values of a hypothetical mutual fund and index fund, assuming an initial investment of $1 million. The index fund serves as the benchmark for the mutual fund.

The mutual fund manager had a good year. He generated a 2.00% alpha with active risk equal to 3.23% for a respectable information ratio of 0.62. Moreover, although not shown here, he has produced similar performance in years past. Because he has a solid long-term track record, he charges 75 basis points of the average of the beginning and ending values of the fund.

We might be tempted to hire this talented mutual fund manager. But, as it turns out, he has a twin sister who is just as talented. In fact, their similarity as twins extends to their stock-picking skills, because they make the exact same active bets. She applies her skill, however, as a hedge fund manager, not as a mutual fund manager. Rather than investing in the stocks she expects to outperform the benchmark, she puts the capital to work in a short-term investment fund that earns 4.00%. She then sells short the index fund and uses the proceeds of these short sales to purchase the stocks she expects to outperform, and she levers these exposures 12 to 1. Thus, she delivers a pure alpha stream rather than the composite of market returns and alpha that her twin brother

Table 1 **Mutual Fund and Index Fund Returns and Values**

	Mutual Fund		Index Fund		
Month	Return	Value	Return	Value	Alpha
		1000000		1000000	
January	0.41%	1004078	-1.13%	988744	1.53%
February	6.03%	1064613	5.87%	1046783	0.16%
March	-8.30%	976258	-8.08%	962172	-0.22%
April	6.09%	1035759	6.23%	1022096	-0.13%
May	6.08%	1098733	7.03%	1093908	-0.95%
June	-4.74%	1046667	-5.66%	1031986	0.92%
July	-0.95%	1036682	-1.85%	1012925	0.89%
August	-5.83%	976241	-4.41%	968206	-1.42%
September	1.72%	993060	1.59%	983618	0.13%
October	2.49%	1017814	3.45%	1017575	-0.96%
November	-1.84%	999069	-3.10%	985983	1.26%
December	10.10%	1100000	9.54%	1080000	0.57%
Cumulative Return	10.00%		8.00%		2.00%
Standard Deviation	19.29%		19.59%		3.23%

* This article was originally published in Peter Bernstein's "Economics & Portfolio Strategy," and is here reprinted with permission from Peter L. Bernstein, Inc.

Table 2 **Hedge Fund Returns and Values**

Month	STIF		Mutual Fund		Index Fund		Hedge Fund	
	Return	Value	Return	Value	Return	Value	Return	Value
		1000000		12000000		-12000000		1000000
January	0.33%	1003274	0.41%	12048933	-1.13%	-11864929	18.73%	1187278
February	0.33%	1006558	6.03%	12775360	5.87%	-12561400	2.80%	1220518
March	0.33%	1009853	-8.30%	11715098	-8.08%	-11546068	-3.41%	1178883
April	0.33%	1013159	6.09%	12429110	6.23%	-12265152	-0.15%	1177118
May	0.33%	1016476	6.08%	13184800	7.03%	-13126891	-8.73%	1074385
June	0.33%	1019804	-4.74%	12560008	-5.66%	-12383827	11.32%	1195985
July	0.33%	1023142	-0.95%	12440182	-1.85%	-12155104	9.38%	1308221
August	0.33%	1026492	-5.83%	11714890	-4.41%	-11618472	-14.17%	1122910
September	0.33%	1029852	1.72%	11916718	1.59%	-11803419	1.80%	1143152
October	0.33%	1033224	2.49%	12213770	3.45%	-12210897	-9.36%	1036097
November	0.33%	1036606	-1.84%	11988828	-3.10%	-11831800	15.20%	1193634
December	0.33%	1040000	10.10%	13199999	9.54%	-12959998	7.24%	1280002
Cumulative Return	4.00%		10.00%		8.00%		28.00%	
Standard Deviation	0.00%		19.29%		19.59%		35.56%	

delivers through his mutual fund.

Table 2 shows the returns and values of her hedge fund, assuming an initial investment of $1 million.

The $1 million investment in the short-term investment fund compounds at 0.33% per month for a cumulative annual return of 4.00%. The initial exposure to the mutual fund equals $12 million (12:1 leverage), while the initial exposure to the index fund equals negative $12 million (again 12:1 leverage). The value of the hedge fund each period, therefore, equals the sum of the short-term investment fund position and the mutual fund and index fund positions.

The twin sister's hedge fund strategy produced an annual return of 28.00%, which equals 12 times her twin brother's 2.00% alpha plus 4% from the funds invested in the short-term investment fund. The annualized standard deviation of her monthly returns was slightly less than 12 times her brother's active risk, owing to her hedge fund's allocation to the short term investment fund. Thus, she produced an information ratio of 0.79 compared to her brother's information ratio 0.62. Her performance in this year, just like her brother's performance, is consistent with her performance in years past; hence she charges a 2.00% base fee calculated on the average of the beginning and ending total value of the hedge fund and a performance fee equal to 20.00% of profits after netting out the income from the short-term investment fund as well as the base fee.

Although we might be justifiably impressed by her hedge fund's performance, its standard deviation of nearly 36% may be too much risk for us to swallow. Moreover, we may be unwilling to pay such high fees. First of all we would have to pay a base fee of $22,800, as shown below.

2.00% x ($1,000,000 + $1,280,002) ÷ 2 = $22,800

Then on top of the base fee, we would have to pay a performance fee equal to $43,440, as shown in Table 3.

Table 3 **Performance Fee**

Hedge fund gross profit	1,280,002 - 1,000,000	280,002
STIF profit	1,000,000 x 4%	40,000
Base fee	2% x (1,000,000 + 1,280,002) ÷ 2	22,800
Hedge net profit	22,802 – 40,000 – 22,800	217,202
Performance fee	20% x 217,202	43,440

The total hedge fund fee, therefore, would equal $66,240, compared to a total mutual fund fee charged by her brother of only $7,875 (0.75% x ($1,000,000 + $1,100,000) ÷ 2). She charges more than eight times as much as her brother—or does she?

Remember, the mutual fund is a composite of market exposure and exposure to alpha. We could have achieved 80% of the mutual fund's total return by investing in a low cost index fund. Moreover, the mutual fund returns are more than 98% correlated with the index fund returns. Why should we pay active fees for a product with such a large passive component?

The hedge fund, on the other hand, is designed to have no market exposure, and in fact was slightly negatively correlated with the index fund returns during the period shown. We are comparing apples to oranges when we measure the fees of a hedge fund that delivers a pure alpha stream with the fees of a market driven mutual fund. What if we combined a low cost investment in an index fund with investment in the hedge fund, instead of investing exclusively in either the mutual fund or the hedge fund? Table 4 shows the returns and values of a 90/10 mix of the index fund and the hedge fund.

Table 4 **90/10 Mix of Index Fund and Hedge Fund**

	Index Fund		Hedge Fund		90/10 Mix	
Month	Return	Value	Return	Value	Return	Value
		900000		100000		1000000
January	-1.13%	889870	18.73%	118728	0.86%	1008597
February	5.87%	942105	2.80%	122052	5.51%	1064157
March	-8.08%	865955	-3.41%	117888	-7.55%	983843
April	6.23%	919886	-0.15%	117712	5.46%	1037598
May	7.03%	984517	-8.73%	107438	5.24%	1091955
June	-5.66%	928787	11.32%	119598	-3.99%	1048386
July	-1.85%	911633	9.38%	130822	-0.57%	1042455
August	-4.41%	871385	-14.17%	112291	-5.64%	983676
September	1.59%	885256	1.80%	114315	1.62%	999572
October	3.45%	915817	-9.36%	103610	1.99%	1019427
November	-3.10%	887385	15.20%	119363	-1.24%	1006748
December	9.54%	972000	7.24%	128000	9.26%	1100000
Cumulative Return	8.00%		28.00%		10.00%	
Standard Deviation	19.59%		35.56%		17.39%	

This particular mix of a $900,000 initial investment in the index fund, together with an initial investment of $100,000 in the hedge fund, produces precisely the same return as the mutual fund—10.00%—and achieves this result at slightly less risk—17.39% versus 19.29%—for the mutual fund. Moreover, the returns of this strategy are 99.85% correlated with the mutual fund returns. It is almost a perfect substitute for the mutual fund. But what does it cost?

Let's suppose the index fund charges 5 basis points, which is higher than what institutions typically pay for index funds. Table 5 shows the total cost of investing in this strategy.

Table 5 **90/10 Strategy Fee**

Index fund fee	.05% x (900,000 + 972,000) ÷ 2	468
Hedge fund base fee	2% x (100,000 + 128,000) ÷ 2	2,280
Hedge fund gross profit	128,000 – 100,000	28,000
STIF profit	100,000 x 4%	4,000
Hedge net profit	28,000 – 2,280 – 4,000	21,720
Performance fee	20% x 21,720	4,344
Total strategy fee	468 + 2,280+ 4,344	7,092

The total fee for this strategy is $7,092 compared to the mutual fund fee of $7,875. It is cheaper to invest in the hedge fund alongside an index fund than it is to invest in the mutual fund. This comparison is based on apples to apples, because the mutual fund blends market exposure with active bets, and the 90/10 strategy mimics the mutual fund strategy. In the 90/10 strategy, however, we pay active fees for active exposure and passive fees for passive exposure. In the mutual fund strategy, we pay active fees for both the active and passive exposures. The mutual fund and the 90/10 strategy both have about the same passive exposure, yet the mutual fund fee exceeds the fee for the 90/10 strategy. Therefore, the *implicit* active fee of the mutual fund is greater than the active fee of the 90/10 strategy, which is the hedge fund fee.

There are several simplifying assumptions underlying this analysis. I assume, for example, that the income from selling securities short exactly offsets the cost of purchasing securities on margin. In practice, there are net costs associated with the long/short strategy described in my example. My example also depends on specific assumptions about return, volatility, interest rates, and fee schedules, which all conspire to produce the result you see. Nonetheless, variations in these assumptions will not alter the essence of my argument, which is that hedge fund fees and mutual fund fees are remarkably similar when measured properly. Or perhaps it is not at all remarkable, but rather what efficient markets dictate.

MARK KRITZMAN, is President and CEO of Windham Capital Management, LLC. He also serves as a Senior Partner of State Street Associates, and he teaches a financial engineering course at MIT's Sloan School.

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