

AIMA RESEARCH COMMITTEE PAPER

Methodological, mathematical and factual errors in
'The Hedge Fund Mirage'

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Introduction

There is a long tradition of polemics in the English language, and '*The Hedge Fund Mirage: The Illusion of Big Money and Why It's Too Good to be True*'¹ follows in that tradition. It is an excoriating attack on the global hedge fund industry featuring some lurid claims.

Critics of the industry greeted its publication with great rapture and announced that it confirmed what they had always suspected. Some journalists treated it as a dazzling revelation and published uncritical and gushing reviews of it.

Many of us in the industry looked at the arguments in the book with initial interest, and then growing scepticism. Many of the most sensational claims appeared not to be backed up by any figures. Where there were figures, the methodology was flawed, and often undermined by simple errors and misconceptions.

We noticed that no-one praising the book appeared to have actually checked the numbers behind it. We began to wonder if '*The Hedge Fund Mirage*' was itself an illusion.

We thought it would be useful to bring together some of the leading academic experts on the industry and ask them what they thought. They said they were struck by its numerous errors of methodology, mathematics and fact. We offered to work with them to catalogue all these errors, so that the myths being propagated by the book could be properly addressed.

This paper, written in conjunction with AIMA's Research Committee, is what emerged from that work.

We hope critics and members of the industry alike find this paper useful. We have sought to be fair to the book and have even included a section on what it gets right.

Finally, we should stress that although AIMA is the global hedge fund industry association and obviously represents the interests of that industry, we are not of the view that the industry should not be criticised. There are many legitimate grounds on which to do so, and indeed AIMA itself has worked since its inception in 1990 to raise industry standards through its sound practices work. All we are saying here is that the main claims made in '*The Hedge Fund Mirage*' do not stand up to rigorous examination.



Andrew Baker
Chief Executive Officer
Alternative Investment Management Association

¹ '*The Hedge Fund Mirage: The Illusion of Big Money and Why It's Too Good To Be True*', published by John Wiley & Sons, January 2012

Executive summary

Claim: "If all the money that's ever been invested in hedge funds had been put in Treasury bills instead, the results would have been twice as good. When you stop for a moment to consider this fact, it's a truly amazing statistic."

These are the opening lines of '*The Hedge Fund Mirage*'. But to paraphrase, what is really "truly amazing" is that nowhere in the subsequent 174 pages is this "statistic" actually supported by clear figures or working.

In fact even the academic paper (by Dichev and Yu²) cited in the book to support this view contradicts it and says the opposite - i.e., that hedge fund returns have been higher than those for T-bills.

What our own calculations, using the same core data and time period, show is that investors allocated \$1.24 trillion to hedge funds from 1998-2010 and had \$1.78 trillion to show for it, a 44% return, while the same amount invested in T-bills over the same period would have produced \$1.52 trillion, a 23% return.

So to paraphrase the book's opening line, if all the money that had been invested in hedge funds had been put in T-bills, the results would only have been *half* as good.

Claim: "Dollar-weighted" returns are a better measure of performance than "time-weighted" returns

The central thesis of the book is based on the argument that dollar-weighted returns are more accurate for hedge funds than time-weighted returns. But this argument is contradicted by global best practice standards in this space.

The internationally accepted Global Investment Performance Standards (GIPS®) strongly advocate the use of time-weighted data for assessing hedge fund performance and say that dollar-weighted return statistics are more appropriate for private equity assets.

For example, the GIPS® Guidance Statement on Calculation Methodology³ states: "Although the GIPS® standards allow flexibility in return calculation, the return must be calculated using a methodology that incorporates the time-weighted rate of return concept for all assets (except private equity assets)."

The GIPS Guidance Statement also makes clear that the standards "require a time-weighted rate of return because it removes the effects of cash flows, which are generally client-driven".

Dollar-weighted figures tell us more about investor behaviour than manager performance.

In short, the book has used a means of measuring returns best suited for private equity, applied it to hedge funds against global best practice, and come up with a mistaken conclusion as a result.

Claim: Hedge fund managers have taken almost all the profits, leaving little or nothing for investors

What the book claims to be "profits" for hedge fund managers are in fact the gross revenues they receive, which are obviously not the same thing as net profits. Any assessment of any other sector which presumed that gross revenues and net profits were the same thing would produce a highly misleading conclusion and it is not surprising that the book also does so. In its fees calculations the book also misleadingly excludes the risk-free rate from hedge fund returns, which has a similarly distorting effect on the final figures produced.

² "Higher risk, lower returns: What hedge fund investors really earn" (Dichev, Yu, 2009). The abstract of the paper on p1 refers to hedge fund returns being higher than T-bills.

³ "GIPS® Guidance Statement on Calculation Methodology" (CFA Institute, 2006)

The true picture was set out in a recent study⁴ which found that 72% of returns generated go to the investor and 28% to the manager.

Claim: Hedge fund indices overstate returns through various "biases"

The book goes further in under-stating hedge fund performance figures by arbitrarily cutting an additional 3% from annual industry returns to "correct" for various biases such as "survivorship" bias.

But biases can be both positive and negative, and academic studies⁵ have recently demonstrated how negative biases are in fact cancelled out by similarly strong positive biases, such as the fact that some of the largest and most successful hedge funds do not report their returns to data providers.

It is noteworthy too that the book's choice of index (HFRX) has returns among the lowest of the traditional hedge fund indices. Our analysis (table 2) shows a gap of 3.3 percentage points between the index used in 'The Hedge Fund Mirage' and the index with the highest returns. The average of the six main indices is 8.5%, 1.2% higher than the one used in the book.

Claim: When investors lose money, the hedge fund still reports a positive return

The main criticism of how hedge fund returns are reported is based on a simple sum. The book gets that simple sum wrong.

The example is of an investor who puts \$1 million in a fund that has a +50% return in a single year. The investor adds another \$1 million in year two, when the fund is down 40%. Net, the investor has lost 25% of his money, and the fund will report a compound average annual growth rate of -5.13%.

But the book says that the fund will report +5.13% and bases its whole case against hedge funds on this figure. It states: "The hedge fund is showing a positive return, while his investor has lost money."

In fact, both the fund and the investor would have lost money in this example. The book claims there is an inconsistency between hedge fund returns and investors' actual experiences. However, there would be no inconsistency if the sum had been calculated correctly. The book frequently returns to this mistaken calculation and uses it as the basis for some of its more robust assertions. Since the sum is wrong, those assertions are erroneous.

Claim: Hedge funds have failed to beat a simple 60/40 portfolio

Despite the claims in 'The Hedge Fund Mirage', a recent study⁶ concluded that a portfolio based on an equal weighting between hedge funds, stocks and bonds significantly outperformed a conventional 60:40 strategy between 1994 and 2011, and did so with a lower tail-risk.

Conclusion

Hedge fund returns have historically been impressive, out-performing equities, bonds and commodities⁷. The book uses a variety of ingenious but highly misleading techniques to lower these returns, including the use of dollar-weighting against best practice, arbitrarily chopping 3% off returns (because of alleged 'bias' even though academics say the various biases cancel each other out), removing another 2% by claiming that only returns above Treasuries are 'real', and using one of the worst-performing indices. This is admirable in terms ofchutzpah, but mistaken in methodological, mathematical, and factual terms.

⁴ "The value of the hedge fund industry to investors, markets and the broader economy" (Centre for Hedge Fund Research, Imperial College, 2012)

⁵ E.g., "Inferring Reporting-Related Biases in Hedge Fund Databases from Hedge Fund Equity Holdings" (Agarwal, Fos, Jiang, 2011)

⁶ "The value of the hedge fund industry to investors, markets and the broader economy" (Centre for Hedge Fund Research, Imperial College, 2012)

⁷ "The value of the hedge fund industry to investors, markets and the broader economy" (Centre for Hedge Fund Research, Imperial College, 2012)

Rebuttal of the Main Claims

Claim 1: "If all the money that's ever been invested in hedge funds had been put in Treasury bills instead, the results would have been twice as good."

The line above is the very first of '*The Hedge Fund Mirage*'. But, extraordinary as it may seem, nowhere in the subsequent 174 pages is this central claim supported by clear evidence. The Dichev and Yu paper⁸ cited in the book to support this view actually contradicts it and says the opposite (i.e. T-bills did not outperform hedge funds).

What our own calculations, using the same core data and time period as the book, in fact show is that investors allocated \$1.24 trillion into hedge funds between 1998 and 2010 and have \$1.78 trillion to show for it, a 44% return, while the same amount invested in T-bills over the same period would have produced \$1.52 trillion, a 23% return. So to paraphrase the book's opening line, if all the money that had been invested in hedge funds had been put in T-bills, the results would only have been *half* as good.

The book's calculations

We do not doubt the sincerity of '*The Hedge Fund Mirage*'. But only by piecing together the different strands of its arguments about how hedge fund returns ought to be calculated is it possible to estimate how its headline-grabbing conclusions were reached. And only then can readers reach an informed view about the legitimacy of its claims.

Table 1 combines data from the book (columns 1-8⁹) with our extensions of the book's analysis (columns 9-12). We have used the same indices for calculating hedge fund returns (HFRX) and industry assets under management (BarclayHedge) as the book, and we have reduced the HFRX returns by 3%, as the book did, to correct for the supposed "survivorship" bias (although we believe this is a mistaken approach).

Understanding the methodology underpinning columns 9, 10 and 12 is essential in order to understand the book's calculations. Column 9 represents our estimate of the returns from investing in the hedge fund industry in any given year. It is calculated by multiplying the average AUM for the year (column 2) with the annual return of the HFRX index adjusted downwards by 3% (column 3).

Columns 10 and 11 are our estimates of the returns from investing in T-bills each year. Column 10 is the return in dollar terms, while column 11 is the percentage return. The dollar amounts are calculated by multiplying the average hedge fund AUM for the year (column 2) with the percentage return from investing in T-bills each year (column 11).

Column 12 is our estimate of the so-called "real investor profits" - a flawed concept introduced in '*The Hedge Fund Mirage*'¹⁰. This is based on the premise that "real investor profits" can only be estimated after eliminating the dollar returns from investing in T-bills (column 10) from the returns generated by the industry (column 9). Specifically, the book states:

"The definition of Real Investor Profits used here is the return on hedge funds minus the return that could have been earned by investing in Treasury bills"¹¹

This is mistaken because it replaces real dollars going to investors (hedge fund returns figures are post-fees) and replaces them with an arbitrary and flawed definition of what is "real". For example, if an investor earned \$10 from hedge funds when he could have earned \$2 from Treasuries, the "real" money he received was still \$10, not \$8 (\$10-\$2).

⁸ "Higher risk, lower returns: What hedge fund investors really earn" (Dichev, Yu, 2009)

⁹ Based on methods described in '*The Hedge Fund Mirage*', table 4.2, page 64

¹⁰ '*The Hedge Fund Mirage*', page 61-62

¹¹ '*The Hedge Fund Mirage*', pp 62

Table 1

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Column 12
Year	Average AUM (\$ billion)	HFRX -3% (survivor bias)	Real Investor Profits (\$ billion) *	Estimated Total Fees (\$ billion)	Fees as a % of AUM	Total Profits (Real Investor Profits + Total Fees) (\$ billion)	Industry Share of Total Profits	Total Profits (\$ billion) Column (2) X (3)	T-Bill returns (\$ billion) Column (9) - (4)	T-Bill returns (%)	Real Investor Profits (\$ billion) Column (10) - (9)
1998	\$ 131	10%	\$ 6	\$ 6	4.6%	\$ 12	50%	\$ 13	\$ 7	5.1%	\$ 6
1999	\$ 161	24%	\$ 31	\$ 13	8.1%	\$ 44	30%	\$ 39	\$ 8	4.8%	\$ 31
2000	\$ 213	11%	\$ 11	\$ 10	4.7%	\$ 21	48%	\$ 23	\$ 13	6.2%	\$ 10
2001	\$ 279	6%	\$ 5	\$ 10	3.6%	\$ 15	67%	\$ 17	\$ 11	3.9%	\$ 6
2002	\$ 414	2%	\$ -	\$ 10	2.4%	\$ 10	100%	\$ 8	\$ 7	1.7%	\$ 1
2003	\$ 666	10%	\$ 62	\$ 31	4.7%	\$ 93	33%	\$ 67	\$ 7	1.1%	\$ 59
2004	\$ 1,027	0%	\$ -17	\$ 21	2.0%	\$ 4	525%	\$ -	\$ 13	1.3%	\$ -13
2005	\$ 1,295	0%	\$ -44	\$ 26	2.0%	\$ -18	-	\$ -	\$ 41	3.2%	\$ -41
2006	\$ 1,537	6%	\$ 20	\$ 55	3.6%	\$ 75	73%	\$ 92	\$ 75	4.9%	\$ 17
2007	\$ 1,925	1%	\$ -68	\$ 44	2.3%	\$ -24	-	\$ 19	\$ 92	4.8%	\$ -73
2008	\$ 1,797	-26%	\$ -502	\$ 36	2.0%	\$ -466	-	\$ -467	\$ 31	1.7%	\$ -498
2009	\$ 1,506	10%	\$ 154	\$ 30	2.0%	\$ 184	16%	\$ 151	\$ 2	0.1%	\$ 149
2010	\$ 1,624	2%	\$ 34	\$ 32	2.0%	\$ 66	48%	\$ 32	\$ 2	0.1%	\$ 31
Total			\$ -308	\$ 324		\$ 16	-	\$ -6	\$ 309		\$ -315

*as per *The Hedge Fund Mirage*, page 61-62

Source: AIMA; 'The Hedge Fund Mirage'

The five fundamental flaws in the book's approach

Our analysis has exposed what we believe are five fundamental flaws in the approach taken by the book. Taken together, these five measures have had the effect of reducing substantially the value of the hedge fund industry's true returns to investors:

1. Using "dollar-weighted" returns, which typically are lower than "time-weighted" returns - despite the former being a methodology more usually applied to private equity funds, and the latter being recognised globally as the most appropriate measure of hedge fund performance
2. Using a simple average to calculate returns for T-bills¹² - thereby failing to achieve an apples-to-apples comparison (since hedge fund returns are calculated differently in the book) and having the effect of inflating T-bill returns while deflating hedge fund returns
3. The cutting from hedge fund returns of the value of T-bill returns - based on the unorthodox notion that only returns that exceed T-bill returns are "real" returns
4. The choice of an index that has produced one of the lowest hedge fund returns of all the main indices
5. The cutting of a further three percentage points from hedge fund returns in order to "correct" for supposed biases in the index¹³ - despite academic research suggesting that there are both positive and negative biases in hedge fund indices which actually cancel each other out.

Later, we will explain why academics say that hedge funds should not be compared with T-bills at all, but should only be set against the performance of asset classes such as stocks, bonds and commodities.

¹² 'The Hedge Fund Mirage', table 1.2, page 10

¹³ 'The Hedge Fund Mirage', page 64

1. Dollar-weighted returns

Using dollar-weighted returns rather than time-weighted returns for the hedge fund industry can produce lower figures. But it is important to consider why. Dollar-weighted figures tell us more about investor behaviour than manager performance. They tell us that many hedge fund investors did not time their allocations well. But they do not tell us anything new about hedge fund manager performance.

There is no denying that many investors could improve their overall returns by better timing their entry and exit decisions into hedge funds (and indeed any form of investment). An academic paper published by Professor Ilia Dichev and Professor Gwen Yu (2009) titled 'Higher Risk, Lower Returns: What Hedge Fund Investors Really Earn', which serves as the basis for much of the empirical analysis put forward by 'The Hedge Fund Mirage', emphasises the need to differentiate between assessing the performance of a fund manager versus the experience of an individual investor. Even Dichev and Yu found that "buy-and-hold" (i.e. time-weighted) returns are higher than dollar-weighted returns. A similar study that looked at mutual funds¹⁴ reached much the same conclusion - once again, aggregate dollar-weighted returns were systematically lower than time-weighted returns.

Dollar-weighted returns take into account the effect of capital allocation decisions that are external to and beyond the control of the fund manager. Unlike private equity firms and companies investing in real estate, hedge funds do not control or guide the moment when investors invest in their funds. In any case, most funds start with a small investor base and gradually increase in size over time, thus leading to a divergence between dollar-weighted and time-weighted returns. That is why time-weighted returns are almost universally accepted by the funds industry as the most appropriate methodology to measure the performance of managers.

The GIPS® standards, the global investment performance measurement standards published by the Investment Performance Council of the CFA Institute, strongly support the use of a time-weighted assessment of fund returns. Just as significantly, the GIPS® standards discourage the use of a dollar-based methodology to measure fund performance for all assets except private equity assets¹⁵.

The following excerpts are taken from the GIPS® Guidance Statement on Calculation Methodology" (CFA Institute, 2006)¹⁶:

"Although the GIPS® standards allow flexibility in return calculation, the return must be calculated using a methodology that incorporates the time-weighted rate of return concept for all assets (except Private Equity assets)."

"The Standards require a time-weighted rate of return because it removes the effects of cash flows, which are generally client-driven. Therefore, a time-weighted rate of return best reflects the firm's ability to manage the assets according to a specified strategy or objective, and is the basis for the comparability of composite returns among firms on a global basis."

"Money- or dollar-weighted returns may add further value in understanding the impact to the client of the timing of external cash flows, but are less useful for return comparison and are therefore not covered by this Guidance Statement."

¹⁴ "Mutual fund flows and investor returns: An empirical examination of fund investor timing ability" (Friesen, G., Sapp, T.A.R., 2007) Journal of Banking & Finance 31, 2796-816.

¹⁵ GIPS® standards are used by investment managers for quantifying and presenting investment performance that ensure fair representation and full disclosure. The GIPS standards make it possible for investment managers around the world to transport their historical investment returns to other countries without having to restate these figures using different calculation and presentation rules. This creates a level playing field for all firms, promotes comparability and gives current and potential clients more confidence in the integrity of the performance presentations and the general practices of a compliant firm. Investment firms choosing to comply with the GIPS standards assure prospective clients that the historical performance they report is both complete and fairly presented. The GIPS standards represent industry best practices and compliance demonstrates a firm's commitment to ethical practices. Firms complying with the GIPS standards benefit from the standardized framework and internal controls that ensure consistent and directly comparable investment information. Source: GIPS® Guidance Statement on Calculation Methodology (2008)

¹⁶ www.gipsstandards.org/standards/guidance/archive/pdf/GSCalcMethRevised.pdf

Moreover, a preference for time-weighted returns has been the accepted academic practice for almost 50 years. It was championed by the forerunner to the GIPS®, the Association for Investment Management and Research-Performance Presentation Standards (AIMR-PPS), as well as the Investment Council Association of America's 1971 standard and the Bank Administration Institute's 1966 standard.

It is also worth noting that asset-weighted returns are not always necessarily lower than equal-weighted returns. Table 2 below compares the HFRI Asset Weighted Composite Index with the HFRI Fund Weighted Composite Index. The asset-weighted index outperforms the equal-weighted index and also has lower risk (as demonstrated by the lower standard deviation of 6.62 vs the equal-weighted index's standard deviation of 7.08), and generated better risk-adjusted returns (also demonstrated by the higher Sharpe ratio for the asset-weighted index of 1.36 vs the equal-weighted index's Sharpe ratio of 1.05).

Table 2: Asset-weighted v equal-weighted indices (1/1990 to 12/2011)

Name	HFRI Asset Weighted Composite Index	HFRI Fund Weighted Composite Index	S&P 500 w/ dividends
G.Average Monthly	1.02	0.89	0.66
Standard Deviation	1.91	2.04	4.39
High Month	8.60	7.65	11.42
Low Month	-7.54	(8.70)	(16.79)
Annualized Return	12.97	11.25	8.22
Annualized STD	6.62	7.08	15.21
Risk Free Rate	3.51	3.51	3.51
Sharpe Ratio	1.36	1.05	0.37
% of Winning Months	74.62	71.21	63.26
Maximum Drawdown	14.08	21.42	50.92

Source: Hedge Fund Research

2. A simple average for calculating T-bill returns

There is a major inconsistency in the methodology behind how the 'The Hedge Fund Mirage' calculates the returns for hedge funds and T-bills. 'The Hedge Fund Mirage' claims that returns from T-bills (1998-2010) averaged 3%, but the author does not explain his methods for reaching that figure.

Our analysis has concluded that it can only be a calculation of the simple average of T-bill returns. And yet the author did not simply average the hedge fund returns - indeed he explained in considerable detail why returns should be calculated using the "dollar-weighted" methodology.

If he had applied the same methodology to T-bills as hedge funds, the outcome would have been very different.

3. Cutting value of T-bill returns from hedge fund returns

One of the many unorthodox methodological approaches taken by 'The Hedge Fund Mirage' is to eliminate from the returns generated by the hedge fund industry the value of dollar returns from investing in T-bills. This is why the book talks about "real investor profits" as a category distinct from what would more commonly be described as "returns".

This approach has the effect of reducing about 3% each year from the hedge fund returns given in the book.

4. Choice of hedge fund index

The book's choice of index (HFRX) may be no coincidence since its returns are among the lowest of the traditional hedge fund indices.

Table 3 shows a gap of 3.3 percentage points between the index (HFRX) used by 'The Hedge Fund Mirage' and the index with the highest performance (the Barclay Hedge Fund Index). The average of the six indices is 8.5% - 1.2% higher than the HFRX.

Table 3: Hedge fund indices

	Barclay Hedge Fund Index	CISDM Equal Weighted Hedge Fund Index	HFRI Fund Weighted Composite Index	CSFB/Tremont Hedge Fund Index	HFRX Global Hedge Fund Index	HFRX Equal Weighted Strategies Index
Average annual return (1998-2010)	10.6%	10.5%	8.8%	8.1%	7.3%	5.7%

Source: Various indices

5. Cutting of returns to "correct" for index "bias"

In 'The Hedge Fund Mirage', the annual returns of the HFRX index are reduced by 3% annually in order to adjust for survivor and backfill bias. But biases can be both positive and negative, and academic studies¹⁷ have demonstrated how negative biases are cancelled out by positive biases.

For example, it is not accurate to say that the only funds that do not report to databases are those that have gone bust. Some of the largest and most successful hedge funds choose not to report to databases for a variety of reasons and industry academics now argue that this positive "self-selection" bias cancels out the negative survivorship bias.

A study by Edelman, Fung and Hsieh (2011) found that many successful funds stopped reporting, as well as those performing badly, and the overall impact was neutral. A study by Agarwal, Fos, and Jiang in 2011¹⁸ went further and suggested that self-reporting funds actually underperformed non-reporting funds - albeit by a statistically insignificant magnitude of 2-8 basis points monthly. The study also indicated that while a small fraction of reporting funds may be performing poorly, the most successful funds are no more prone to self-reporting.

These broad findings were supported by an AIMA and KPMG-commissioned paper by The Centre for Hedge Fund Research at Imperial College in London, which studied both active and inactive hedge funds and concluded that survivorship bias and self-selection bias effectively cancelled one another out.

Our estimated comparison of T-bill returns and hedge fund returns

So we have pieced together the book's calculations, and have revealed the five main flaws in its methodology. In Table 4 below we have set out what we believe is a fairer picture, based on the book's own numbers.

Our ultimate finding is a cumulative profit from investing in hedge funds over the period 1998-2010 of \$541 billion (compared to a loss of \$315 billion under 'The Hedge Fund Mirage' methodology).

Column 2 represents the end-year AUM while column 3 represents the returns for the year. Column 4 is our estimate of total profits earned from investing in hedge funds during that year by multiplying columns 2 and 3.

¹⁷ E.g., "Inferring Reporting-Related Biases in Hedge Fund Databases from Hedge Fund Equity Holdings" (Agarwal, Fos, Jiang, 2011)

¹⁸ "Inferring Reporting-Related Biases in Hedge Fund Databases from Hedge Fund Equity Holdings" (Agarwal, Fos, Jiang, 2011)

In order to obtain a profit figure for investors, it is necessary to distinguish between net inflows and performance gains. Column 5 is our estimate of the net capital contribution ("inflows") by investors to the hedge fund industry during any given year. It is calculated by adding together the industry AUM from the previous year with the total profits earned during the previous year, and then subtracting this total from the industry's AUM for the current year (column 2).

Next we turned our attention to total profits from T-bills. Column 7 is calculated by multiplying the T-bill returns given in the book (column 6) with the estimated net investor contributions (column 5). Column 8 is calculated by adding together the estimated net investment in T-bills from the previous year, the estimated profit from T-Bills during the previous year (column 7) and the estimated net investor contribution during the current year.

Subsequently, the profit earned from investing in T-bills during any given year (after 1998) is estimated by multiplying the net investment in T-bills (as of the end of the current year - column 8) and the return on T-bills during that year (column 6). This process is repeated for each year from 1998 to 2010 and each year's estimate is summed up to obtain the total cumulative profit from investing in T-bills of \$283 billion.

Table 4: Investing in hedge funds vs T-bills

Year	AUM	HFRX	Estimated Profits from HFRX	Estimated Net Investor Contributions	T-Bill returns %	Estimated Profits from T-Bills	Estimated Net Investment in T-Bills
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
			Column (2) X (3)			Column (6) X (5)	
1998	\$ 143	13%	\$ 18	\$ 143	5.1%	\$ 7	\$ 143
1999	\$ 189	27%	\$ 50	\$ 28	4.8%	\$ 9	\$ 178
2000	\$ 237	14%	\$ 34	\$ -2	6.2%	\$ 11	\$ 184
2001	\$ 322	9%	\$ 28	\$ 51	3.9%	\$ 10	\$ 246
2002	\$ 505	5%	\$ 24	\$ 155	1.7%	\$ 7	\$ 411
2003	\$ 826	13%	\$ 111	\$ 297	1.1%	\$ 8	\$ 715
2004	\$ 1,229	3%	\$ 33	\$ 292	1.3%	\$ 13	\$ 1,015
2005	\$ 1,361	3%	\$ 37	\$ 99	3.2%	\$ 36	\$ 1,127
2006	\$ 1,713	9%	\$ 159	\$ 315	4.9%	\$ 72	\$ 1,479
2007	\$ 2,137	4%	\$ 90	\$ 265	4.8%	\$ 87	\$ 1,816
2008	\$ 1,458	-23%	\$ -340	\$ -769	1.7%	\$ 19	\$ 1,134
2009	\$ 1,554	13%	\$ 208	\$ 436	0.1%	\$ 2	\$ 1,589
2010	\$ 1,694	5%	\$ 88	\$ -68	0.1%	\$ 2	\$ 1,523
End of 2010	\$ 1,782						
Total			\$ 541	\$ 1,241		\$ 283	
			44%			23%	

Source: 'The Hedge Fund Mirage', table 1.2, page 10
Note: All dollar numbers are in billions

In other words, investors allocating to hedge funds during these 13 years earned a return of 44% (a return of \$541 on a total investment of \$1,241), while investors allocating to T-bills earned a return of 23% (a return of \$283 on the same total investment of \$1,241) during the same time period.

And it is important to remember that we have used the same indices - HFRX and BarclayHedge - the same T-bill return figures and the same period (1998-2010) as in the book. Had we used different indices, and calculated T-bill returns on a dollar-weighted basis, the difference between hedge fund returns and T-bill returns would have been greater still.

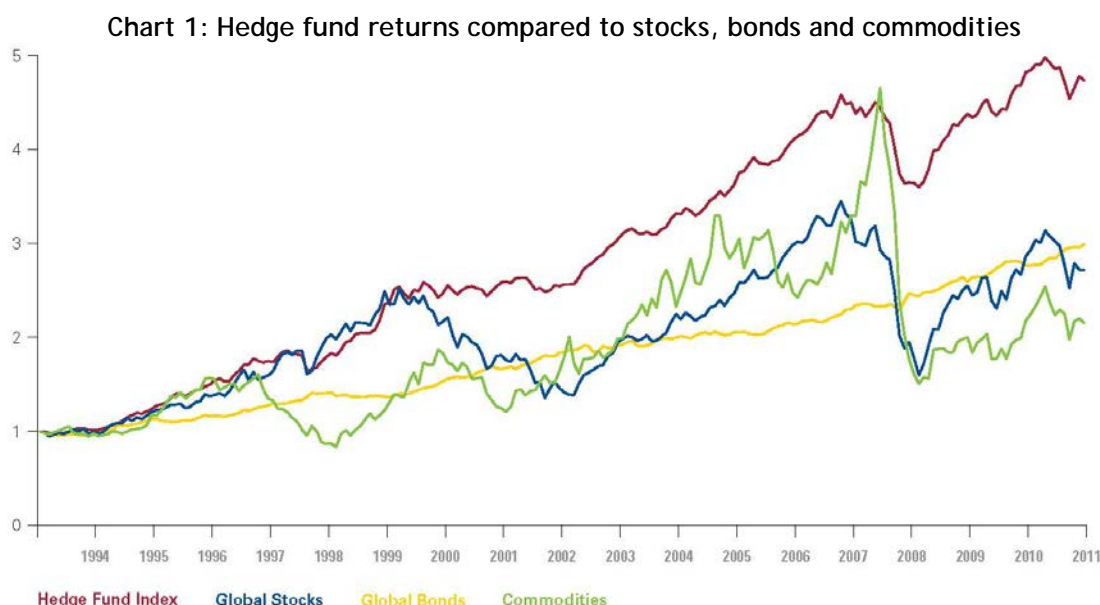
More meaningful comparisons of hedge fund performance

Is it even legitimate to compare the returns generated by a so-called "risk-free" asset class such as US Treasury bills with other asset classes such as hedge funds?

Every asset class has inherent volatility that is (by definition) absent in "risk-free" investments such as cash or their equivalents. Therefore, one would expect periods when hedge funds as a whole outperform the "risk-free" rate while underperforming during other periods. A more valid and meaningful comparison - and one that can be made on a number of measures, not merely performance - is between hedge funds and the other main asset classes of equities, bonds and commodities.

Chart 1, taken from research carried out in 2012 by The Centre for Hedge Fund Research at Imperial College in London, shows how hedge funds significantly outperformed those traditional asset classes between 1994 and 2011.

This research, commissioned by KPMG and AIMA, found that, per annum, hedge funds returned 9.07% (as per the HFRI index) on average after fees between 1994 and 2011, compared to 7.18% for global stocks, 6.25% for global bonds and 7.27% for global commodities.



The Imperial College paper also found how an equal-weighted hedge fund index returned five times the initial investment after fees from 1994-2011.

In addition, the paper found that hedge funds achieved those solid, long-term returns with considerably lower volatility and Value-at-Risk (VaR) than stocks and commodities, and similar volatility and VaR to bonds.

Another study, by Joenvaara, Kosowski and Tolonen (2012), examined the five main commercially available hedge fund databases and found clear evidence that hedge funds delivered, on average,

economically and statistically significant “abnormal” performance on an equal- and value-weighted basis, as well as across investment strategies, domiciles, size categories and time periods. This finding concurred with previous studies such as Kosowski, Naik and Teo (2007).

A recent analysis by Insch Quantrend¹⁹ compared the performance of hedge funds and mutual funds with six of the largest listed managers on the London Stock Exchange (that have reported their OEICS and unit trusts). Over the past five years the average annual return generated by the OEIC funds was 1.41% (equal weighted), while their total return was 11.1% equal weighted.

However, when fees or the sales charge were taken into account (the average account fee is estimated to be 4.8%), investors would have received an average annual return of 1.5% and total return of 5.8%. In comparison, the average annual return for hedge funds was 2.65% and the total return was 13.95% (HFRI Composite index) – more than twice the OEIC average. Approximately 69% of the OEIC funds failed to match hedge fund returns, according to the study.

One of the most-debated questions about hedge fund out-performance is the extent to which it is owed to manager luck or skill. The ‘performance persistence’ of a given fund is a measure of whether funds that performed well in the past will continue to perform well in the future – a sign that such fund managers have genuine “skill”.

Earlier studies on this topic (e.g., Brown, Goetzmann, and Ibbotson (1999), Agarwal and Naik (2000), and Liang (2000)) argued that hedge fund performance tends to persist only at quarterly horizons – in other words, hedge fund performance became difficult to predict beyond three months into the future. But more recent literature on this subject (e.g. Kosowski, Naik, and Teo, 2007; Jagannathan, Malakhov, and Novikov, 2010; and Joenvaara, Kosowski and Tolonen (2012)²⁰) now suggests that hedge fund performance persists as far ahead as at annual horizons.

The ability of hedge funds to generate “alpha” consistently over long periods of time is also becoming easier to predict. A paper²¹ studying the performance persistence of hedge funds from 1994 to 2008 (based on a merged sample from the Lipper/TASS and the CISDM databases) found alpha persistence of up to three years.

Finally, a study²² found that superior as well as inferior performance among hedge fund managers tend to persist. Specifically, the paper concluded that a hedge fund manager who earns 100 basis points more than others in the peer group (in a year) earned (on average) 70 basis points more in the following year.

The Imperial College paper cited earlier also demonstrated that hedge funds were significant generators of “alpha”, creating an average of 4.19% per year from 1994-2011.

Claim 2: Hedge fund managers have taken almost all hedge fund profits, leaving little or nothing for investors

Intuitively, one would expect that under a fee structure of approximately “2-and-20” – a 2% management fee and a potential 20% performance fee in a good year – the investor would receive a greater share of the profits than the fund manager. So how did the book arrive at the opposite conclusion – and what is the true picture?

First, we identified four additional methodological problems in the book:

¹⁹ Insch Quantrend Ltd, Issue No , January 2012

²⁰ Joenväärä, Juha, Kosowski, Robert and Tolonen, Pekka, Revisiting 'Stylized Facts' About Hedge Funds (January 20, 2012). Available at SSRN: <http://ssrn.com/abstract=1989410> or <http://dx.doi.org/10.2139/ssrn.1989410>

²¹ “Hedge Fund Characteristics and Performance Persistence” (Ammann, Huber & Schmid, 2010)

²² “Do Hot Hands Persist Among Hedge Fund Managers? An Empirical Evaluation” (Jagannathan, Novikovz 2005)

1. Gross revenues as profits

When the book discusses “profits” for the fund manager, it is clear that it means gross revenues. Revenues are not the same as profits. It is only when the costs to a fund manager are calculated that a true comparison can be made with the net profits (net of fees) of the investor.

The book excludes a number of costs from the investors’ side of the ledger, including the “risk-free” return. These are not applied to the manager’s side of the ledger. The result is that the manager’s “profits” are inflated and the investor’s understated. Indeed any assessment of any other sector which presumed that gross revenues and net profits were the same thing would produce a highly misleading conclusion and it is not surprising that *'The Hedge Fund Mirage'* does the same.

Ironically, this distortion between revenues and profits appears to have influenced the author’s original thinking that led him to write the book. In the introduction, he describes the moment of discovery he said he experienced while listening to a presentation at a hedge fund firm. As his mind wandered, he began to make “back-of-the-envelope” calculations about how the fund’s returns were shared out. He found that the manager’s fees (which he equated to its net profits) were roughly equal to the “net” profits their investors earned. However, by the author’s own telling, he included on the manager’s side of the ledger not only the hedge fund’s fees but also the proceeds that the management firm made from a completely unrelated share sale. By so doing, he is comparing the firm’s overall consolidated income from a variety of sources with the investors’ net proceeds from the hedge fund. It is not a fair comparison and thus it is not surprising that a misleading picture is created of how the fund’s profits were shared out.

2. Fees inflated

The book applies the full 2-and-20 fee structure when making its calculations. Yet many investors, whether seeders or not, have successfully negotiated discounts from the fee structure on offer. While it is true that some managers charge more than “2-&-20”, average fees for the industry as a whole are closer to 1.75% and 17.5%²³.

Elsewhere, the book asserts that “excess profit over treasury bills [is the] relevant measure of profits” in assessing what share of the overall profits are being returned to investors versus those retained by the industry. It is an entirely legitimate matter for debate as to whether more hedge fund managers should include some kind of hurdle in their performance-fee calculations. However, the book’s methodology includes a fifth of these returns in the calculation of hedge fund fees while at the same time excluding the quantum of that return on the other side of the firm’s ledger (represented by the investor return figures).

3. Choice of time period

The book covers the period from 1998-2010. Comparing hedge fund performance against bonds over the chosen period happens to coincide with a time when fixed income posted extremely strong returns amidst a perfect storm of generally declining and historically low interest rates. The last time interest rates were so low was in the 1940s. Bond yields compressed from double-digit levels to almost zero. Without this tailwind, the returns to a passive bond investment would have been less attractive.

4. Ignoring the impact of co-investment

One of the most important ways in which hedge fund managers differentiate themselves from other asset managers is that they are usually aligned with their investors by having a material co-investment in the fund. This fact is ignored in the book.

So finally, what is the true picture? The 2012 paper by the Centre for Hedge Fund Research at Imperial College, based on returns as recorded by the HFRI index, produced a very different outcome. As Table 5 below shows, the study concluded that, out of an average gross return over 17 years of 12.61%, 9.07%

²³ Hedge Fund Research

went to the investor and 3.54% to the manager. Put another way, 72% of the profits went to the investor and 28% to the manager.

Table 5: Share of hedge fund profits between managers and investors

Index (1994-2011)	Annualized gross returns (%)	Net returns to the investor (%)	Costs to the investor/ Returns to the hedge fund manager (%)	Investor share (%)	Manager share (%)
HFRI	12.61	9.07	3.54	71.93	28.07

Source: Centre for Hedge Fund Research

Claim 3: When investors lose money the hedge fund reports positive return

The main criticism of how hedge funds report their returns is based on a simple sum. But the sum is wrong.

1. The “typographical error”

Very early on in 'The Hedge Fund Mirage', an example is cited of an investor who loses a significant amount of money while the fund manager continues to report a positive average return. The book cites this as evidence of an inconsistency between investors' actual experiences and the returns reported by hedge funds, and is one of the recurring themes of the book. When it was subsequently pointed out to the author that his sums were wrong, he described it as an “unfortunate typographical error”²⁴. It is clearly not a mere typo, but a significant error of calculation.

This error appeared in several places. For example (from pages 7-8 of 'The Hedge Fund Mirage'):

“Imagine for a moment that you found a promising hedge fund manager and invested \$1 million in his fund. After the first year, he's up 50% and your \$1 million has grown to \$1.5 million. Satisfied with the shrewd decision you made to invest with him, you invest a further \$1 million in his fund, bringing your investment to \$2.5 million. The manager then stumbles badly and loses 40%. Your \$2.5 million has dropped to \$1.5 million. You've lost 25% of your capital. Meanwhile, the hedge fund manager has returned +50% followed by -40%, for an average annual return of around +5% (note: the geometric return is 5.13%). Now let's take a look at how these results will be portrayed. The hedge fund manager will report an average annual return over two years of +5% (up 50% followed by down 40%). Meanwhile, his investor has really lost money, and has an internal rate of return (IRR) of -18%. IRR is pretty close to the return weighted by the amount of capital invested. It assigns more weight to the second year's negative performance in this example than the first, because the investor had more money at stake. The hedge fund is showing a positive return, while his investor has lost money. In fact, his marketing materials will likely show a geometric annual return of +5.13%, while if his investors had all added to their initial investment in this same way in aggregate they would have all lost money.”

In fact, as Table 6 shows, the hedge fund in this hypothetical example would have reported a compound average annual growth rate of *minus* 5.13%. In other words, it is not correct to say that the hedge fund's marketing materials would have shown a positive return. But the book makes the claim that the fund would have reported a +5.13% compounded annual return (the geometric return), a maths error that leads to several pages about how funds claim to have made money even when their investors have lost money. The book also applies this methodology when assessing hedge fund performance for the period 1998-2010.

²⁴ Amazon.com, Comment by the author of 'The Hedge Fund Mirage' to an online reviewer, 13 January 2012

Table 6: Mathematically correct estimate of the geometric return

	End of year 0	End of year 1	End of Year 2
Annual Return		50%	-40%
Cash Flow	-\$1,000,000	\$0	
		-\$1,000,000	\$1,500,000

$$IRR \text{ (The rate of return at which the present value of all cash flows is zero) =}$$

$$\Rightarrow - (1,000,000) - \frac{(1,000,000)}{(1+IRR)^1} + \frac{(1,500,000)}{(1+IRR)^2} = 0 \Rightarrow IRR = -17.71\%$$

$$Geometric \text{ Return} = [(1+0.50) \times (1-0.40)]^{1/2} - 1 = -5.13\% \quad \text{(NOT +5.13\%)}$$

Source: AIMA

2. Using IRR to measure industry performance

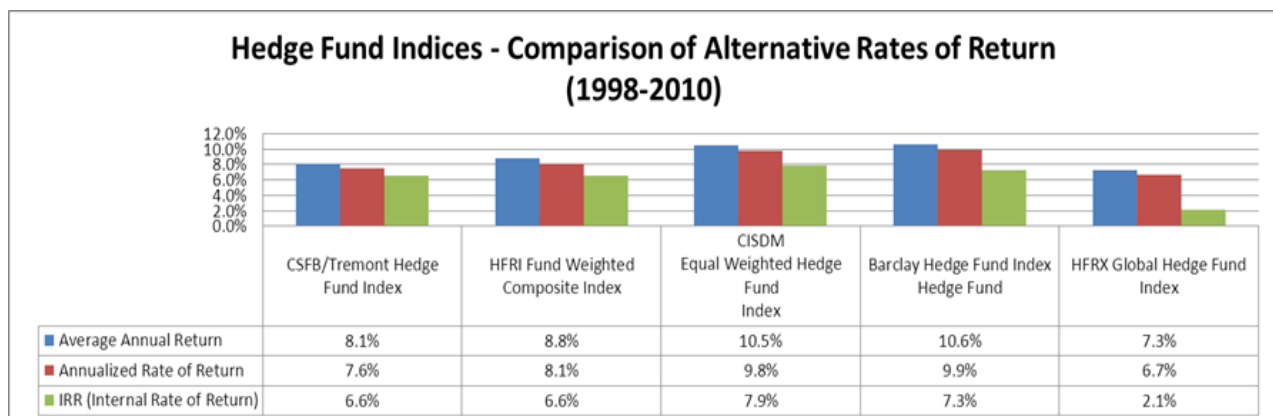
Internal rate of return (IRR) is a measure of investor experience, most typically in private equity or venture capital funds, when investments and exits happen at pre-determined moments. But in 'The Hedge Fund Mirage', it is applied to hedge fund performance.

In the above example (table 6), it produces an IRR of -17.7% - compared to a geometric return of -5.1%. The difference between the IRR and geometric return of a hedge fund varies depending on the hedge fund index used and reflects different patterns in the reported returns.

Kazemi et. al (2012) highlights that the HFRX Global Hedge Fund Index (the index regularly cited in 'The Hedge Fund Mirage') reports a significantly larger difference than the average.

Table 7 shows that the HFRX Global Hedge Fund index significantly underestimates the hedge fund industry's IRR (2.1%) when compared to the IRR estimated using, for example, the Credit Suisse Tremont index (6.6%).

Table 7: Arithmetic, Geometric, and IRR Return



Source: The Use of IRR in Hedge Fund Analysis: Buyer Beware (Kazemi, Schneeweis, and Szado 2012)

Table 8 below highlights another significant problem with the use of IRR to estimate the performance of a hedge fund. It shows how factors such as the size and timing of a project can significantly alter estimates even if the aggregate cash flows of the project are the same.

Additionally, another noteworthy problem with the use of IRR is that factors such as the size and timing of a project significantly alter estimates even if the aggregate cash flows of the project are the same.

As can be seen in Table 8, even though the aggregate cash flows from the project remains the same (\$250,000) in all cases (A to E), the final estimate of the project's IRR varies significantly (ranging from as high 5.6% to 4.6%), depending on whether cash flows from the project are received during the earlier stages of the project or during the latter stages.

Specifically, if a greater fraction of the profits from the project are accrued during the end of the project's life, a lower estimate of the IRR is calculated. This is due to the fact that the concept of the IRR is based on the time value of money - a central principle in finance theory that holds that, provided money can earn interest, any amount of money is worth more the sooner it is received.

Table 8: IRR values differ depending on the size and timing of cash flows

	<div>IRR</div> <div>5.6%</div>	End of year 0	End of year 1	End of Year 2	End of year 3	End of year 4	End of year 5	Total Profit
A	Cash Flow (\$)	-\$1,000,000	\$250,000				\$1,000,000	\$250,000
	PV (\$)	-\$1,000,000	\$236,844	\$0	\$0	\$0	\$763,156	
	Sum of PV (\$)	\$0						
	<div>IRR</div> <div>5.4%</div>	End of year 0	End of year 1	End of Year 2	End of year 3	End of year 4	End of year 5	Total Profit
B	Cash Flow (\$)	-\$1,000,000	\$125,000	\$125,000			\$1,000,000	\$250,000
	PV (\$)	-\$1,000,000	\$118,599	\$112,526	\$0	\$0	\$768,875	
	Sum of PV (\$)	\$0						
	<div>IRR</div> <div>5.0%</div>	End of year 0	End of year 1	End of Year 2	End of year 3	End of year 4	End of year 5	Total Profit
C	Cash Flow (\$)	-\$1,000,000	\$50,000	\$50,000	\$50,000	\$50,000	\$1,050,000	\$250,000
	PV (\$)	-\$1,000,000	\$47,619	\$45,351	\$43,192	\$41,135	\$822,702	
	Sum of PV (\$)	\$0						
	<div>IRR</div> <div>4.9%</div>	End of year 0	End of year 1	End of Year 2	End of year 3	End of year 4	End of year 5	Total Profit
D	Cash Flow (\$)	-\$1,000,000			\$125,000	\$125,000	\$1,000,000	\$250,000
	PV (\$)	-\$1,000,000	\$0	\$0	\$108,373	\$103,338	\$788,289	
	Sum of PV (\$)	\$0						
	<div>IRR</div> <div>4.6%</div>	End of year 0	End of year 1	End of Year 2	End of year 3	End of year 4	End of year 5	Total Profit
E	Cash Flow (\$)	-\$1,000,000					\$1,250,000	\$250,000
	PV (\$)	-\$1,000,000	\$0	\$0	\$0	\$0	\$1,000,000	
	Sum of PV (\$)	\$0						

Source: AIMA

Employing the time-weighted methodology successfully prevents such a distortion of fund performance. The returns are calculated as a result of assigning each sub-time period the same weight irrespective of the capital flows of the sub-time periods.

This eliminates or at least reduces the impact of the various cash flows that are beyond the control of the investment manager (capital contributions or withdrawals by clients) and those that do not affect asset allocation and investment selection decisions. Therefore, this methodology provides an accurate reflection of the investment manager's performance and is useful when comparing two managers that had very different cash inflows and outflows.

Claim 4: Smaller hedge fund managers are more successful than larger ones²⁵

'The Hedge Fund Mirage' says that smaller hedge fund managers offer better performance returns than larger managers. Many small managers are indeed a source of innovation and do very well - just as many larger managers also do very well.

There is certainly no consensus in the academic world regarding whether it is "better" to invest with a small manager or a large one. Larger managers can point to a paper by Ibbotson et al (2009)²⁶ that found that funds with larger assets under management generate (on average) higher returns at lower levels of volatility. Across the majority of the size spectrum, the authors found a positive concave relationship between fund asset size and performance and a negative correlation relationship between asset size and standard deviation.

A more nuanced argument was put forth by Shawky & Ding (2007) in a paper²⁷ examining the relative performance of small versus large hedge funds (for individual strategies). They concluded that on an absolute return basis small funds did outperform large funds. But they also found that on a risk-adjusted return basis, large funds outperformed small funds.

What is not in any doubt is that the choice between larger and smaller managers depends on a range of factors unique to the investor, including their investment goals and risk tolerances.

Claim 5: Hedge funds do not beat a simple 60/40 portfolio

Few people would say from either a risk or a return perspective that it would be prudent to be exclusively invested in a single asset class. And yet the implication behind much of the book's claims is that hedge funds should be treated as a standalone asset class and compared to other asset classes as if the investor were considering a full 100% allocation to hedge funds.

The real question should not be whether an investor should put 100% of its capital with hedge funds, but rather how much of its capital should be allocated to such funds.

In the 10-year period ending October 2011, the return and volatility of the HFR Fund Weighted Composite Index and the JPM Global Aggregate Bond index (total return unhedged USD) were very similar. That suggests bonds may have been a better investment than hedge funds.

However, those indices exhibited a very low correlation of 0.18 to each other, which means that they would have made excellent portfolio complements. This indicates that hedge funds played an important role in a diversified portfolio over that 10-year period, and indeed did much better than a passive investor in the MSCI World index over the same period, even net of hedge fund fees.

A hedge fund (a market-neutral fund, in particular) is not designed as a stand-alone investment but as a diversifier for an equity portfolio. It can have half the return of equities with the same volatility, and still be valuable. Even when applying the methodology in 'The Hedge Fund Mirage', it can be demonstrated that an investor would have done best to have had 30% of its assets in hedge funds (rebalancing annually, from 1998 to 2010). Such an allocation would have produced an annual alpha²⁸ of 4.2%.

This point is borne out by the finding that endowments and pension funds that make use of hedge funds have consistently better risk-adjusted performance than those that do not.

The recent Imperial College study cited earlier came to a similar conclusion (see chart 2 below). It compared the performance between two imaginary portfolios. The first was based on an equal-weighted allocation between hedge funds, global stocks and bonds, while the second consisted of a 60:40 asset

²⁵ Size here denotes the size of the hedge fund as measured by its assets under management

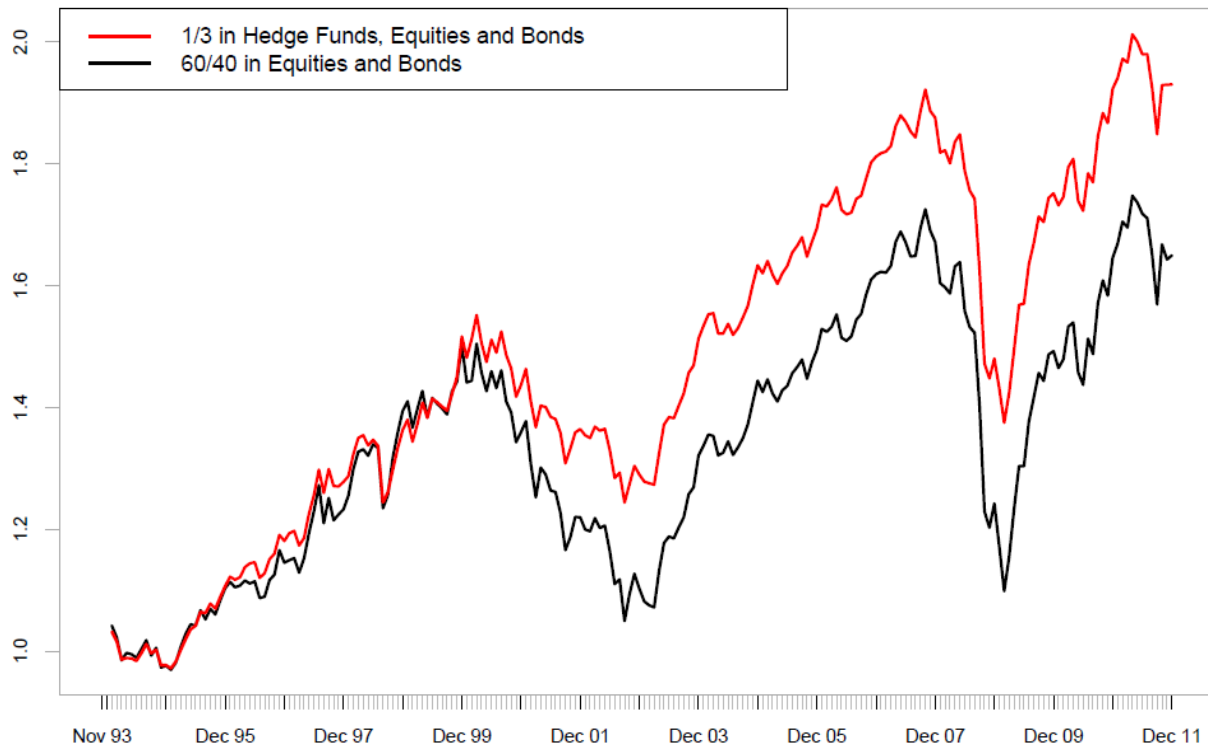
²⁶ Xiong, Idzorek, Chen & Ibbotson (2009): "Impact of Size and Flows on Performance for Funds of Hedge Funds"

²⁷ Shawky & Ding (2007): "Liquidity Shocks, Size and the Relative Performance of Hedge Fund Strategies"

²⁸ 'Alpha' is the return in excess of what one could have gotten investing in stock index funds and t-bills with the same volatility.

allocation between stocks and bonds. The study concluded that a portfolio based on equal weighting between hedge funds, stocks and bonds significantly outperformed the conventional 60:40 strategy - the difference was nearly 9%.

Chart 2: Cumulative returns to asset allocation with and without hedge funds



Source: Centre for Hedge Fund Research, Imperial College, London

As Table 9 below shows, the Imperial College study also found that the portfolio with hedge funds produced a lower tail risk, i.e. a lower risk of extreme fluctuation, as represented by over one-third higher Sharpe ratio and about 30% lower maximum drawdown.

Table 9: Hedge funds' diversification benefits

	1/3 in hedge funds, stocks and bonds	60/40 in stocks and bonds	Difference	p-value
Mean	7.52	6.80	0.72	
Std	7.36	9.52	-2.16	
Skewness	-0.83	-0.72	-0.11	
Kurtosis	1.94	1.73	0.21	
Sharpe	0.53	0.34	0.19	0.001
Max Drawdown (%)	-0.28	-0.36	0.08	
Value-at-Risk at 5%	3.55	4.67	-1.12	

Source: Centre for Hedge Fund Research, Imperial College, London

Further evidence of hedge funds' ability to generate attractive risk-adjusted returns (as measured by the "information ratio"²⁹) came in a recent study³⁰ by Kazemi, Schneeweis and Szado. From 1998-2010 (the time period also regularly cited in 'The Hedge Fund Mirage'), the study found that the inclusion of hedge funds provided return and risk benefits to the "average investor" in almost every year of analysis.

Such an analysis also eliminated any bias that may arise due to artificial assumptions regarding the average investor's investment process by providing results on a year-by-year basis.

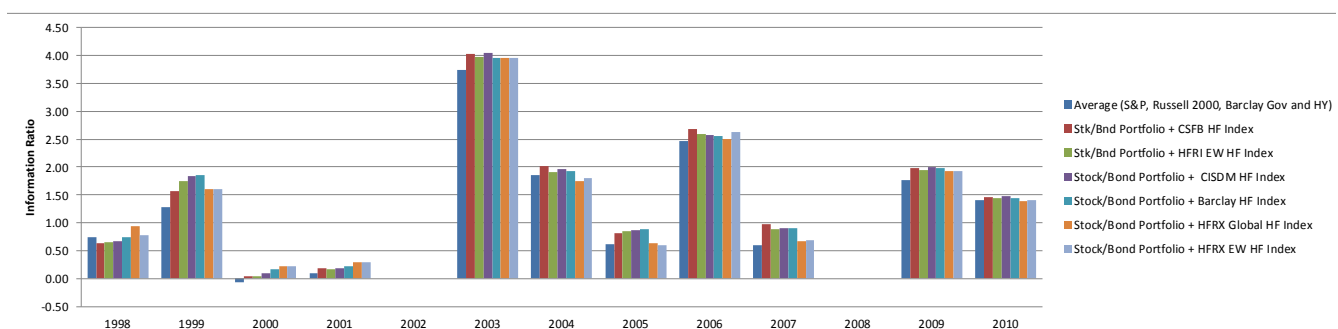
More detail is provided in table 10 and chart 3 (both below). They report and plot the information ratios of an equal-weighted stock and bond portfolio (S&P 500, Russell 2000, and Barclays Government and High Yield Bond indices) and that of an 80% investment in the equal weighted stock and bond portfolio and a 20% investment in a range of hedge fund indices (both asset-weighted and equal-weighted).

Table 10: Information ratios

		Average (S&P, Russell 2000, Barclay Gov and HY)	Stk/Bnd Portfolio + CSFB HF Index	Stk/Bnd Portfolio + HFRI EW HF Index	Stock/Bond Portfolio + CISM HF Index	Stock/Bond Portfolio + Barclay HF Index	Stock/Bond Portfolio + HFRX Global HF Index	Stock/Bond Portfolio + HFRX EW HF Index
	Average HF AUM	Information Ratio	Information Ratio	Information Ratio	Information Ratio	Information Ratio	Information Ratio	Information Ratio
1998	131	0.74	0.64	0.65	0.67	0.75	0.93	0.78
1999	161	1.27	1.57	1.74	1.84	1.86	1.60	1.60
2000	213	-0.07	0.04	0.04	0.10	0.17	0.22	0.21
2001	279	0.10	0.19	0.17	0.19	0.22	0.29	0.30
2002	414							
2003	666	3.74	4.02	3.98	4.04	3.95	3.95	3.96
2004	1027	1.86	2.02	1.91	1.96	1.93	1.76	1.79
2005	1295	0.61	0.82	0.84	0.87	0.89	0.63	0.61
2006	1537	2.47	2.69	2.59	2.57	2.56	2.50	2.63
2007	1925	0.60	0.97	0.88	0.91	0.90	0.66	0.68
2008	1797							
2009	1506	1.77	1.99	1.94	1.99	1.98	1.93	1.93
2010	1624	1.41	1.47	1.44	1.48	1.44	1.39	1.41

Source: The Use of IRR in Hedge Fund Analysis: Buyer Beware (Schneeweis 2012)

Chart 3: Information ratios



Source: The Use of IRR in Hedge Fund Analysis: Buyer Beware (Schneeweis 2012)

Note: in years in which the portfolio return was negative, information ratio comparison is not relevant since the asset with a less negative return and a lower volatility may have a higher negative information ratio

Claim 6: Hedge funds are "absolute return vehicles"

The book refers to hedge funds as being "absolute return" vehicles, implying that these funds are set up to always generate non-negative returns and never lose money. Yet while an absolute return fund attempts to make positive returns in all markets, that does not mean it cannot and will not ever lose money.

²⁹ Information ratio: A ratio of portfolio returns above the returns of a benchmark (usually an index) to the volatility of those returns. The information ratio (IR) measures a portfolio manager's ability to generate excess returns relative to a benchmark, but also attempts to identify the consistency of the investor.

Source : <http://www.investopedia.com/terms/i/informationratio.asp#ixzz21BTN5YkT>

³⁰ Use of IRR in Hedge Fund Analysis: Buyer Beware (Kazemi, Schneeweis, and Szado 2012)

In any case, industry practitioners have moved on from the concept of “absolute return”. Academic research has demonstrated that hedge fund returns are driven by macro events (changes in credit spreads, market volatility) which are directly related to the longer term fundamental security holdings of the hedge fund as well as that of the manager’s skill in investing (its “alpha”).

Similar to the equity and bond markets, passive security-based indices have been created which are designed to capture the underlying return to the hedge fund strategy. The performance of an individual manager can be measured relative to the strategy return, and where the returns made are in excess of a similar non-manager based investable replicate portfolio, this is the manager’s alpha. If a manager’s performance is measured relative to an index of other active managers, then the manager’s relative performance simply measures either the over or under-performance to that index of manager returns.

It is widely accepted that hedge funds provide liquidity to financial markets³¹, reduce market volatility and act as a counterbalance to market herding by frequently taking contrarian positions and serving as ready counterparties to market entities that wish to offset their risk, and in so doing stabilise not de-stabilise financial markets.

Therefore, hedge funds are now part of the overall asset management industry and should be viewed as providing an active style (as opposed to a passive style) of portfolio management, utilising their variety of investment strategies to offset any risk that may be incurred within investment portfolios, offering better “risk-adjusted returns” (i.e. better returns at a lower risk) than simply investing in other asset classes and having long demonstrated their ability to preserve capital (especially during periods of market stress).

A 2011 study³² examining investments made by university endowments highlighted the contribution of hedge funds. The authors were able to show that of the five asset classes analysed (US stock, US bond, international stock, private equity and hedge funds), only hedge funds proved to be an alpha-generating asset class. They argued that the increasing allocations to hedge funds and private equity funds accounted for the superior returns earned by the top decile universities. In fact, the hedge fund benchmark used by the authors of the study delivered an annual alpha of 5% relative to the Fama-French three-factor model.

³¹ Hedge Funds as liquidity providers: Evidence from the Lehman Bankruptcy, National Bureau of Economic Research, 2009

³² “Do (Some) University Endowments earn Alpha?” (Barber & Wang; October 2011)

Epilogue

The author of *'The Hedge Fund Mirage'*, Simon Lack, wrote in the afterword to his book that he hoped it would “provoke a debate amongst investors, their advisers including funds of hedge funds, and hedge fund managers themselves. Not about the investment results though - there’s no point in debating the numbers.” We would - and indeed do - debate the numbers. But he is right to say that the issues raised in the book deserve proper scrutiny.

This paper has set out to address what we see as the most obvious flaws in *'The Hedge Fund Mirage'*. Yet the book is not entirely without merit. It draws attention to legitimate issues such as manager selection, due diligence, governance and transparency. Above all it stresses the need for investors in hedge funds to be well-educated about the industry.

This issue is close to our heart. AIMA has devoted significant resources to investor education and industry sound practices for over 15 years. The first AIMA due diligence questionnaire was published in 1997 and has been updated and widened in scope many times in the intervening years. As well as a DDQ for the selection of hedge fund managers, we now have DDQs for CTAs, funds of funds managers, prime brokers and administrators.

Our continually expanding library of AIMA Guides to Sound Practice now covers hedge fund management; valuation and asset pricing; administration; governance; business continuity; due diligence for managers and service providers; offshore alternative fund directors; and funds of funds. These are updated regularly and contain many clear guidelines and recommendations that both investors and managers are encouraged to follow.

For over five years, the AIMA Investor Steering Committee has been drawing on the expertise of some of the biggest and most influential hedge fund investors globally, feeding back into our policy and regulatory work and contributing to some of the most widely read publications for investors in hedge funds. That body of work includes the AIMA *'Roadmap to Hedge Funds'* (2008), the world’s first educational guide for institutional hedge fund investors, and the *'Guide to Institutional Investors' Views and Preferences Regarding Hedge Fund Operational Infrastructures'* (2011), which reflects investor views, expectations and preferences on a variety of important operational and organisational issues which are increasingly the focus of both due diligence reviews and discussion among investors and fund managers.

Finally, consider the following quotes:

“Some of the most talented investors in history run hedge funds.”

“There are plenty of investors that are happy with their hedge fund investments.”

Those are not taken from an AIMA document, but from *'The Hedge Fund Mirage'*. The book, at times, is prepared to acknowledge that certain investors in hedge funds have done very well from their investments - a conclusion that is seemingly at odds with the claims made elsewhere in the book. Ultimately, the hedge fund industry is just like any other industry: there have been successes and there have been failures. There is, however, a substantial body of academic work to support the notion that hedge funds have an important role to play in the portfolios of investors.

That is why, ultimately, cautious and diligent institutional investors like pension funds, endowments and insurance companies are making ever growing allocations to hedge funds. At a time of volatility and uncertainty, such investors do not regard hedge funds as a mirage, but an oasis.

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