

The hedge fund revolution

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Abstract

Over the last half decade, asset flows into hedge funds have surged, the number of funds has expanded exponentially, and new products have emerged which allow investors to obtain hedge fund exposure via structured transactions. To many, this is due to a paradigm shift in investment management and constitutes a modern financial revolution. However, to others, hedge funds are simply investment strategies that do not even merit consideration as an independent asset class. The opponents of hedge fund investing argue that performance data are misleading and that hedge funds exhibit large downside risk, lack transparency and liquidity, and are not tax efficient. They assert that one should think long and hard before making any allocation to hedge funds whatsoever. In this article I argue the contrary, making the case that hedge funds are the best-performing asset class over the past decade and more, and are likely to remain so in the near future. Furthermore, I suggest that critics often have a vested interest in maintaining

the status quo of plain-vanilla stock and bond investing, hedge funds have a theoretical advantage over traditional investment approaches, and maintain that the performance-based compensation system used by hedge funds aligns the manager's interests with those of the investor to their mutual benefit. As a result, significant commitments to hedge funds are appropriate for most investors. This should remain so, at least until that time when the paradigm shift is complete and the last of the traditionalists has accepted the advantages of hedge funds.

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Over the last half decade, investing in hedge funds has emerged as an intriguing and hotly debated subject. While some asset managers, such as Swensen and Lamm, encouraged investors to make substantial allocations to hedge funds, others, such as Lo, Anson, Kat, Lockoff, and Schumandine urged caution.

Although one can debate the merits of hedge funds, it cannot be denied that a fundamental structural transformation is underway characterized by surging asset flows into hedge funds and a strong increase in the number of funds. Furthermore, more complex hedge fund products are emerging, such as specialized funds-of-funds, index funds, principal-protected hedge funds, and structured products such as swaps and options on underlying pools of hedge funds. Unlike past revolutions in investment management, where the genesis was responding to changing institutional requirements, private investors are the primary motivators of the hedge fund revolution.

This article discusses the transition to the new investment management paradigm, which admits hedge funds as a core asset class. The first sections of the article review evidence of the hedge fund revolution now underway, describe why it is occurring, and illustrate that hedge funds exhibit the best returns of any asset. The following section highlights why hedge fund managers have a theoretical advantage over traditional asset managers. The subsequent sections describe barriers to the paradigm shift, criticisms of hedge funds, the asset allocation to hedge funds, and related topics. The major conclusion is that while the transformation process is well underway, it has much further to go.

Evidence of the paradigm shift

Revolutions are upheavals that arise in response to system shocks, often years after the intellectual foundations are laid. The hedge fund revolution currently underway is no exception in this regard, with the virtues of hedge funds having been carefully enumerated in the late 1990s when new research demonstrated that, contrary to popular beliefs, balanced hedge

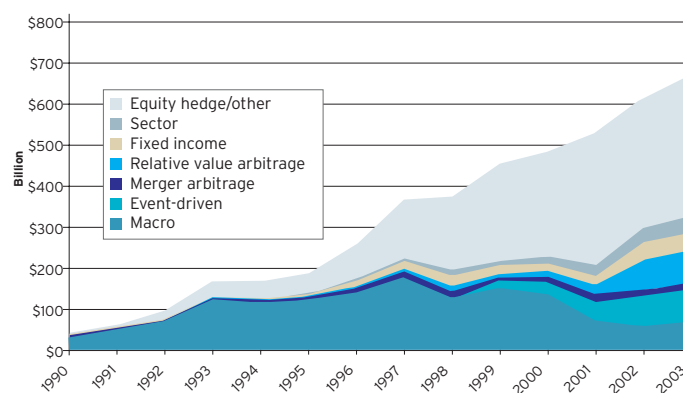


Figure 1: Hedge fund assets under management

fund portfolios were generally no more risky than bond portfolios¹.

The major shock that stimulated increased acceptance of hedge funds was the dramatic equity market sell-off from 2000 to 2002. This event decimated investment portfolios dominated by equity advocates lulled into Ponzi euphoria following nearly two decades of rising stock prices. The resulting wealth destruction created a funding crisis for endowments, pension funds, and trusts, as well as forcing lifestyle adjustments for many private investors.

In response, many individuals and institutions began to reject the traditionalists' mantra of limiting investments to stocks and bonds, and began increasing their hedge fund allocations. Indeed, flows into hedge funds accelerated through the equity market crash (Figure 1) with estimates by Hedge Fund Research (HFR) showing 7% growth in 2000, 9% in 2001, and 16% in 2002. By the third quarter of 2003, HFR estimates that hedge fund assets reached U.S.\$ 687.5 billion, which would represent another year of double-digit growth. While this amount is still small relative to stock market capitalization, it represents an enormous gain from the early 1990s when hedge funds were a negligible portion of invested assets.

¹ In addition to Lamm and Swensen, the reader is referred to excellent surveys of published work supporting hedge fund allocations by Schneeweis and Signer, and Favre.

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Unique characteristics of hedge funds

Strategy innovation

Available data demonstrate that the hedge fund industry is very dynamic. Strategies that deliver attractive returns today often fade in the future as opportunities evolve. For example, there was a dramatic transformation over the last decade from a situation where global macro hedge funds predominated, to one where other strategies have become much more prevalent. This was highlighted by George Soros' fabled currency bet against the Bank of England in the early 1990s. After the sterling broke, most governments transitioned to floating rate regimes and hedge fund trading in anticipation of devaluations became less profitable. As a result, assets first migrated to equity long/short hedge funds, and more recently to fixed income arbitrage, convertible arbitrage, distressed debt, and other strategies, which emerged as the new deliverers of performance.

This pattern of innovation in the hedge fund industry implies the strategy mix is likely to look very different a half-decade from now as the global economy and new financial markets evolve. This contrasts with traditional stock and bond investing, which essentially exhibits the same fundamental behavioral characteristics over time.

Downside risk protection

Another unique characteristic of hedge funds is that they provide downside risk protection via performance-based compensation, which explicitly aligns the managers' interests with those of the investor. That is, there is no performance fee if hedge fund returns are negative. This mitigates the impact of potential losses for the investor while passing through gains proportionately. It forces hedge fund managers to be very careful and is probably a primary reason why the hedge fund industry has never produced a year of significant negative performance. In contrast, traditional managers who deliver negative returns over several years can survive to do so again another day.

An additional aspect of performance-based compensation is that it creates strong financial incentives for the best managers from the traditional asset management world to migrate to the hedge funds. This is simply because under a pay-for-performance system, such managers stand to be much more richly rewarded than would be the case if they were paid on a fixed-fee basis.

The hedge fund performance record

The best returning asset

An examination of historical returns for hedge funds reveals that they have significantly outperformed traditional assets from 1990, when reasonably reliable data first became available (Figure 2). Indeed, the average annual return for hedge funds from 1990 through the third quarter of 2003 was 13.2%. This compares with 10.9% for stocks, 7.8% for bonds, and 4.7% for cash. This is true even if one takes a more conservative measure of hedge fund performance represented by a fund-of-funds (FOF) index, which shows an average annual hedge fund return of 11.2% annually².

Equally important is the fact that standard deviation (risk) of returns for the hedge funds is only 6.1% over the sample and 5.5% for the FOF Index. This compares to 15.1% for stocks and

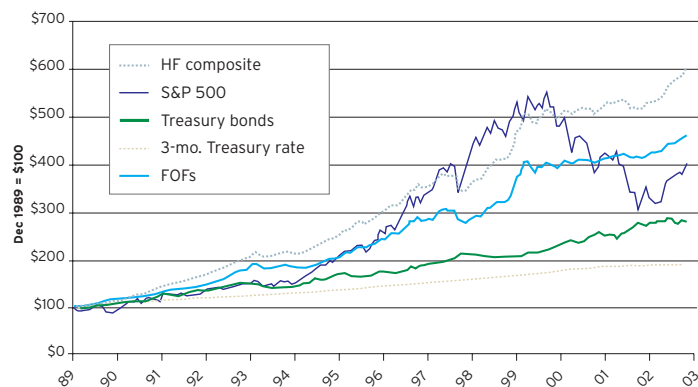


Figure 2: Hedge fund returns versus other assets

2 I define composite hedge fund returns as an average of returns reported by Evaluation Associates Inc. (EAI), Hedge Fund Research (HFR), CSFB, Hennessee Group, Altvest, Van Hedge Fund Advisors International, and HedgeFund.Net (TUNA). The comparison is to the S&P 500 Index, the Merrill Lynch Treasury Bond Master Index, and the Merrill Lynch 3-month Treasury Index.

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4.4% for bonds. Therefore, hedge fund performance is even more attractive on a relative basis, where the composite hedge fund Sharpe ratio is 1.39 versus .41 for stocks and .70 for bonds. This supports the often-heard contention that hedge funds have stock-like returns with bond-like risk.

The survivor bias issue

Critics sometimes challenge the reported performance of hedge funds by asserting that available hedge fund data contain survivor bias and therefore overstate true returns. The reason is that poorly performing hedge funds that go out of business are dropped from databases, making reported returns higher and less volatile than would otherwise be the case. Estimates of this survivor bias range from 0.6% to near 3.0% per annum³.

While survivor bias is a valid issue, researchers such as Liew suggest an obvious solution - employing the FOF Index as a benchmark in lieu of the normal industry composites. FOF managers must explicitly cope with survivor bias by actively replacing deceased or poorly performing funds with new ones. Therefore, the returns reported by any single FOF are free of survivor bias since their track record is based on the actual performance of a real portfolio, including hedge funds that may have experienced weak returns and closed. As already noted, one can conclude that even under the most strenuous standards in which FOF returns are employed as the industry performance measure, hedge funds show the best performance on an absolute basis or relative to risk.

The theoretical advantage of hedge funds

Hedge funds also possess an explicit theoretical advantage that is well known to practitioners schooled in modern portfolio theory. This is simply that hedge funds practice unconstrained portfolio management. That is, they can hold both long and short positions, as well as leverage their portfolios. This contrasts with traditional stock and bond managers who are limited to holding unleveraged long only positions.

This conclusion is straightforward from standard Markowitz portfolio optimization. In the most general case, there are no restrictions whatsoever on security weights. Short selling is allowed and leverage may be employed - a situation that corresponds exactly to that of hedge funds. Traditional managers possess the same objective function - maximizing returns subject to risk, amended by the restrictions that all positions are positive (no short selling) and that asset weights sum to unity (no leverage)⁴.

For hedge funds, the absence of constraints means that they are able to construct more efficient portfolios and can achieve higher returns for the same amount of risk. Their efficient frontier is superior to that of traditional managers under the majority of circumstances by virtue of the fact that constraining investment choices forces a suboptimal solution (figure 3).

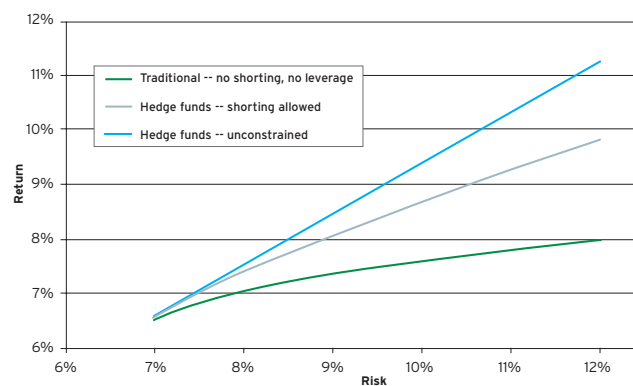


Figure 3: Efficient frontiers: traditional management versus hedge funds

Barriers to the paradigm shift

Institutional impediments

Given the attractiveness of hedge fund performance and the advantages of the approach, why then is there any hesitation to make significant allocations to hedge funds? The answer is that stock and bond managers have a vested interest in maintaining the status quo. Furthermore, significant institutional barriers, including government regulations, have been erected

³ See studies by Brown, Goetzmann, and Ibbotsen; Brown, Goetzmann, and Park; Fung and Hsieh; Liang; and more recently, Amin and Kat.

⁴ Traditional managers will often add even more constraints such as requiring underweight or overweight positions to be within bands around the benchmark weight.

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to prevent new challenges to the old paradigm that stock and bond exposure is sufficient to produce acceptable investment performance.

The best example of this is pension plans, which are administered by boards and staff who are rarely awarded on the basis of performance. There is no incentive for creatively delivering superior investment performance. Furthermore, many boards employ the services of established consultants, who are hired to advise on asset allocation and recommend stock and bond managers. Because most consultants' expertise lies in selecting traditional managers, they are loath to recommend allocations to hedge funds where they lack proficiency and could not charge for manager searches. This system consequently perpetuates stock and bond investing.

Private investor barriers

Individuals are much less limited by structural encumbrances in making decisions and have tended to be more aggressive in making hedge fund allocations. This is borne out by survey data, which show that individuals are the primary owners of hedge funds while institutional commitments remain minuscule relative to their asset base.

Nonetheless, it is often very difficult for private investors to allocate to hedge funds. Not only are there government restrictions requiring investors to meet minimum income and net worth limits, but hedge funds are restricted in their marketing practices, so information is difficult to obtain. Furthermore, most government sanctioned retirement and savings programs do not allow investments in hedge funds. Instead, the mutual fund industry is authorized to provide investment products for individuals. Obviously, they choose to present investors with a limited choice of funds in which to invest, a consequence of vested interest. As already demonstrated, this has forced lower returns and more risk on investors than necessary by restricting portfolio diversification to essentially two assets, stocks and bonds.

Other impediments

It would seem that the government itself should be a catalyst for challenging the status quo, since it would benefit citizen investors. However, vested interests are powerful and the lobby working to legitimize hedge fund investing is small. Indeed, there is an embedded barrier with government agencies mandated to police against the risk inherent in investing in single hedge funds, not identifying and championing the benefits of investing in well-diversified hedge fund portfolios. While this is a good faith effort to protect the innocent, it nonetheless is harmful from a portfolio diversification perspective.

Countervailing forces

There is evidence that barriers are beginning to fall. Most important is the fact that financial market intermediation is underway, which is making access to hedge funds easier for investors. This is most apparent in the rapid growth of the FOF business where financial organizations such as banks provide due diligence and strategy allocation for a small fee. This reduces the information gathering effort for investors by leveraging off of large-scale research and due diligence platforms. Furthermore, ongoing industry consolidation is underway. This should further improve efficiency by combining such platforms. Consolidation also deepens the availability of hedge fund products and increases the array of services available to investors. As intermediation continues, the paradigm shift should be further facilitated as new vested interests in the hedge fund business emerge.

Criticisms of hedge fund investing

In addition to proclaiming that reported hedge fund returns are unreal due to survivor bias, the defenders of the status quo have unleashed a bevy of other criticisms to hold back the tides of change. These include the allegation that hedge funds exhibit asymmetric returns, are opaque and illiquid, are not tax efficient, and do not constitute a true asset class. These contentions need to be addressed least there be any lingering doubts about the wisdom of hedge fund investing.

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Category	Asset class/strategy	Average annual return	Std. dev.	Skew	Kurtosis	Max monthly gain	Min monthly gain	Sharpe ratio
Aggregates	Composite	13.2%	6.1%	-.32	3.97*	7.7%	-7.6%	1.39
	FOFs	11.2%	5.5%	.10	3.27*	6.9%	-5.9%	1.19
Strategies	Convertible arbitrage	10.7%	3.8%	-1.18*	1.97*	3.4%	-3.2%	1.60
	Fixed income arbitrage	8.4%	3.6%	-2.62*	12.22*	3.2%	-5.7%	1.03
	Equity market neutral	8.4%	2.6%	-.23	.61	2.7%	-1.6%	1.43
	Merger arbitrage	9.4%	5.0%	-2.96*	15.28*	4.4%	-8.8%	0.95
	Distressed	14.7%	6.5%	-.48*	5.59*	7.6%	-8.7%	1.55
	Long/short	16.3%	9.4%	.24	2.42*	12.2%	-9.1%	1.24
	Discretionary macro	15.0%	2.6%	-.13	2.04*	8.0%	-9.4%	3.94
	CTAs/managed futures	13.3%	3.6%	.63*	1.17*	15.6%	-7.0%	2.42
Other assets	S&P 500	10.9%	15.1%	-.45*	.49	11.4%	-14.5%	0.41
	Treasury bonds	7.8%	4.4%	-.42*	.57	4.0%	-4.0%	0.70
	3-mo. Treasuries	4.7%	1.8%	-.13	-.23	8.9%	0.8%	--

An asterisk denotes statistical significance with 95% confidence. Based on an index of indexes using data from Evaluation Associates, HFR, CSFB, Hennessee, Van Hedge, Altvest, TUNA, S&P, and Merrill Lynch. The underlying series are monthly beginning in January 1990 and concluding September 2003. Additional detail is available from the author.

Figure 4. Distribution statistics for various hedge fund indexes, 1990 to 2003

Asymmetric returns

One of the more recent criticisms of hedge funds is that returns are asymmetrically distributed. That is, they exhibit negative skew and high kurtosis, implying that investors experience large downside surprises that are greater than would be the case if returns were symmetric. Indeed, researchers, such as Brooks and Kat, have identified negative skew empirically for numerous strategies, which Lo and Anson attribute to the use of options.

The truth is that while various hedge fund strategies do in fact exhibit unusually large downside risk in isolation, well-diversified portfolios consisting of many managers employing different hedge fund strategies do not. For example, an examination of the distribution of FOF returns does not show extreme downside risk even though many of the constituent strategies do, such as convertible arbitrage, fixed income arbitrage, merger arbitrage, and distressed debt (Figure 4). The reason is simply that the asymmetries of different strategies offset each other.

Lack of transparency and liquidity

Another frequent criticism of hedge funds is that they lack transparency and are illiquid. While this is a long-running and somewhat tedious theme, it nonetheless has some merit. In

particular, the lack of transparency means that some investors may have difficulty in adequately assessing the risks of a particular hedge fund and must rely on the manager to describe the underlying strategy employed. This contrasts with plain-vanilla stock and bond portfolio managers who are monitored by a large number of independent research organizations that evaluate their performance. This has led to the suggestion that hedge funds should be required to reveal their positions publicly.

The rejoinder is that hedge funds should not be required to reveal their positions - their strategies and positions are confidential trade secrets and revelation could prove detrimental to investors. Furthermore, hedge funds already report monthly returns to investors. Style drift and risk can be easily ascertained, if one is paying attention. Making more data available frequently or allowing a more detailed look through to underlying positions would not likely alter one's conclusions on style drift and risk. In this regard, the significant difference between transparent mutual funds and hedge funds is that the onus of due diligence falls much more heavily on the hedge fund investor. More work is required, both quantitative and qualitative, to assure that one is receiving what is advertised by hedge funds.

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In addition, the lack of transparency is often cited as a reason why there are incidents of hedge fund fraud. Although extremely rare, more transparency would presumably be a deterrent. However, one must question whether this would be the case. Certainly there are situations when government regulated companies misbehave. For example, transparency did not prevent mutual funds from providing preferential after-hours pricing in the recent market timing scandal.

As for liquidity, hedge funds are free to impose their own requirements on exit conditions. Most restrict investor access to funds in order to facilitate the smooth unwinding of positions that could be harmful to all investors if there were large redemptions. This is less an issue for mutual funds, which typically deal in deep liquid markets. Even so, some mutual funds do in fact close to new investment. Moreover, real estate and private equity partnerships often require lock-ups that can extend for as long as ten years. There is no public uproar when this occurs yet this is little different from hedge funds.

Tax efficiency

A third criticism of hedge fund investing is that it is not tax efficient [Schumadine (2003)]. The reason is that much of the income from hedge funds arises from short-term trading activity, as well as from nonqualified dividends and interest payments. These returns are taxable at ordinary rates for individuals, which can be as high as 50% in some jurisdictions. Hedge fund income is, therefore, much less tax beneficial than say equities, which typically qualify for long term capital gains rates. Of course, this issue is largely irrelevant for institutions and endowments, which are generally not subject to taxation. However, for individual investors, both in the U.S. and Europe, the aggressive taxation of hedge fund income is an obvious impediment that reduces after-tax returns.

That said, hedge fund taxation is an asset location problem for high net worth private investors, not an allocation issue. In this regard, investors should hold essentially the same hedge fund exposure as nontaxable entities but that exposure should be implemented via nontaxable or tax-deferred structures. For

example, many high net worth investors can use deferred compensation, private life insurance, and derivatives to effectively shelter hedge fund investment income. In this respect, while hedge fund taxation may be a problem for small investors, it is a deterrent to high net worth individuals only if they elect to make it so by ignoring tax management⁵.

Are hedge funds an asset class?

One remaining criticism of hedge funds is that they are not really an asset class but simply a collection of strategies. While this assertion may appear valid on the surface, certainly one must admit that investing in traditional assets is also just a strategy as well. That is, owning stocks or bonds is a decision to hold naked long positions with no offsetting shorts.

This is clear conceptually if one reconsiders the general Markowitz case where portfolios consist of long, short, or zero positions in various securities. In this sense, traditional asset management is a special case in which short positions are prohibited. Consequently, hedge fund strategies are revealed as more complex 'spread' exposures. Returns accrue not from the raw return of the underlying securities, but as a result of whether spreads expand or contract. This implies straightforwardly that hedge funds are more complex than traditional assets.

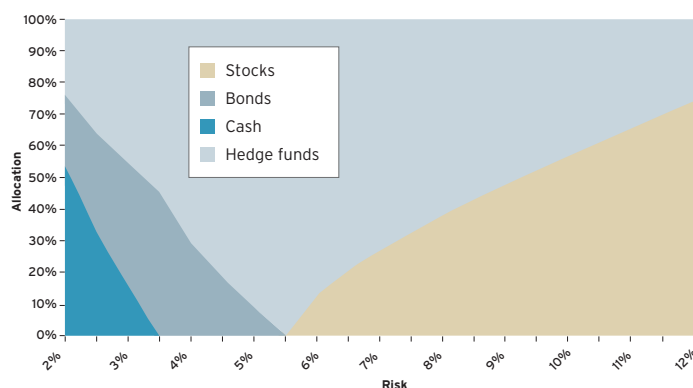


Figure 5: Optimum asset allocation 1990 to 2003

⁵ Paulson makes this case strongly, advocating tax efficiency via swaps, life insurance, grantor trusts, grantor retained annuity trusts, charitable lead annuities, and other structures.

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Alpha generation - genius or camouflaged beta exposure?

Are hedge fund managers true geniuses in producing exceptional returns, or is their performance simply the result of the unique spread exposure they carry? While some proponents argue the former, the truth appears to be that the majority of hedge fund managers do not in fact exhibit exceptional skill. Rather it is their unique exposures that produce attractive performance profiles. In this sense, hedge fund strategies only appear to produce alpha versus traditional assets and it is their underlying beta exposure that delivers performance. Thus, apparent alpha is really camouflaged beta.

The evidence comes from Fung and Hsieh, and Lamm, who examine the positions typically carried by equity hedge managers. They demonstrate that equity hedge managers have historically carried long exposures primarily in small cap stocks offset by short positions in large capitalization stocks. Because small capitalization stocks normally outperform large cap stocks, such positions should therefore produce positive returns with no special skills whatsoever.

Similarly, it can be argued that the unique exposures carried by hedge funds engaged in strategies, such as convertible arbitrage, fixed income arbitrage, and distressed debt are really camouflaged beta. The only way to access these exposures is via hedge funds. There are no mutual funds that offer such positions, nor can investors do their own research and buy spread securities in publicly traded markets.

How much should investors allocate to hedge funds?

Portfolio construction is a forward-looking process involving expected future returns and covariances. For this reason, examining the best retrospective allocation serves little useful purpose except to demonstrate what might have been attained with perfect foresight. Nonetheless, this exercise is useful to establish a reference point.

Taking FOF returns as the measure of hedge fund performance along with the appropriate data for stocks, bonds, and cash as described in Figure 4, leads to the optimal Markowitz

asset allocations shown in Figure 5. The results, which cover the 1990 to 2003 period, indicate that medium risk investors should have held near 100% in hedge funds over the period, while more conservative and aggressive investors should have held smaller hedge fund allocations in order to reach their more extreme risk targets. That said, the minimum hedge fund allocation held by any investor should have been 25%. Clearly, the opportunity cost of holding no hedge fund allocation was very high, a loss of more than 3% annually for medium risk investors.

Of course, the real acid test is future performance. Here one may have a valid argument for smaller hedge fund allocations if relative risk-adjusted hedge fund returns decline versus past relationships vis-à-vis stocks, bonds, and cash⁶. However, a substantial change from past behavior is required to produce much lower hedge fund allocations. For example, future hedge fund returns must decline by more than 2.5% annually versus stocks and bonds before the optimum allocation to hedge funds begins to fall below 20% for any risk level. To presume such would appear to require heroic assumptions and a great leap of faith. Therefore, the best forward-looking asset allocation would still appear to favor allocations of a fifth or more of the total investment portfolio.

Conclusions

Revolutions are typically accompanied by dramatic structural change as old ideas are cast aside and replaced with a new paradigm. Clearly, because hedge funds are not yet universally accepted, the revolution is incomplete. Nonetheless, a fundamental transformation appears to have begun despite the fact that many hedge fund skeptics remain.

The guardians of the status quo argue that hedge fund returns are asymmetric, data suffer from survivor bias, hedge funds lack liquidity and transparency, and that after-tax returns are not attractive. While there is a modicum of truth to these assertions, it must be remembered that opponents often have a vested financial interest in the maintaining the stock and bond creed. Furthermore, the critics lack sufficient expertise

⁶ Allocations may also be affected if covariances change dramatically from the past.

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to evaluate hedge funds and, like the flat earth proponents of old, fear the unknown, which they may not understand.

The evidence presented here indicates that hedge funds have performed well in the past, even after one makes adjustments by using conservative FOF indexes as return benchmarks to adjust for survivor bias. While it is possible that the future is different and hedge funds do not outperform, there are many reasons to suspect they will. Indeed, the fact that so many skeptics remain implies that it will take a while for structural barriers to fall and the influence of vested interests to abate. This means that the process of arbitraging away the superior risk-adjusted performance of hedge funds has a way to go.

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