THE CHANGING ROLE OF HEDGE FUNDS IN THE GLOBAL ECONOMY

A recent *Washington Post* editorial, “The perilous state of pensions,” (March 26, 2011), opined “…public sector pension funds typically incorporate optimistic assumptions about the returns they will earn on their investments… (reducing the assumptions)… would have exposed the emptiness of their past promises.” In fact, a variety of institutions, from university and philanthropic endowments to public and private pension funds, have all endured a difficult and volatile period in the financial markets. The case of public pension funds is perhaps the best-known example of this problem.

**31 states had pension funds less than 80% funded in FY2009.**

*Source: Pew Center on the States, “The Widening Gap,” April, 2011*

Against this backdrop, a rising number of these institutions are devoting larger shares of their portfolios to hedge funds. Once considered an elite investment for wealthy individuals, a majority of hedge funds assets — by one independent measure 61 percent — are now owned by institutional rather than private investors. Thus, the role of hedge funds in the economy is changing as new classes of institutional investors come to embrace them. As hedge funds accumulate a longer investment track record on which to be judged, and, following the passage of the Wall Street Reform and Consumer Protection Act (Dodd-Frank), the role of hedge funds in the financial system is an important consideration.

This paper examines the confluence of these issues. It explains the objectives of hedge funds, estimates their potential value to institutional portfolios, and examines some of the basic public policy concerns surrounding the role of hedge funds in financial markets. At the onset, the author would like to thank Campbell & Company, one of the world’s innovators in quantitative model development, for supplying the allocation modeling and additional data necessary to complete the research enclosed.

Hedge funds have evolved from an elite investment to a standard component of investment portfolios, and in so doing, offer institutional investors, such as pension funds, the opportunity to improve returns. *The modeling performed for this analysis suggests that a modest allocation to hedge funds would improve the returns to public pension funds by approximately $13 billion annually.* Moreover, the track record of recent years further illustrates that hedge funds have not been a source of greater **systemic risk** — rather than “too big to fail,” they are generally not an important source of systemic risk.

**61% of hedge fund assets are held by institutional investors — pensions, endowments, foundations, and others.**

*Source: Preqin February 2011 Hedge Funds Manager Survey*
Hedge Funds and the Nature of Investment Returns

Investment managers think of the total return earned by a specific asset, such as a stock or bond, or by a group of assets or portfolio, as having two distinct components. The first is its return independent of market conditions, and the second is the extent to which the entire asset class from which it is drawn rises or falls (for example, the stock market). These two components can be organized in this manner:

\[
\text{Total Asset Return} = \text{Return Independent of Markets} + \text{Correlation to Markets} \times \text{Total Market Return}
\]

In the manner of an equation, the first term — the independent return earned by an asset — is called “alpha” and the second — the correlation to the market — is called “beta.” For example, a particular portfolio of stocks may be found, historically, to have a “beta” of .75 — that is, when the overall market for stocks rises by 1 percent, the portfolio, on average, rises by .75 percent (or 75 “basis points”). So if this same portfolio rises by 5 percent while the overall stock market has risen by 4 percent, we can attribute 3 percentage points of the 5 percentage point gain to the overall market (since .75 times 4 percent is 3 percent), leaving 2 percent, or 200 basis points, to the specific stocks in the portfolio themselves, and to the skill of the investor or investment manager in picking them.

A modest allocation to hedge funds would improve returns to public pension funds by $13 billion annually.

This differs from other types of investment managers. An investment manager whose focus is the U.S. stock market, for example, will be judged by clients on whether she or he generates a better return than that offered by the group of all equities (since the group of all equities can be simply and inexpensively held in an “index fund”). Naturally, all investment managers want to produce returns in excess of the overall market. But the implication of this objective is that, in periods when the stock market is falling, those managers would be regarded as successful if their portfolios performed less poorly than the overall market; whether they produce an absolute, positive return is not relevant.

By contrast, the objective of hedge funds is to offer investors an absolute, positive return regardless of market conditions. The first hedge fund — founded by Alfred W. Jones in 1949 — defined itself in precisely this way. Jones protected — or “hedged” — his stock portfolio against the direction of the overall market by purchasing those stocks he expected would rise in value, and “shorting” (borrowing a security or commodity futures contract from a broker and selling it, with the understanding that it must later be bought back and returned to the broker, and therefore profiting if the asset’s price fell in the interim) other stocks he thought would fall in value. By doing so, he could earn a return regardless of the direction of the overall market, since the “long” stocks would gain when the market went up, and the “short” positions would gain if it went down. In essence, Jones found an approach that eliminated the “beta” component of total return and instead depended entirely on whether his judgments about individual stocks were correct. He had created a hedged fund, hence the origin of the term.

In the intervening decades, hedge funds have adopted a much richer variety of strategies to pursue the central objective of earning returns regardless of market conditions, including:

- **Global macro funds**, which invest based on their command of the direction of the world’s various economies;
• **Directional funds**, which switch between long and short instruments on securities based on their perception of the market;

• **Event-driven funds**, which focus on stocks or bonds of companies involved in mergers, buyouts, or takeovers;

• **Distressed securities funds**, which buy the assets of companies at or near bankruptcy;

• **Relative value funds**, which search for discrepancies in the values of closely related securities; and

• **Convertible funds**, which specialize in “convertible” bonds, which may be exchanged for stock in the issuing company at a later date.

This list far from exhausts the investment approaches various hedge funds take. Investors also have the option of selecting “funds of funds,” which invest in a number of hedge funds that employ different strategies; since these various strategies are often uncorrelated to each other, a “fund of funds” allows the investor to pool the many individual funds’ expected risks and returns, while saving the investor the cost of learning about the specifics of each. However, recent trends indicate that institutional investors are shifting away from fund of funds in favor of investing directly with single manager funds. In April 2011, the Massachusetts state pension fund, governed by the Pension Reserves Investment Trust, announced it would begin directly investing in hedge funds.1 The Ohio Public Employees Retirement System (PERS) also announced its first direct investment in hedge funds in June 2011.2 But, again, what is common to all of these funds is an attempt to earn returns irrespective of market conditions at the moment, whether they are actively “hedging,” as Jones first did 60 years ago, or not.

Hedge funds also typically have a different reward structure for their managers. Traditional investment funds active in the stock or bond markets on behalf of institutional clients earn a fixed percentage of the assets they manage, passing along gains or losses to their clients. The proprietary trading desks of banks (to the extent they are allowed under the new Dodd-Frank law), for example, are evaluated by their bank managements, but their reward structure is closely tied to the performance of the entire bank itself. A common criticism, one validated by the events of the 2008 crash, is that decision makers in diverse organizations such as investment banks have incentives to take undue risks in order to attract attention to their results when bonuses are distributed, knowing that bonuses will be paid to most if not all employees if the bank is profitable that year.

By contrast hedge fund managers are usually paid one smaller fee, based on a percentage of assets under management (typically, but not always, two percent) and a second larger fee based on the fund’s success (usually defined as the growth in the value of the fund over its previous “high water mark” and typically, but not always, 20 percent). This fee structure is often referred to by the shorthand of “two and twenty.”

The two and twenty structure uniquely aligns the interests of fund managers and investors. As noted, the rewards accruing to a bank’s or other institution’s professionals who invest their clients’ wealth typically depend on the success of the entire bank. Moreover, the bank itself may have other objectives that conflict with their managers’ seeking the best trade-off between risk and reward; the bank may want transactions to make a market for an asset, or to find counterparties to trade its own positions. Similarly, brokerages and other account managers for individuals have incentive systems that may diverge from their clients’ interests, perhaps based on their interest in the volume of transactions from an account rather than its success.

But the two-and-twenty structure rewards the fund manager if and only when the fund succeeds on behalf of its clients. In some cases, it rewards fund managers spectacularly, but when it does, it does so because clients have also been rewarded spectacularly.

Moreover, the practice in the hedge fund industry has generally been for fund managers to keep large portions of their own personal wealth in their funds. Hedge fund executive John Paulson was recently reported to have 90 percent of his own net worth invested in funds managed by his firm, Paulson & Co.3 This practice also serves to unite the interest of funds and their investors. And, in the end, the industry’s fee structure is determined in a competitive marketplace; a recent report by Preqin noted that three out of every seven funds surveyed reduced the fees charged on funds over the last 18 months.4 Moreover, half of the funds recently surveyed reported that they were under their “high water mark” and their immediate gains would not be rewarded. Clients, therefore, appear readily to accept this reward structure because of its ability to align the interests of the fund management with their own — the spectacular growth of hedge fund assets under management speaks to this.

In the last decade, the hedge fund industry has grown dramatically. Hedge Fund Research, a leading industry consultant, estimates that in the third quarter of 2011, the global hedge fund industry had $2.04 trillion in assets under management, in contrast to $38.9 billion in 1990, almost a fifty-fold increase in the last 20 years.

How has the industry grown so rapidly? In large part, of course, it has grown swiftly because it has succeeded in growing the value of its investments. Of the total growth in hedge fund assets
under management in the last 20 years close to 40 percent has come from new capital given to funds by their clients. The rest, or 60 percent, comes from the returns earned by funds and then reinvested. Thus, while the hedge fund industry’s assets under management have grown by almost 22 percent annually, most of this has come from asset appreciation and income generated by fund investments.

60% of the growth in hedge fund assets has come from reinvested returns.

But the growth in funds has also been driven by their transformation from an “elite” investment used by wealthy individuals to a standard component of any institutional portfolio, whether it is the placement of university or philanthropic endowments or the assets that support both public- and private-sector pension funds. A recent survey of hedge funds found that for the first time in their history as an investment class, these institutional (non-individual) investors now accounted for fully 60.5 percent of total assets. In 2008, more than half of all institutional hedge fund assets were held by, in decreasing order of size, public pension funds, endowment plans, private pension funds, and family (and, often, charitable) foundations. Moreover, an additional 30 percent of all institutional hedge fund investments were held by “funds of funds” — as discussed previously, these are funds that pool individual hedge fund investments to reduce the associated risk. If the ownership of these funds is distributed in the proportions of all funds, then public and private pension funds, endowments, and family foundations own closer to three-quarters of all institutionally owned hedge fund assets.

This means that the returns earned by hedge funds are an important and growing source of support for beleaguered state pension funds, private pensions, and entities such as universities, hospitals, and charitable institutions. Understanding how large a contribution they make requires understanding how portfolios are constructed to balance risk and reward, the subject of the next section.

Risk, Return, and the Construction of Portfolios: Model Simulations

One fundamental truth of economics is that greater returns, over the long run, can only be earned at the cost of greater risk. Alternatively, the relationship can be viewed this way — risk drives return, because investors expect to be compensated for the risks they must bear when making an investment. Government bonds offer relatively low returns but are viewed as bearing as little risk as any investment can, while investments such as commodities and private equity lie at the other end of the spectrum, conveying high average returns, but at the cost of substantial risk, where risk is measured as the variation in the returns generated by a class of asset.

Beginning with this fundamental view of the relationship between risk and reward, economists and financial theorists have developed a more comprehensive approach to the challenge of constructing the best portfolio available to an investor. Its basic intuition is to blend assets with various levels of risk and reward into a portfolio, while remaining aware of the extent to which the returns offered by each type of asset are correlated with the others. For example, U.S. and foreign stocks are highly correlated with each other, and therefore adding one to a portfolio that already contains the other doesn’t provide much diversification and, therefore, doesn’t mitigate risk very well. On the other hand, bonds and real estate generally move independently of each other, so when they are placed together in a portfolio, they provide more protection against risk — the circumstances that affect the value of one do not usually affect the value of the other. By simulating these relationships mathematically, portfolio models can identify the returns and level of risk associated with any combination of asset types. This type of portfolio modeling is commonplace among financial planners and investment analysts. Thus, if we know the statistical distribution of returns earned by each asset class (that is, its average return and the risk it entails, as measured by the standard deviation of that average return) and the extent to which the various asset classes are correlated with each other, then models can calculate returns and risk for that portfolio.

Hedge funds will typically be a part of that portfolio simulation. In fact, by simulating the risk and returns of a portfolio twice — once with hedge funds among the asset classes and then once without hedge funds — it is possible to estimate the contribution that hedge funds make to this representative portfolio. That analysis is found in the next section.

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Expected Annualized Return (%)</th>
<th>Expected Annualized Risk (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Stocks</td>
<td>6.5%</td>
<td>15.1%</td>
</tr>
<tr>
<td>Non-U.S. Stocks</td>
<td>3.8%</td>
<td>16.7%</td>
</tr>
<tr>
<td>Bonds</td>
<td>6.9%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>10.9%</td>
<td>20.1%</td>
</tr>
<tr>
<td>Hedge Funds</td>
<td>11.9%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Commodities</td>
<td>9.5%</td>
<td>20.1%</td>
</tr>
</tbody>
</table>
In order to demonstrate the effect of hedge funds on an investment portfolio for purposes of this analysis, Campbell & Company, an alternative investment manager with a strong background in modeling, was asked to use their portfolio allocation models to simulate various combinations of asset classes. The asset classes used for this purpose were: U.S. stocks, foreign stocks, bonds, real estate, hedge funds, and commodities (such as oil or precious or base metals).

The assumptions used for these purposes are given in the table here. They are taken from the period from July 1991, the beginning of the economic expansion of the 1990s, through the December 2010. This was a volatile period that included the “dot-com bubble” of the late 1990s, the concerns over “Y2K,” the reaction to the 9/11 attacks, and the economic crisis triggered by the collapse of the mortgage market. This yields assumptions that may be seen as particular to the period — the return on bonds, for example, is higher than the return on stocks, despite the former’s lower volatility, but this is the longest period for which good data exist on all the asset classes, due to the relatively recent emergence of hedge funds. The portfolios were rebalanced annually to maintain set asset allocations.

**A “Representative” Portfolio.** The Campbell & Company model was first used to simulate a representative portfolio. While investment managers vary in their advice to clients, the rules of thumb they employ have historically centered on the “two-thirds/one-third” portfolio — two-thirds of the value of the portfolio allocated to equities (stocks) and one-third in fixed income instruments (bonds). In recent decades, however, other classes of assets have been adopted by institutional portfolios, including foreign stocks, real estate, and commodities. To represent such a “standard” portfolio, this analysis uses the assumption that the “representative” portfolio contains 50 percent U.S. stocks, 20 percent foreign stocks, 20 percent bonds, 5 percent real estate, and 5 percent commodities. When simulated, this portfolio yields an expected annual compound return of 7.03 percent, with volatility (as measured by annualized standard deviation of monthly returns) of 10.95 percent. Statistically, this means that for roughly two-thirds of the years such a portfolio is maintained, the return it would generate is expected to range from negative (-) 3.92 percent to (+) 17.98 percent. In roughly one out of seven years it will return less than negative (-) 3.92 percent but more than negative (-) 14.97 percent, while in one out of 40 years, it will produce losses greater than the lower bound of this range. On the other hand, in about one out of about seven years, it will return more than 18.98 percent but less than 29.93 percent, and in one in 40 years, it will exceed this range. Given recent history, this kind of range is an entirely plausible modeling result.

The Campbell & Company model was then changed to incorporate hedge funds as a group. For the purposes of this paper, adding “hedge funds” to the model refers to the Hedge Fund Research, Inc. (HFRI) Index, which tracks the performance (net of fees) of more than 2,000 foreign and domestic funds with over either $50 million under management or 12 months of active trading. The hedge fund investment options for an
individual portfolio are many, but the returns and risks represented by the HFRI index are the best possible representation of the entire sector, much as the returns and risks of the stocks picked by an equities investment manager may vary widely, but the S&P 500 Index is the best representation of how all of those managers have performed as a group, over time.

This analysis assumed that the “representative” portfolio reallocated 10 percent of its portfolio to hedge funds, reducing all other assets pro rata to accommodate this allocation — thus, U.S. equities was reduced from 50 percent of the portfolio to 45 percent, foreign equities and bonds were reduced from 20 percent to 18 percent, and so on. In fact, Prequin recently reported that public pension funds now allocate an average of 6.5 percent of their assets to hedge funds, up from 3.6 percent in 2007. (By contrast, private pension funds and endowments were estimated to hold 8.6 percent and 20 percent, respectively, of their assets in hedge funds.) So there is substantial room to improve portfolio returns with only a modest increase in the share of portfolios going to hedges, as suggested by the asset allocation models presented here.8

When hedge funds were added, the portfolio model results changed significantly. The average annual compound return rose from 7.03 percent to 7.54 percent, and the average annual volatility shrank from 10.95 percent to 10.39 percent. A difference of half a percentage point may not seem consequential, but over the long term, it can be. Over the 40-year course of a pension recipient’s career, for example, the higher figure will turn a dollar into $18.31, while the lower figure will produce $15.14, which supports a 20 percent higher level of benefits. Thus, in the “representative” portfolio without hedge funds, roughly two-thirds of the years will see a return between negative (−) 3.92 to 17.98; in contrast, in the representative portfolio with hedge funds, the upper bound of this range is only 0.5 percent (5 basis points) lower, at 17.93 percent, but the bottom of the range is over a full percentage point (100 basis points) higher — a loss of only 2.85 percent, versus a loss of 3.92 percent without hedge funds. Thus, perhaps at first glance counter intuitively, adding hedge funds to a portfolio does not increase their expected return so much as it protects that portfolio against loss. But, on closer reflection, this is consistent with the objective of hedge funds as a class — to earn returns regardless of market conditions.

These probabilities are informative, but not the most useful information that can be provided to an institution managing its portfolio. A more relevant comparison is whether the portfolios, with and without hedge funds, can achieve the returns assumed in the financial plans of the institution, (or, at a minimum, whether they can help to avoid losses). This goes back to the issue of whether pension funds, for example, can meet their targeted rate of return assumption. The following table summarizes these results from this perspective.

<table>
<thead>
<tr>
<th>Probabilities of Achieving Various Levels of Returns in Any One Year</th>
<th>No Hedge</th>
<th>10% Hedge</th>
</tr>
</thead>
<tbody>
<tr>
<td>below zero</td>
<td>0.260</td>
<td>0.234</td>
</tr>
<tr>
<td>zero to 4 percent</td>
<td>0.131</td>
<td>0.133</td>
</tr>
<tr>
<td>4 to 8 percent</td>
<td>0.144</td>
<td>0.150</td>
</tr>
<tr>
<td>8 to 12 percent</td>
<td>0.140</td>
<td>0.148</td>
</tr>
<tr>
<td>over 12 percent</td>
<td>0.325</td>
<td>0.334</td>
</tr>
</tbody>
</table>

Adding hedge funds to this representative portfolio, therefore, reduces the probability of having a negative return in any given year by about 10 percent — from 26 percentage points without hedge funds to 23.4 percentage points with them. The probability of achieving returns between zero percent and 4 percent is almost unchanged by adding hedge funds. But the probability of realizing returns between 4 and 12 percent in any given year, however, is 5 percent higher, rising from 28.4 percent without hedge funds to 29.8 percent with them. The probability of super-normal returns above 12 percent is also about 3 percent higher with hedge funds, moving from 32.5 percent to 33.4 percent.

These are more informative comparisons because they relate to the objectives of the institutions that use hedge funds. The range between 4 percent and 12 percent, for example, contains the earnings assumption built into almost every pension fund, whether public or private, in the country. Absent realizing this assumption, pension programs must find additional sources of contributions or face an inevitable shortfall that must be at some point passed on to beneficiaries.

This is particularly important because of the sizable decline in interest rates experienced in the past several years. A lower interest rate implies a lower “earnings assumption” — the rate of interest earned on assets in order to meet future obligations. For example, imagine a company must pay out $1 million each year for the next 30 years in pensions. If the earnings assumption used to meet those payments is 8 percent, then the pension fund needs a present value of $11.26 million today; if you put that much in an account bearing 8 percent, it will have just enough to perfectly cover those 30 payments of $1
million each. But if the interest rate falls from 8 percent to 6 percent, for example, the amount it takes to fund those future obligations today rises to $13.76 million, even though the obligations themselves don’t change. Absent any other changes, every dollar paid out would have to be cut by about 18 cents to create a balance between the pension’s assets and liabilities.

Many funds face exactly this type of situation. For example, the California State Teachers’ Retirement System (CalSTRS), the nation’s second largest public pension fund, with assets valued at $131 billion going into 2010, recently considered lowering its annual earnings forecast from 8 percent to 7.75 percent, the first change in 15 years; but, it calculated that such a quarter percent reduction in the earnings forecast would require contributions of 3 percent of payroll to restore balance, which would boost the increase needed to fully fund CalSTRS obligations over the next 30 years from 14 percent to 17 percent of payroll. Thus, when it actually attempted to lower it to 7.5 percent later in the year, elected officials rejected the change. Similarly, the Colorado state pension fund, with $30 billion in assets, currently employs an earnings assumption of 8.5 percent; at this rate, it has a shortfall of $17.9 billion. It recently disclosed that changing that assumption to 9 percent would reduce this shortfall to $15 billion, while reducing it to 8 percent would increase the shortfall to $21.4 billion.

Thus, small differences in earnings assumptions have serious consequences for pension funds. And while other institutions — such as hospital, university, or philanthropic endowments — have more latitude in adjusting their spending streams, they are subject to the same pressures. This makes improvements in earnings, such as those hedge funds can provide, as consequential as the cuts in benefits or services that seemingly small reductions in those earnings require.

This is the context in which to view the result of the portfolio modeling presented in this analysis — the potential to add 50 basis points of average return to a representative portfolio by allocating 10 percent of the portfolio’s value to hedge funds. This increment adds significant significance in the context of the institutional ownership of funds. For example, a recent study by the National Association of College and Business Officers estimated that 850 U.S. college and university endowments and their affiliated foundations held $346.3 billion in assets in 2010. The portfolio model results here indicate that hedge funds have the potential to add approximately $1.73 billion in expected annual return to their stream of income when compared to a portfolio with no hedge fund component.

Public pension funds have far greater assets — the U.S. Census Bureau recently reported that the 100 largest public pension funds alone had assets in the first quarter of 2011 of $2.734 trillion. Once again, a reallocation of 10 percent of this portfolio to hedge funds would provide added returns of approximately $13.67 billion annually.

Given the relatively low level of hedge fund holdings among these institutions, the pressures to improve returns, and the modeling results suggesting that hedge funds offer both a higher return and a reduction in earnings volatility, we should expect greater hedge fund holdings by these institutions in the future.

In fact, investment officers representing states around the country have recently increased their allocation to hedge funds, or in some cases, initiated investments in the asset class. The rationale behind these decisions is most often diversification and the desire to meet their pension obligations. This includes such states like Wisconsin and Wyoming — two states not traditionally associated with hedge funds.
A concern sometimes expressed about hedge funds, and a possible source of reluctance on the part of some institutions to hold them, is that they are inherently risky, and add to the overall “systemic risk” that financial markets suddenly experience when an imbalance of buyers and sellers lose their liquidity, and valuations crash, much as actually occurred in the 2008 financial crisis.

These portrayals stem from a variety of sources, including unfamiliarity with hedge funds and their operations (including their own proprietary secretiveness about their trading strategies, which are to their existence what the formula for Coca-Cola and the Google search algorithm are to those companies), concern over the leverage taken on by financial entities and, more generally, their willingness to take on risks, suspicion of the wealth of some hedge fund managers (and a possible confusion between their individual wealth and the modest size of even relatively large funds in financial markets). But on scrutiny, these impressions are often unsubstantiated or reflect misunderstandings of events.

A further concern regarding financial stability is leverage. The extraordinary amount of leverage undertaken by the major banks was at the root of the 2008 financial crisis. This leverage magnified their losses in relation to their capital, and the resulting risk that these massive institutions would fail necessitated the federal bailout.

One example of hedge funds’ superior ability to manage risk is the degree of their leverage. A recent study performed by economists at Columbia University and the National Bureau of Economic Research concluded that “hedge fund leverage is fairly modest, especially compared with the listed average of broker/dealers and investment banks.” Moreover, hedge fund leverage “decreases prior to the start of the financial crisis in mid-2007, where the leverage of investment banks and the finance sector continues to increase.” What’s more, the authors continue, within the group of all hedge funds, “increases in fund return volatility tend to reduce leverage” (emphasis added). That is, funds with more volatile earnings streams are less likely to use leverage. This is an understandable result, as funds with more volatile earnings streams know that leverage leaves them vulnerable to a situation in which their earnings leave them unable to meet their debt obligations, and, as a result, they may have to liquidate holdings under duress, further impairing their earnings. The Columbia/NBER analysis also demonstrated that, while banks were increasing their leverage in 2007 and 2008 — rising to a peak over 20 for the entire financial sector and 40 for investment banks as a group — hedge funds, in response to the evolving circumstances in the market, were lowering their leverage from a ratio of 2.6 in mid-2007 to under 1.5 by late 2008.13

...hedge fund leverage is fairly modest, especially compared with the listed average of broker/dealers and investment banks.”

—National Bureau of Economic Research

Hedge Funds and Financial Stability

<table>
<thead>
<tr>
<th>Hedge Funds</th>
<th>Banks</th>
<th>Hedge Funds</th>
<th>Investment Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:1.10</td>
<td>1:10</td>
<td>1:1.41</td>
<td>1:69.5</td>
</tr>
</tbody>
</table>

This is consistent with the most important reality of the 2008–09 financial crisis with respect to hedge funds — no hedge fund required rescue by taxpayer money. In fact, the federal involvement in rescuing the banking system was entirely different in character from the only episode in which an arm of the federal government ever became involved in the prospective failure of a hedge fund. In the case of Long-Term Capital Management (LTCM) in 1998, the New York Federal Reserve, in order to avoid a “race to the door” by LTCM’s prime broker lenders, brokered an agreement among these banks to buy all of LTCM’s assets and dispose of them in an orderly process. All of the participants in the LTCM “rescue” came out ahead when the alternative is considered, and taxpayers financed none of the program.

Why are hedge funds more resilient than banks in managing risk, eschewing undue leverage, and avoiding the need for federal bailouts? Two reasons stand out: hedge funds’ superior culture of risk management and their relatively small size.

As opposed to the major banks, which are “too big to fail,” hedge funds are “too small to bail.”

The defining characteristic of hedge funds is their focus on managing risk — the operations of a hedge fund focus continually on the level of risk inherent in all of their positions. This contrasts to a bank, which serves a variety of roles that involve risk, as lender, counterparty, market maker, and the like, and where various segments of the bank may have incentives to take on additional risk in the hope that the bank’s diversified operations will provide balance against their own. Additionally, the more direct links between the rewards accruing to funds’ managements, and their significant ownership stakes in their own funds, also lead them to avoid excess leverage.

Finally, hedge funds are smaller — even the largest fund in the world today is considerably smaller than most investment banks. Many of the largest hedge funds manage assets in the tens of billions of dollars, whereas global investment banks have balance sheets in excess of $1 trillion. Due to their relatively small size, the failure of even the biggest hedge fund would be unlikely to cause public resources to be committed, particularly as the Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) explicitly bars direct lending to affiliated funds by banks.

The crisis of 2008–09 demonstrated that hedge funds often play a countercyclical, stabilizing role.

Thus, hedge funds as an asset class display many of the characteristics we would find desirable in an investment. Hedge

Mean Percentage Allocation to Hedge Funds by Investor Type

<table>
<thead>
<tr>
<th>Investor Type</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endowment Plans %</td>
<td>17.5</td>
<td>19.5</td>
<td>18.8</td>
<td>20.0</td>
</tr>
<tr>
<td>Foundations/Family Offices %</td>
<td>12.7</td>
<td>14.4</td>
<td>13.9</td>
<td>15.4</td>
</tr>
<tr>
<td>Private Pension Funds %</td>
<td>5.0</td>
<td>7.3</td>
<td>7.2</td>
<td>8.6</td>
</tr>
<tr>
<td>Public Pension Funds %</td>
<td>3.6</td>
<td>5.7</td>
<td>6.0</td>
<td>6.5</td>
</tr>
</tbody>
</table>

Source: Prequin Research Report 2010

fund managers’ incentives are closely aligned to the interest of their investors; they have historically operated without government guarantees or after-the-fact-bailouts; they are generally too small to affect the integrity of financial markets and, therefore, systemic risk in the economy; receive funds from investors, both institutional and private, who are aware of the risks and rewards offered to them and can tolerate the outcomes. Moreover, as seen here, they are capable of making a significant contribution to the stability of pension, endowments, and other institutions.
Conclusions

Hedge funds have complex trading strategies and have for many years been an elite investment for wealthy individuals. But they have grown beyond this role. Sixty percent of hedge fund assets are held by institutions, including a substantial portion by endowments, pension funds, and other entities that serve the public. Moreover, the experience of funds now provides some historic record on the risk and return they pose to investors. Using that record, we can estimate the contribution that hedge funds could make to public pension portfolios at a time of great stress. Specifically, we found that reallocating 10 percent of pension portfolios to hedge funds has the potential to add approximately $13.67 billion in returns yearly. Our analysis found similar potential for university endowments, which stand to add more than $1.73 billion in expected returns per year by shifting 10 percent of assets to hedge funds.

Hedge funds are a tool that are and can be used by pension funds, colleges and universities, and other institutions to diversify their investments, manage risk, and deliver reliable returns so those institutions can deliver service and meet their obligations.

The same track record demonstrates that hedge funds were not a source of the risks and leverage that led to the financial crisis in recent years. They were substantially less leveraged and, rather than a source of risk, many were harmed by the actions taken as part of the bank rescue of that time (for example, the ban on short selling that crippled and drained liquidity from the convertible bond market). Rather than “too big to fail,” hedge funds are generally “too small to bail.”

As public policy focuses on a variety of issues related to hedge funds, from pension to risk regulation, policy makers must bear these new realities in mind.

Allocating 10% to hedge funds has the potential to add $13.67 billion to public pension plan returns annually.

The author would like to thank Campbell & Company, Inc., one of the world’s innovators in quantitative model development, for supplying the allocation modeling and additional data necessary to complete the research enclosed.
The Changing Role Of Hedge Funds In The Global Economy

**Glossary**

**Alpha:** Alpha is the measure of a fund’s average performance independent of the market. For example, if a fund has an alpha of 2.0, and the market return was 0% for a given month, then the fund would, on average, return 2% for the month.

**Basis points:** A unit that is equal to 1/100th of 1%, and is used to denote the change in a financial instrument. The basis point is commonly used for calculating changes in interest rates, equity indexes and the yield of a fixed-income security. A bond whose yield increases from 5% to 5.5% is said to increase by 50 basis points; or interest rates that have risen 1% are said to have increased by 100 basis points.

**Beta:** Beta is the measure of a fund’s volatility relative to the market (almost all fund managers correlate themselves to the S&P 500). A beta of greater than 1.0 indicates that the fund is more volatile than the market, and less than 1.0 is less volatile than the market. For example, if the market rises 1% and a fund has a beta of 2.5, the fund will rise, on average, 2.5%. For a fund with a beta of 0.4, if the market rises 1%, the fund will rise on average, 0.4%. The relationship is the same in a falling market. (Please note that funds can have a negative beta, meaning that on average they rise when the market falls and vice versa).

**(Prime) Brokerage:** A brokerage firm providing multiple services to a hedge fund that are beyond the scope of those offered by a traditional broker, such as clearing and settlement of securities transactions, financing, recordkeeping, custodial services, and research capabilities.

**Compound return:**
- **Annual:** The compounded annual return is simply the compounded monthly return to the 12th power.
- **Monthly:** The compounded monthly return is the return that if compounded over the life of the fund would lead to the total return of the fund. For example, if a fund has 10 months of return equaling 100% as a total compounded return, the compounded monthly return would be 7.18%.

**Counterparty:** A person or entity that enters into transactions with a hedge fund.

**Funds of funds:** A hedge fund that invests in other hedge funds. Fund of funds were conceived to provide broad diversification and an appropriate asset allocation with investments in a variety of fund categories that are all wrapped up into one fund.

**High-water mark:** The assurance that a fund only takes performance fees on net, long-term profits unique to an individual investment. For example, a $1,000,000 investment is made in year 1 and the fund declines by 50%, leaving $500,000 in the fund. In year 2, the fund returns 100%, bringing the investment value back to $1,000,000. If a fund has a high water mark, it will not take performance fees on the return in year 2, since the investment has not generated net long-term profits. The fund will only take performance fees if the investment grows above the initial level of $1,000,000. If in year 3 the fund returns 100% again for that investor, the fund could take performance fees, but the high-water mark would move to $2,000,000, which the fund would need to exceed in year 4 to take performance fees on that investment.

**Index fund:** A type of mutual fund with a portfolio constructed to match or track the components of a market index, such as the Standard & Poor’s 500 Index (S&P 500).

**Institutional investors:** A non-bank organization that manages a substantial amount of assets, which meet SEC thresholds that allow it to invest in hedge funds.

**Leverage:** The use of borrowed money or options/futures contracts to increase the potential return of an investment (it also increases the potential loss of an investment).

**Liquidation:** There are two separate, but related types of liquidity. Funding liquidity is the ability of a hedge fund to hold its market positions and meet the collateral or withdrawal demands of counterparties, other credit providers, and investors. Asset liquidity refers to the ability to liquidate an asset quickly, potentially in large volume, without substantially affecting the asset’s price. An asset that cannot be liquidated in a short period of time without substantially affecting the asset’s price is considered an illiquid instrument.

**Long (positions):** Generally, this term means that an investor has purchased a stock with the expectation that its price will rise. A long position is sometimes referred to as being “long the market.” Investors who are “bullish” about the market will take a long position, expecting higher prices in the future.

**Market maker:** A firm that accepts the risk of holding a certain number of shares of a particular security in order to facilitate trading in that security. Each market maker competes for customer orders by displaying buy and sell quotations for a guaranteed number of shares. Once an order is received, the market maker immediately sells from its own inventory or seeks an offsetting order. This process takes place in fractions of a second.

**Portfolio:** A grouping of financial assets such as stocks, bonds and cash equivalents, as well as their mutual, exchange-traded and closed-end fund counterparts. Portfolios are held directly by investors and/or managed by financial professionals.

**Qualified investors:** Investors the SEC has deemed sophisticated enough to invest in hedge funds. These investors can be banks, insurance companies, pension funds, charitable organizations or individuals with substantial net worth that meets SEC thresholds.

**Rate of return:** The gain or loss on an investment over a specified period, expressed as a percentage increase over the initial investment cost.

**Shorting (short sale):** Generally, means paying a premium to borrow a security (or commodity futures contract) from a broker and selling it, with the understanding that it must later be bought back (hopefully at a lower price) and returned to the broker. Short selling is a technique used by investors who are trying to hedge their long positions or are trying to profit from the falling price of a stock.

**Single Manager fund:** An investment fund that is managed by a single investment manager, usually with a particular specialty.

**Systemic risk:** The potential for the failure of a company to threaten financial stability, where the financial shocks have the potential to lead to substantial, adverse effects on the real economy.

**Two and Twenty:** A short-hand, colloquial term for the 2% management and 20% performance fees many hedge fund managers have traditionally assessed on fund investors. The management fee is taken by the manager on the entire asset level of a specific investor’s investment. For example, if at the end of a pre-determined period, an investment is valued at $1,000,000, and the management fee is 1%, then the fees for that investor would be $10,000. The performance fee is taken by the manager on the returns of a specific investor’s investment if it has cleared the high-water mark. For example, if at the end of a pre-determined period an investment has returned $1,000,000 above the high-water mark, and the performance fee is 20%, then the fees for that investor would be $200,000. It should be noted that with increased investment from large institutional investor fee structures have become more negotiable and more flexible.

**Volatility:** A measure of risk based on probability of an asset generating a return. The greater the degree of an asset’s volatility, the greater the risk of the asset.
About the Author

Dr. Everett M. Ehrlich is one of the nation’s leading business economists. His firm, ESC Company, combines economic analysis, business development, and communications skills to solve a wide range of business problems. ESC’s diverse clientele have included leading firms in the financial, accounting, pharmaceutical, automotive, and other industries, and such diverse organizations as the Pew Center for Global Climate Change and the Major League Baseball Players Association. He also recently served as Executive Director of the CSIS Commission on Public Infrastructure under co-chairmen Felix Rohatyn and Warren Rudman; a bipartisan bill to enact their recommendations was introduced in the 110th Congress.

Dr. Ehrlich served in the Clinton Administration as Under Secretary of Commerce for Economic Affairs, the principal economic policy official for Commerce Secretaries Brown and Kantor and chief executive of the nation’s statistical system. As such, he led the first comprehensive strategic review of the nation’s economic statistics in four decades, leading to a major modernization of featured measures of the economy. He supervised the redesign of the 2000 decennial census. He co-chaired the White House working group on the restructuring of the U.S. economy in the face of information technology, was a leader in the U.S. planning effort of the two G-7 “Jobs Summits,” and oversaw the Administration’s economic analysis of global climate change.

Prior to his service as Under Secretary, Dr. Ehrlich was Vice-President for Economic and Financial Planning, and for Strategic Planning, of Unisys Corporation, from 1988 to 1993. As such, he had responsibilities concerning corporate development and finance, formulating business strategy, and economic forecasting. He reported directly to two chairmen of the company. He has also been the Senior Vice-President and research director of the business-based think tank, the Committee for Economic Development.

Dr. Ehrlich earlier served as Assistant Director of the Congressional Budget Office, where he directed the CBO program in trade and technology, infrastructure and space transportation, energy and the environment, and agriculture. He joined CBO in 1977, after having served as a Legislative Aide to Congressman John Conyers, Jr., and having briefly taught economics at the university level.


Dr. Ehrlich was born in New York City in 1950 and is a product of its public schools. He received a B.A. in 1971 from S.U.N.Y. Stony Brook and a Ph.D. in economics in 1975 from the University of Michigan. He lives in Bethesda, Maryland, where he and his wife of thirty years follow the exploits of their three grown children and root for the Washington Nationals.

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