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Alternative Investments Observer

MORNINGSTAR®

Matching Buyers and Sellers of Alternative Investments

Morningstar's survey suggests how alternative investments might change to better meet investor needs.

by
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Vice President of Research

One thing that is clear from Morningstar's 2009 annual survey about alternative investments, conducted in conjunction with Barron's, is the extent to which those who sell alternatives are failing to meet the needs of their potential buyers. The gap is sizable. Whether institutions or financial advisors—Morningstar separately questions each group—buyers seek features that alternatives often lack, and they are concerned about drawbacks that alternatives often possess.

The survey reflects the views of relatively large (and presumably) sophisticated institutions, and a much broader mix of financial advisors. The 89 institutions that participated claim average assets under management of $11 billion, with 30% of respondents holding more than $30 billion. The 300 advisors who answered the questions, on the other hand, tended to land at about $50 million, spread among 100 customers. They would be generally representative of the registered investment advisory, or RIA, marketplace.

Buyer's Remorse

The survey illustrates how deeply most alternatives disappointed in 2008. When asked what investment rationale was driving the growth of alternative investments, both audiences agreed on two primary propositions. First, alternatives would offer an asset with low correlations to the rest of their portfolios; and second, they would deliver absolute returns. Eighty percent of those surveyed cited the low correlation, and 50% cited absolute performance. In contrast, no other answer exceeded the 30% mark for advisors, or 40% for institutions.

Of course, 2008 brought neither low correlations nor positive returns for most alternatives. Of the six major areas of alternative investing, as identified by the survey's respondents, only managed futures could credibly claim to have met investor expectations. In contrast, hedge funds, private equity/venture capital, infrastructure securities, private debt, and commodities plummeted along with stocks, in some cases falling even further.

These major areas of alternative investments also tend to carry baggage. Per the survey, advisors and investors often hesitate to

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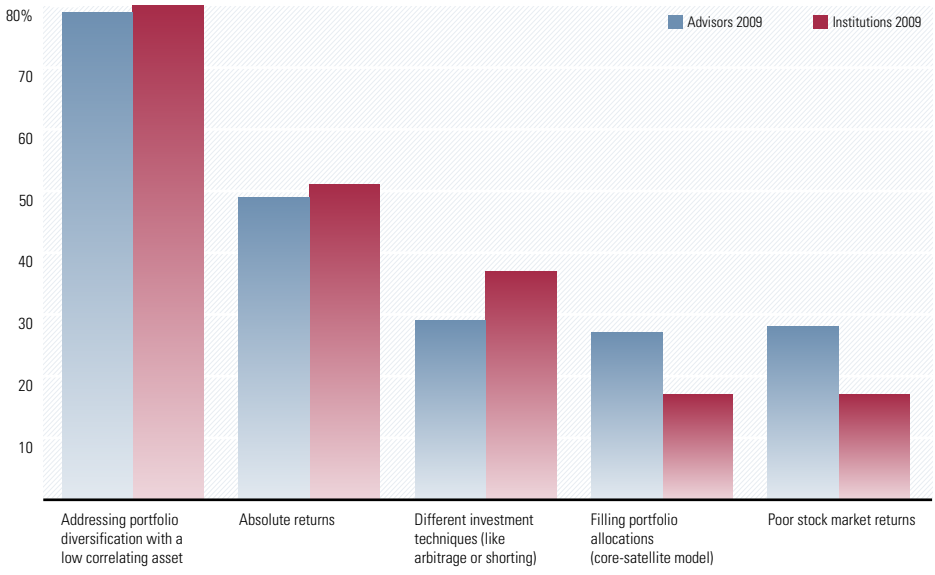
Institutions and Advisors: What Top Three Investment Objectives Are Driving Alternative Investment Growth?



purchase alternatives because of concerns over a lack of liquidity, a lack of transparency, incomplete understanding of the investment strategy, and high fees. These worries are well founded, as whatever their merits, the typical hedge fund, private equity fund, managed future account, or private debt fund cannot boast high levels of liquidity or opacity. Nor can they claim a low fee structure.

The single investment most identified by survey respondents as typifying the alternative marketplace, hedge funds, gives the audience additional difficulties. Between 15% and 20% of institutions state that the presence of features such as redemption gates, redemption fees, side pockets, and capital calls (which are more common in private equity funds) prevent them entirely from investing in hedge funds. An even larger proportion, ranging from 18% for capital calls to a whopping 53% for redemption gates, claim that such features have made them less likely to invest in hedge funds or other alternatives.

The picture looks even worse for financial advisors. When asked about each of the above features, roughly one third of financial advisors responded that the stated item is a deal breaker. Overall, the features gather a disapproval rating of about 70% in the advisor marketplace. Given that the advisors profiled are relatively sophisticated, with relatively large practices, it's fair to assume that the overall advisor market would express even more skepticism.

Thus, enthusiasm for hedge funds appears to be waning. Thirty-five percent of institutions report that hedge funds currently are their largest method of gathering exposure to alternatives. Given how low institutional exposure was to this sector in the early 2000s, it's a fair bet that nearly all of this particular 35% grew their hedge funds stakes over the previous five years. Yet only 27% of institutions are considering the possibility of increasing their allocations to hedge funds over the next five years.

Tips for the Trade

According to the survey, both advisor and institutional audiences agree that the single-best improvement for alternatives would be transparency in valuation. In each instance, about 20% of the respondents state that they will not invest in an investment unless that investment is frequently and reliably valued. Another 50% consider that such a feature would make them more likely to invest.

(The survey failed at this point to ask respondents if the lack of a redemption gate would make them likelier to invest. Given the survey audience's stated dislike of redemption gates, and the fact that 2008 has been dubbed "the year of the gate" because so many surprise redemption gates were lowered upon those who attempted to sell hedge funds, it's probable that many would have identified the existence of a redemption gate as being a deal breaker, too.)

From that point, the audiences diverge. The second most important item for institutions is transparency in portfolio holdings, by almost as large an amount as they seek transparency in valuations. Following that request come the desire for lockups to be only for the short term, the existence of a third-party due diligence report, and the presence of hurdle rates. For institutions, the direct open light that is afforded by items of transparency is of a paramount importance.

With advisors, the emphasis is somewhat different. Their second most important item is the third-party due diligence report—an answer that reflects both advisors' lesser ability to hop on a plane and conduct their own due diligence and their greater habit of incorporating outside research into their investment decision-making.

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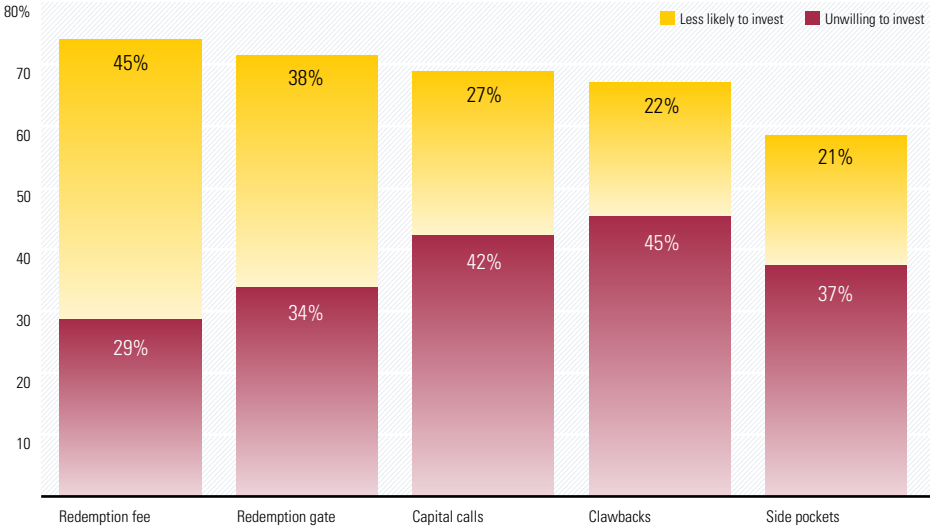
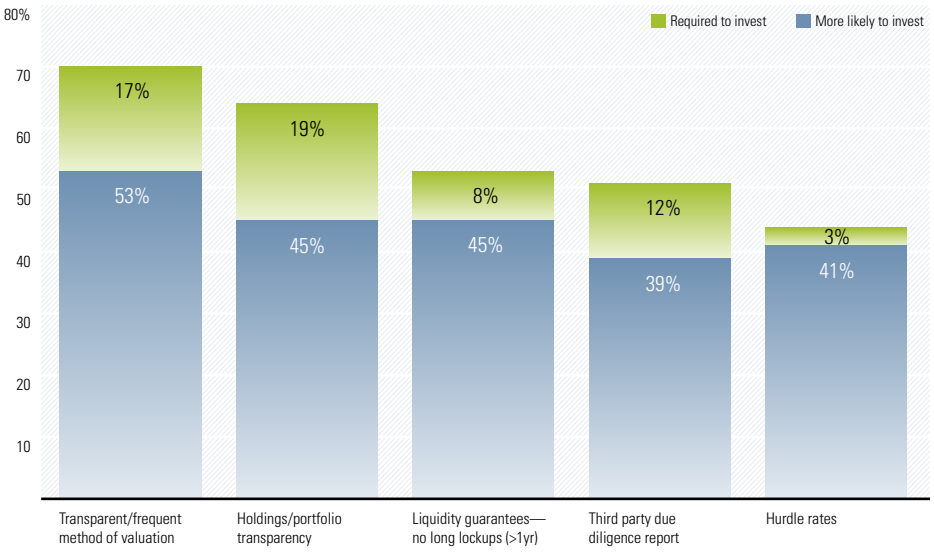
Advisors Don't Want Alternatives with These Features



Institutions Want Alternatives with These Features



Same Investment, Better Packaging

By sifting through the data, it becomes clear that alternative investments would find more appeal if repackaged. The audience confirmed that belief at the conclusion of the survey. Institutions state that switching from a limited partnership structure to a structure that is commonly used among long-only funds—for example, mutual fund, exchange-traded fund (or any other 1940 Act vehicle), or separately managed account—wouldn't be the sole difference maker very often, but it would be a significant improvement for one third of those who were asked.

Advisors are more enthusiastic yet. Once again, few would regard repackaging alternatives into conventional fund structures as being absolutely required for them to own alternatives. But a massive 59% report that having alternatives in an open-end fund would make them likelier to invest, and 56% would be happy with an exchange-traded fund. (Advisors were distinctly less enthusiastic about alternatives inside a separately managed account.)

The investment industry appears to have heard the call for investor-friendly repackaging. In recent years, mutual funds have increasingly adopted long/short strategies of the type that previously were with rare exception only found in hedge funds. Even more dramatically, ETFs have burst onto the scene offering a wide variety of alternative strategies, among them commodities exposures, volatility indexes, and replications of managed-futures and hedge-fund strategies. Not all of these funds have captivated investors, but it's early days yet—and many more such funds will be launched over the next 24 months.

One Size Doesn't Fit All

However, repackaging alone is only part of the solution. Repackaging is well suited for alternatives strategies that trade on public markets, where liquidity and full transparency are possible. In such instances, switching from an opaque investment structure to one that sheds additional light can prove very effective in attracting new investors. Consider exchange-traded funds, which improved upon the traditional closed-end formula by adding liquidity so that investors could more reliably sell at a price near net asset value and by offering ongoing transparency on portfolio holdings. Boasting those features, ETFs have eaten closed-end funds' lunch.

The true challenge will come in selling strategies that profit from illiquidity. Strategies that rely upon unique manager insight into publicly traded securities (that is, alpha) or gathering exposure to unusual risk factors in publicly traded securities (that is, alternative beta) can be repackaged into conventional long-only structures, or for that matter held in a managed account. But that's not so for those where the beta comes from a lack of liquidity—private equity, debt or real assets, and some of the more distressed but publicly traded stocks or bonds. In such an instance, a fund cannot offer the liquidity, transparency, and reliable valuation that buyers seek. To do so would be to deny the very nature of the strategy itself.

Ultimately, if the alternatives marketplace is to advance, the investors, rather than the investments, will need to evolve. Sellers will learn to package the more liquid hedge fund strategies into friendlier structures that will appeal to a broader investor base. Buyers will get better at understanding their true liquidity needs and will learn to accept the loss of liquidity that necessarily accompanies some alternatives strategies. The alternatives marketplace has advanced greatly over the past decade, but further changes are required for it to take the next step forward.

Quant Corner: Markowitz at Mach 1—The Next Generation of Optimizers

How Markowitz's portfolio-construction tool can be enhanced for the 21st century.

by
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Vice President,
Quantitative Research

Sam Savage, Ph.D.
Stanford University
Author, *The Flaw of Averages*

When the Wright Brothers pioneered powered flight in 1903, their genius lay in conquering the three axes of control: pitch, yaw, and roll. Over the years, technologies advanced, planes crashed, and aviation evolved to compensate. By 1952, the Wright's original airplane was barely recognizable in a world of jets and even supersonic aircraft, which were nonetheless still governed by the same three principles of control.

In 1952, another pioneer, Harry Markowitz, invented portfolio optimization. His genius was also based on three principles: risk, reward, and the correlation of assets in a portfolio. Over the years, technologies advanced and markets crashed, but the portfolio-optimization models used by many investors did not evolve to compensate. This is surprising in light of the fact that Markowitz himself was a pioneer of technological advancement in the field of computational computer science. Furthermore, he did not stand idly by in the area of portfolio modeling, but continued to make improvements in his own models and to influence the models of others. Few of these improvements, however, were picked up broadly in practice.

Going Supersonic

Because Markowitz's first effort was so simple and powerful, it attracted a great number of followers. The greater the following became, the fewer questioners debated its merits. Markowitz's original work is synonymous with Modern Portfolio Theory and has been taught in business schools for generations and, not surprisingly, is still widely used today.

Then came the crash of 2008, and at last people are starting to ask questions. The confluence of the recent economic trauma and the technological advances of the past few decades make today the perfect time to describe the supersonic models that can be built around Markowitz's fundamental principles of risk, reward, and correlation. In a recent paper, we assert that Markowitz's original work remains the perfect framework for applying the latest in economic thought and technology. We dub our updated model "Markowitz 2.0."

Markowitz 2.0

The Flaw of Averages

The 1952 mean-variance model of Harry Markowitz was the first systematic attempt to cure what Savage [2009] calls the "flaw of averages." In general, the flaw of averages is a set of systematic errors that occur when people use single numbers (usually averages) to describe uncertain future quantities. For example, if you plan to rob a bank of $10 million and have one chance in 100 of getting away with it, your average take is $100,000. If you described your activity beforehand as "making $100,000," you would be correct on average. But this is a terrible characterization of a bank heist. Yet as Savage [2009] discusses, this very "flaw of averages" is made all the time in business practice, and helps explain why everything is behind schedule, beyond budget, and below projection, and was an accessory to the economic catastrophe that culminated in 2008.

Harry Markowitz's 1952 mean-variance model attempted to cure the flaw of averages by distinguishing between different investments with the same average (expected) return, but with different risks, measured as variance or its square root, standard deviation. This was a breakthrough at the time that ultimately garnered a Nobel Prize for its inventor. However, the use of standard deviation and covariance introduces a higher-order version of the flaw of averages, in that these concepts are themselves a version of averages.

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Adding Afterburners to Traditional Portfolio Optimization

By taking advantage of the very latest in economic thought and computer technology, we can, in effect, add afterburners, or more thrust, to the original framework of the Markowitz portfolio-optimization model. The result is a dramatically more powerful model that is more aligned with 21st century investor concerns, markets, and financial instruments such as options.

Traditional portfolio optimization, commonly referred to as mean-variance optimization, or MVO, suffers from several limitations that can easily be addressed with today's technology. Our discussion here will focus on five practical enhancements:

1 First, we use a scenario-based approach to allow for "fat-tailed" distributions. Fat-tailed return distributions are not possible within the context of traditional mean-variance optimization, where return distributions are assumed to be adequately described by mean and variance.

2 Second, we replace the single-period expected return with the long-term forward-looking geometric mean (GM), as this takes into account accumulation of wealth.

3 Third, we substitute Conditional Value at Risk (CVaR), which only looks at tail risk, for standard deviation, which looks at average variation.

4 Fourth, the original Markowitz model used a covariance matrix to model the distribution of returns on asset classes; we replace this with a scenario-based model that can be generated with Monte Carlo simulation and can incorporate any number of distributions.

5 Finally, we exploit new statistical technologies pioneered by Sam Savage in the field of Probability Management. Savage invented a new technology called the Distribution String, or DIST™, which encapsulates thousands of trials as a single data element or cell, thus eliminating the main disadvantage of the scenario-based approach—the need to store and process large amounts of data.

The Scenario Approach

One of the limitations of the traditional mean-variance optimization framework is that it assumes that the distribution of returns of the assets in the optimization can be adequately described simply by mean and variance alone. The most common depiction of this assumption is to draw the distribution of each asset class as a symmetrical bell-shaped curve. However, as illustrated in Exhibit 1, the return distributions of different asset classes don't always follow a symmetrical bell-shaped curve. Some assets have distributions that are skewed to the left or right, while others have distributions that are skinnier or fatter in the tails than others.

Over the years, various alternatives have been put forth to replace mean-variance optimization with an optimization framework that takes into account the non-normal features of return distributions. Some researchers have proposed using distributions curves that exhibit skewness and kurtosis (that is, have fat tails) while others have proposed using large numbers of scenarios based on historical data or Monte Carlo simulation.

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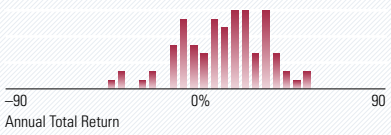
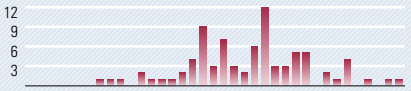
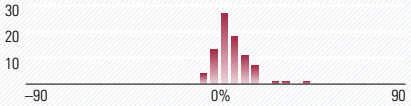
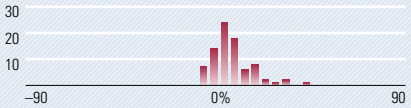
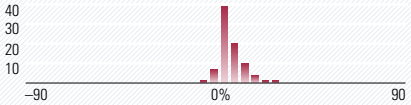
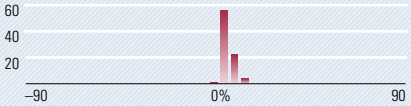
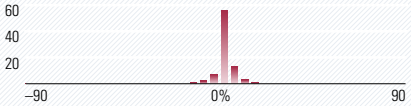
Exhibit 1: Basic Series: Summary Statistics of Annual Total Returns: 1926–2008

Series	Geometric Mean %	Arithmetic Mean %	Standard Deviation %	Distribution %
Large Company Stocks	9.6	11.7	20.6	
Small Company Stocks*	11.7	16.4	33.0	
Long-Term Corporate Bonds	5.9	6.2	8.4	
Long-Term Government Bonds	5.7	6.1	9.4	
Intermediate-term Government Bonds	5.4	5.6	5.7	
Treasury Bills	3.7	3.8	3.1	
Inflation	3.0	3.1	4.2	

*The 1933 Small Company Stocks total return was 142.9%

Source: Morningstar (2009)

The scenario-based approach has two main advantages over a distribution curve approach: (1) it is highly flexible; for example, nonlinear instruments such as options can be modeled in a straightforward manner, and (2) it is mathematically manageable; for example, portfolio returns under the scenarios are simply weighted averages of asset-class returns within the scenarios. In this way, the distribution of a portfolio can be derived from the distributions of the asset classes without working complicated equations that might lack analytical solutions; only straightforward portfolio arithmetic is needed.

In standard scenario analysis, there is no precise graphical representation of return distributions. Histograms serve as approximations such as those shown in Exhibit 1. We augment the scenario approach by employing a smoothing technique so that smooth curves represent return distributions. For example, Exhibit 2 shows the distribution curve of annual returns of Large Company Stocks under our approach. Comparing Exhibit 2 with the Large Company Stock histogram in Exhibit 1, we can see that the smooth distribution curve retains the properties of the historical distribution while showing the distribution in a more esthetically pleasing and precise form. Furthermore, our model makes it possible to bring all of the power of continuous mathematics previously enjoyed only by models based on continuous distributions to the scenario approach.

In Exhibit 2, the green line curve is what we get when we use mean-variance analysis and assume that returns follow a lognormal distribution. The blue line is what we get when we use our smoothed scenario-based approach. The area under the blue solid line to the left of the vertical segment shows that the 5th percentile return under our model is –25.8 percent, meaning there is 5% probability of a return of less than –25.8 percent. However, under the lognormal model, the probability of the return being less than –25.8 percent is only 1.6 percent. This illustrates how a mean-variance model can woefully underestimate the probability of tail events.

As Kaplan et al. [2009] discuss, tail events have occurred often throughout the history of capital markets all over the world. Hence, it is important for asset-allocation models to assign nontrivial probabilities to them.

Geometric Mean versus Single Period Expected Return

In MVO, reward is measured by expected return, which is a forecast of arithmetic mean. However, over long periods of time, investors

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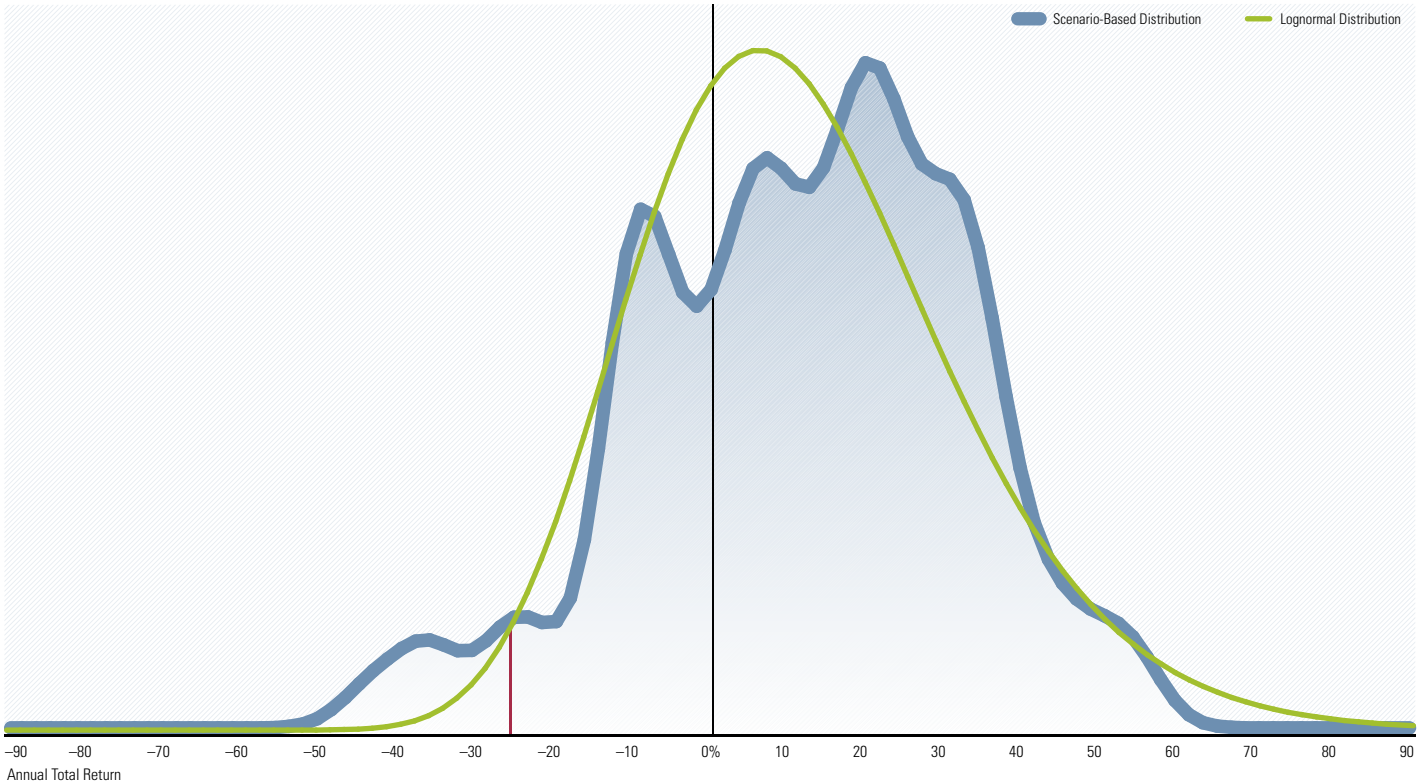
Exhibit 2: Smooth Distribution Curve for Annual Returns on Large Company Stocks 1926–2008



are not concerned with simple averages of return; rather, they are concerned with the accumulation of wealth. We use forecasted long-term geometric mean (GM) as the measure of reward because investors who plan on repeatedly reinvesting in the same strategy over an indefinite period would seek the highest rate of growth for the portfolios as measured by geometric mean.

Conditional Value at Risk versus Standard Deviation

As for risk, much has been written about how investors are not concerned merely with the degree of dispersion of returns (as measured by standard deviation), but rather with how much wealth they could lose. A number of "downside" risk measures have been proposed to replace standard deviation as the measure of risk in strategic asset allocation. While any one of these could be used, our preference is to use Conditional Value at Risk (CVaR).

CVaR is related to Value at Risk (VaR). VaR describes the left tail in terms of how much capital can be lost over a given period of time. For example, a 5% VaR answers a question of the form: Having invested $10,000, there is a 5% chance of losing $X or more in 12 months. (The "or more" implications of VaR are sometimes overlooked by investors, with serious implications.) Applying this idea to returns, the 5% VaR is the negative of the 5th percentile of the return distribution. For example, the 5th percentile of the distribution shown in Exhibit 2 is –25.8% so its 5% VaR is 25.8%. This means there is a 5% chance of losing $2,850 or more on a $10,000 investment. CVaR is the expected or average loss of capital should VaR be breached. Therefore CVaR is always greater than VaR. For example, the 5% CVaR for the distribution shown in Exhibit 2 is 35.8%, or $3,580, on a $10,000 investment.

Scenarios versus Correlation

In mean-variance analysis, the covariation of the returns of each pair of asset classes is represented by a single number, the correlation coefficient. This is mathematically equivalent to assuming that a simple linear regression model is an adequate description of how the returns on the two asset classes are related. In fact, the R-square statistic of a simple linear regression model for two series of returns is equal to the square of the correlation coefficient.

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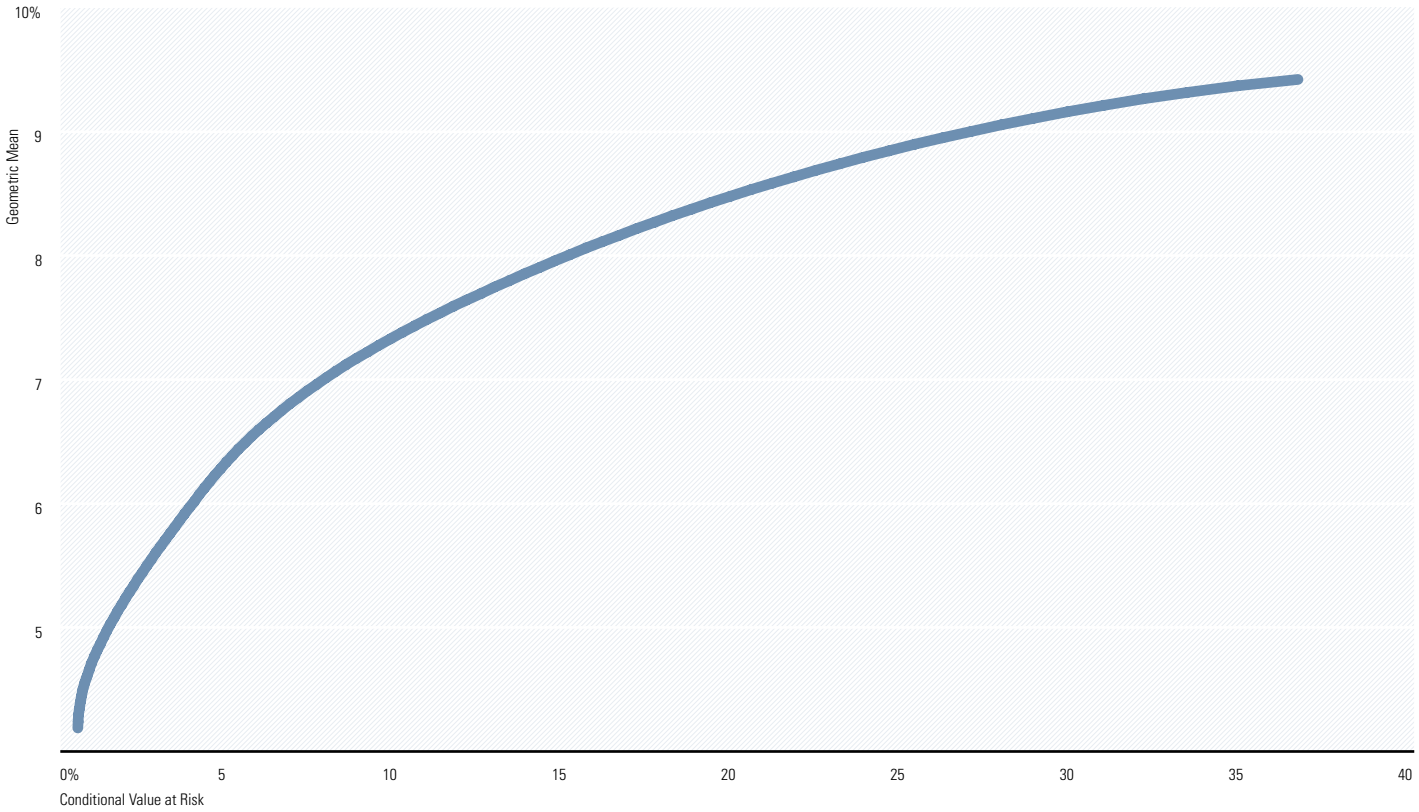
Exhibit 3: Geometric Mean—Conditional Value at Risk Efficient Frontier



However, for many pairs of asset classes, a linear model misses the most important features of the relationship. For example, during normal times, non-U.S. equities are considered to be good diversifiers for U.S. equity investors. But during global crises, all major equity markets move down together.

Furthermore, suppose that the returns on two asset classes indexes were highly correlated, but instead of including direct exposures to both in the model, one was replaced with an option on itself. Instead of having a linear relationship, we now have a nonlinear relationship that cannot be captured by a correlation coefficient.

Fortunately, these sorts of nonlinear relationships between returns on different investments can be handled in a scenario-based model. For example, in scenarios that represent normal times, returns on different equity markets could be modeled as moving somewhat apart from each other while scenarios that represent global crises could model the markets as moving downward together.

Ultrasonic Statistical Technology

Because it may take thousands of scenarios to adequately model return distributions, until recently, a disadvantage of the scenario-based approach has been that it requires large amounts of data to be stored and processed. Even with the advances in computer hardware, the conventional approach of representing scenarios with large tables of explicit numbers remained problematic.

The phenomenal speed of computers has given rise to the field of Probability Management, an extension of data management to probability distributions rather than numbers. The key component of Probability Management is the Distribution String, or DIST™, which can encapsulate thousands of trials as a single data element. The use of DISTs greatly saves on storage and speeds up processing time, so that a Monte Carlo simulation consisting of thousands of trials can be performed on a personal computer in an instant. While not all asset-management organizations are prepared to create the DISTs needed to drive the GM-CVaR optimization we described in Kaplan and Savage [2009], some outside vendors, such as Morningstar Ibbotson, can fulfill this role.

Another facet of Probability Management is interactive simulation technology, which can run thousands of scenarios through a model before the sound of your finger leaving the <Enter> key reaches your ear. These supersonic models allow much deeper intuition into the sensitivities of portfolios, and encourage the user to interactively explore different portfolios, distributional assumptions, and potential black swans. A sample of such an interactive model will be available for download from *www.ProbabilityManagement.org* in 2010.

Finale: The New Efficient Frontier

Putting it all together, we form an efficient frontier of forecasted geometric mean and Conditional Value at Risk as shown in Exhibit 3, **(Page 8)** incorporating our scenario approach to covariance and new statistical technology. We believe that this efficient frontier is more relevant to investors than the traditional expected return versus standard deviation frontier of MVO because it shows the trade-off between reward and risk that is meaningful to investors; namely, long-term potential growth versus short-term potential loss. To see how this new efficient frontier can improve asset allocation in practice, readers are welcome to attend the Morningstar Ibbotson Conference in March. Please go to *www.ibbotson.com/MorningstarIbbotsonConference* or e-mail conference@ibbotson.com for details.

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Morningstar Product Spotlight: Morningstar® EnCorr®

Theory and art meet at the efficient frontier with alternative investments.

by
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Harry Markowitz laid out the theory and mathematics behind mean-variance optimization in 1952, and it sometimes feels like it has been controversial ever since. The method certainly has its shortcomings, but it remains one of the best guides we have for building portfolios when faced with the complex interactions of several asset classes. Morningstar's Ibbotson® group produces the Morningstar® EnCorr® software package, which includes all the data and tools necessary to build diversified and efficient portfolios using any combination of historical data and forward-looking estimates. Although traditional MVO lies at EnCorr's heart, the software also includes a number of modern improvements to help select sensible inputs and derive more robust portfolios, and more improvements are on the way.

The Fuzzy Frontier

One of the most important tweaks to traditional mean-variance optimization is the resampling process EnCorr uses to calculate the efficient frontier. Resampling strives to improve upon a difficult problem posed by MVO: If we do not perfectly know the future but the results of optimization can vary drastically depending on the initial inputs, how do we get robust and useful portfolios from our imperfect estimates? Resampling provides an elegant solution by not choosing a single set of initial inputs but instead running hundreds of mean-variance optimization calculations using slightly differing sets of expected returns and covariances. This results in a range of asset mixes at each level of risk, or a "fuzzy" frontier of potential optimal portfolios, which EnCorr averages to produce a more robust and diversified "best guess." The average portfolio to come out of this repeated optimization may not be the ideal for any particular set of future returns, but it will be nearly ideal for a very broad variety of possible futures. To see how MVO can be enhanced to account for an even broader set of future outcomes, see Paul Kaplan's Quant Corner article in this issue.

How Alternatives Meddle with MVO

Traditional MVO, and even its resampling relative, assumes that all of the risk in an investment can be included in its variance estimate. This can be particularly problematic when building portfolios that include higher-return but semiopaque alternative investments that have little to no correlation with traditional stocks and bonds. These investments typically look fantastic from a mean-variance perspective, with high Sharpe ratios, and their low correlation with stocks means that they end up representing huge portions of the MVO portfolio because of their diversification.

However, most alternative investments have hidden risks like liquidity crunches that do not appear in the variance even if they appear in measures such as return kurtosis. Alternative investments also tend to pursue arbitrage opportunities or historical return anomalies like momentum and statistical pair-trading rather than holding wealth-generating assets for the longer term. We can never be sure that the return-generating strategies of yesterday will continue to deliver in the future, a risk that is impossible to systematically include in MVO. These strategies also tend to have limited carrying capacities, so their potential returns fall drastically as money floods into these funds. Adjusting the inputs and optimization parameters to reflect these limitations is where the theory of mean-variance optimization meets the art of portfolio construction.

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Getting the Inputs Right

EnCorr includes numerous modules for adding and analyzing returns data to help produce informed estimates, but we will focus on the use of the Inputs Generator. This software module takes the user from an initial selection of funds, indexes, or other investments through to final inputs ready for the mean-variance optimizer.

In building our sample portfolio, we decided to keep things simple with only one fixed-income holding, four equity holdings (U.S. large and small cap, developed international, and emerging markets), and three alternatives. The alternative asset classes we chose were a trend-following managed futures index (Standard & Poor's Commodity Trends Indicator), a merger-arbitrage mutual fund (Merger Fund **MERFX**), and a convertible arbitrage/option-income fund (Calamos Market Neutral Income **CVSIX**). These alternatives were chosen for their diversity and their long returns history, which enable us to produce better estimates of their interaction with other asset classes.

After loading these asset classes into EnCorr's Inputs Generator, the program automatically calculates trailing returns and cross-correlations over their common returns period from 1993 to today. We could feed this data directly into EnCorr's Optimizer program as it is, but chances are that we can make some slight tweaks to the returns and correlation estimates that will improve the resulting portfolios.

First, why use the stock returns from the mere 16-year history common to all of the selected investments to determine our forward-looking estimates when we have decades of data across multiple markets from which to pull? We could use average returns from the entire period of available stock market data (back to 1926 for small and value U.S. equities). An even better estimate can come from using fundamental analysis or exploiting long-term mean-reversion in stock market returns. (High-return periods tend to be followed by low-return periods, and vice versa.) Because Morningstar does not have a fair-value model built for international or small-cap stocks, we chose to use the asset-class return predictions published by Grantham, Mayo, Van Otterloo & Co., whose fair-value models account for mean-reversion patterns in long-term returns and have shown considerable prognostication power in the past. Our only change to the GMO model was to raise the predicted returns for the U.S. markets to bring them closer to our stock analyst's belief that the market is near fair value.

Second, if we face a period of lower-than-average returns from the stock market, which has been predicted not only by GMO's fair-value models but also recently by Bill Gross and Mohamed El-Erian of PIMCO,

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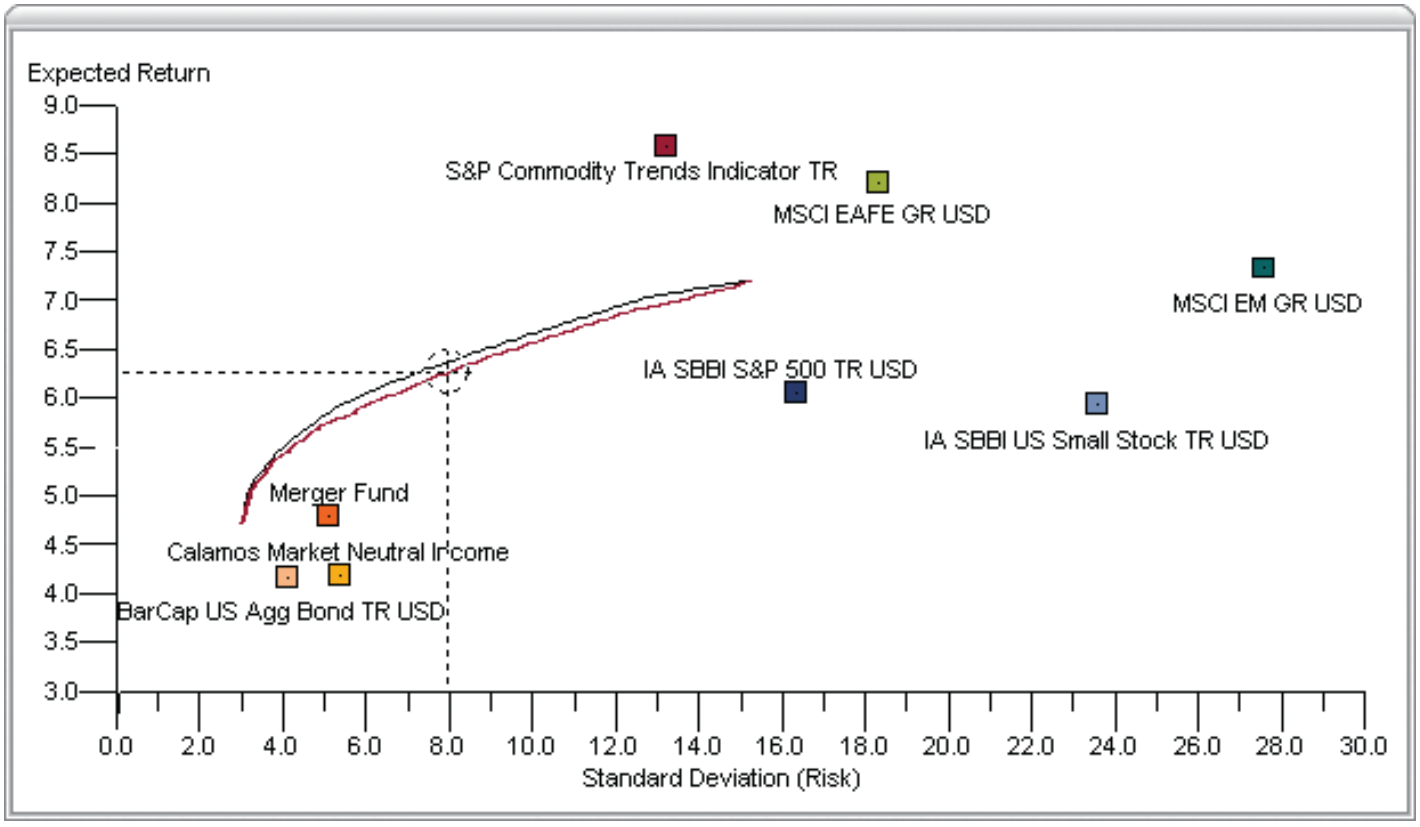
Exhibit 1: Efficient Frontier



what are the likely effects on returns to alternative asset classes? With the greater acceptance of alternative investments in recent years and relatively poor prospects in the stock market driving money elsewhere, it's quite possible that returns to common arbitrage strategies and trend-following strategies will be poorer in the future. Here, it helps to use the building-blocks approach of EnCorr's Inputs Generator, which decomposes historical returns and future predictions into risk-free rate, U.S. equity premium, and a custom premium for each equity asset class. In fixed income, extra return premiums come from duration and credit risk instead. For each of our alternative investments, we can assume a constant return discount relative to the stock market (the custom premium) and merely lower the expected equity premium over our future period, automatically lowering the expected total returns for the alternatives.

Finally, for those holding portfolios in a taxable account, these returns expectations should reflect the post-tax picture. This has little effect in practice on equity holdings, as index funds tend to be extremely tax-efficient. However, it might remove a percentage point of annual returns on fixed-income holdings. Alternatives will also suffer in a taxable account because their much greater average turnover leads to plenty of capital gains, while their tendency to hold convertible bonds or collateralize with Treasuries leads to interest payments. Investors building a taxable portfolio should probably adjust their expected returns on alternative assets down by yet another 50–100 basis points annually to reflect greater tax drag. This returns handicap will also help prevent the uncorrelated alternatives from occupying most of the optimized portfolio.

Not-So-Naive Diversification

Even after every effort to accurately represent the risk and return trade-offs of each investment in the input estimates, the Optimizer can still produce portfolios that overly concentrate in some assets. Fortunately, EnCorr's Optimizer allows for percentage constraints to be set on each investment, and even on groups of investments such as all alternatives or all equities. This method lacks the elegance of resampling or modifying risk premia, but it helps the final portfolio reflect hidden risks of rising correlation and global crashes among equities and alternatives that do not appear in covariance measures.

For our sample optimization, we did not allow leverage, and we tested the portfolio at various asset-class position limits, allowing it significant freedom. Limits of 25% on the size of U.S. large-cap and international developed markets were never hit in the optimization, and the limits of 15% of assets in U.S. small-cap and emerging-markets stock were only approached by the most aggressive optimal portfolios. Our limit on each alternative investment of 15% only affected the trend-following commodity index, which mean-variance optimizers tend to heavily weight because of its high historical returns and zero-to-negative correlation with nearly every risky asset class.

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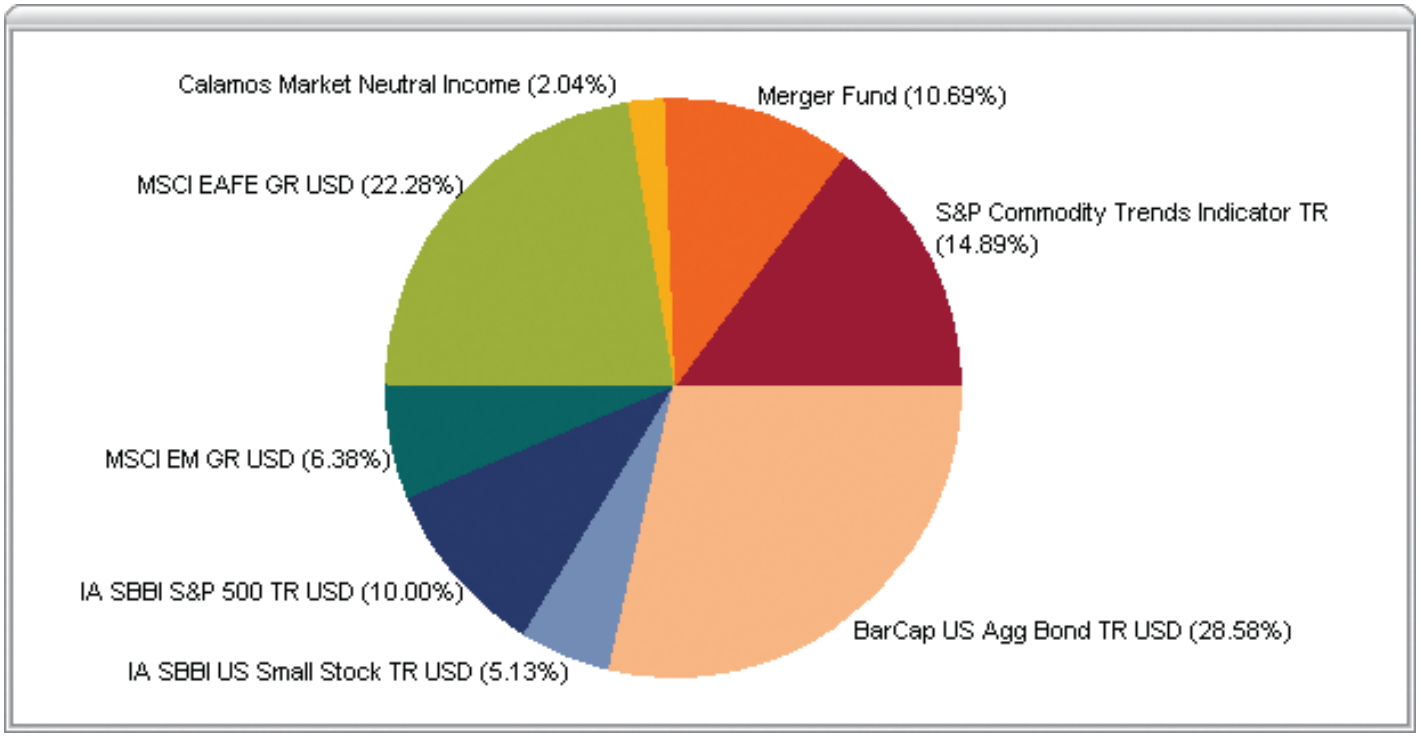
Exhibit 2: Resampled Base Case—Position 41

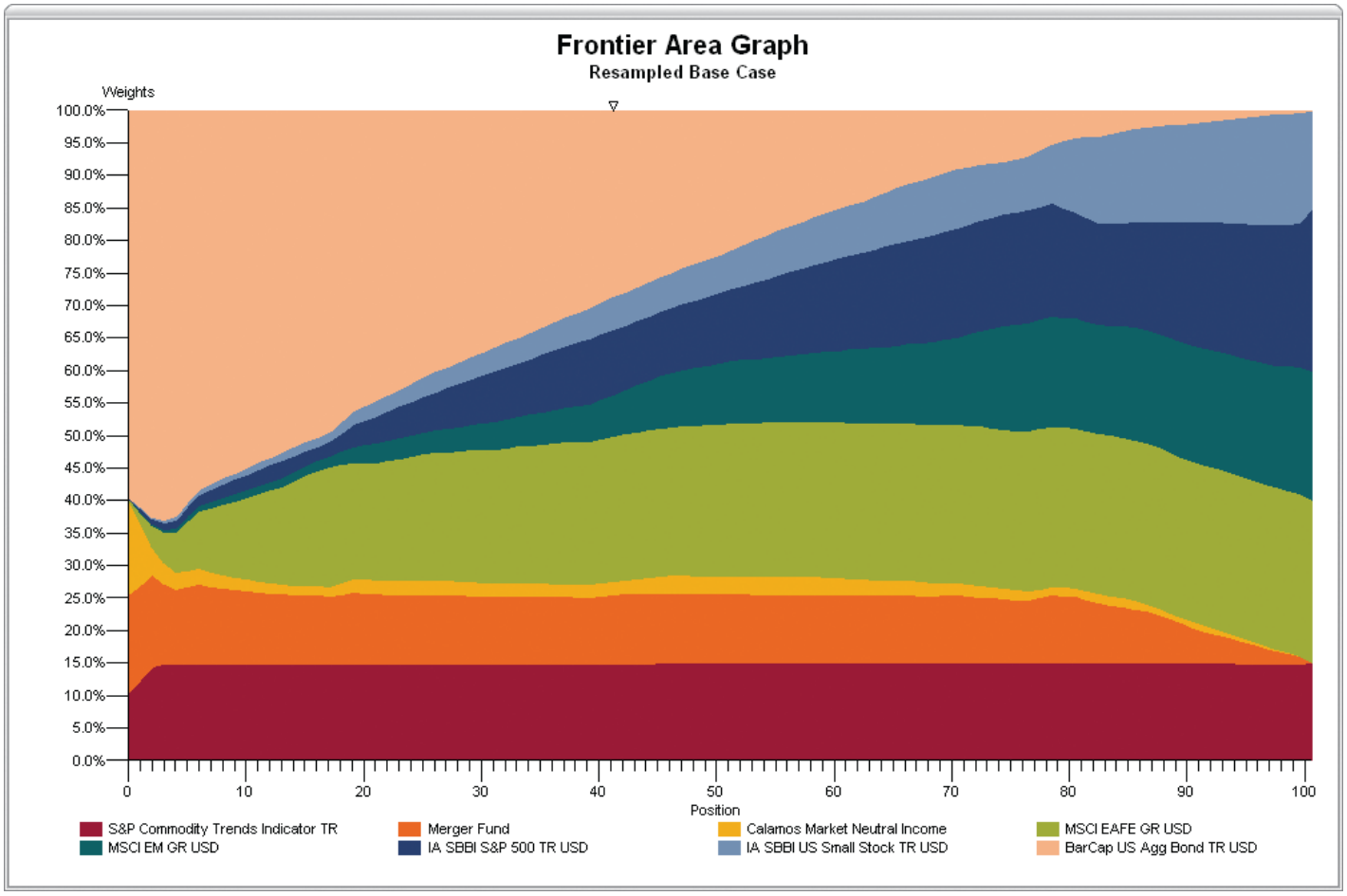


Choosing Your Portfolio

EnCorr's Optimizer does not just build one optimal portfolio; it builds an entire efficient frontier of resampled optimal portfolios at each level of risk. The efficient frontier for our constrained optimization is represented by Exhibit 1 **(Page 11)**, with crosshairs marking a portfolio with an expected 8% standard deviation and a 6.25% return (a moderate level of risk and return). The area graph in Exhibit 3 **(below)** also shows the output from our sample optimization, where each position from 0 to 100 corresponds to a unique portfolio on the efficient frontier in Exhibit 1, with risk and return increasing from left to right. Position 41 of the area graph corresponds to the optimal portfolio we marked on the efficient frontier, and Exhibit 2 **(Page 12)** shows the specific asset allocation in the selected moderate portfolio. The final allocations from the resampled and constrained mean-variance optimization are well-balanced across all eight potential assets, with a 29% position in fixed income, 27% in alternatives, and 44% in global equities. On the surface, this broad asset allocation may seem simplistic, but digging down into the individual position weightings, we see that allocations can vary widely across the different optimal portfolios, reflecting each investment's unique contribution to the balance of returns and marginal risk.

There is no one way to properly allocate to alternative investments. We used EnCorr to demonstrate one method of allocation, accepting that mean-variance optimization is art as well as science. Morningstar Ibbotson has already improved upon the original framework of mean-variance optimization and continues to enhance EnCorr with the newest developments from financial theory.

Exhibit 3: Frontier Area Graph



Industry Trends: Alternative Mutual Funds

Convergence trends benefit alternative mutual funds.

by
Nadia Papagiannis, CFA
Alternative Investments Strategist

Alternative Mutual Funds

Convergence is the new buzzword in alternative mutual funds. Traditional long-only asset managers are moving into hedge-fund-like strategies, while hedge fund managers are considering packaging their strategies into regulated, retail vehicles. A study commissioned by Pershing LLC in May 2009 projected that assets in equity long-short strategies managed by traditional investment firms are estimated to grow to $345 billion by 2012 from $204 billion in 2009.

In the last quarter, two traditional U.S. asset managers opened new long-short equity strategies to new investors: Touchstone Investments and Virtus Investment Partners. Touchstone Long/Short Equity Fund **TSEAX** launched at the beginning of the quarter. This fund attempts market neutrality and selects stocks based on value, management quality, and momentum factors. Sporting a 1.75 net expense ratio, this fund falls within the average fee range in Morningstar's long-short category.

Virtus Investment Partners started three new alternative mutual funds in October: Virtus Market Neutral **VIMNX**, Virtus Alternatives Diversifier **VADIX**, and Virtus AlphaSector Allocation **VAAIX** funds. The Virtus Market Neutral fund takes a multi-cap, valuation-plus-momentum approach to selecting stocks and is subadvised by Boston Company Asset Management. The A class charges a net expense ratio of 1.77%. The Virtus AlphaSector Allocation is a primarily long equity fund, which tracks the AlphaSector Rotation Index **ASRX**, rotating between the nine S&P 500 sector-based ETFs and a Treasury bill ETF with approximately 75% of its assets and investing the remainder in Virtus Bond **SAVYX**. The institutional share class charges a net expense ratio of 1.18%. Finally, Virtus Alternatives Diversifier allocates among several Virtus funds in asset classes such as market-neutral equity, infrastructure, real estate, and floating-rate securities and also invests in ETFs such as the Powershares DB G10 Currency Harvest Fund **DBV**.

Other long-short equity alternative mutual funds launched in the fourth quarter include Rady Contrarian Long/Short **RADYX**, which invests primarily in mid- to large-cap "best-in-breed" U.S. stocks, trading at or near 52-week lows (for longs) or highs (for shorts). Unlike the Virtus or Touchstone funds, Rady Asset Management's new mutual fund began as a hedge fund. ALPS/GNI Long-Short **ALGSX**, which is subadvised by institutional long-short equity manager GNI Capital, started trading in mutual fund format in November. This trend of convergence between hedge fund or institutional alternatives managers and traditional asset managers also extends globally. Gartmore Group Ltd., a large U.K. manager of both hedge funds and mutual fund investments, announced in November that it's aiming for a convergence between the two vehicles.

Investor flows certainly support this idea of convergence. Year-to-date flows into alternative mutual funds through Nov. 30, 2009, topped $11 billion, while U.S. stock funds have seen almost $18 billion in outflows, and balanced funds have experienced more than $4 billion in outflows. The Morningstar/Barron's November 2009 Alternative Investment Survey reports that 25% of institutions expect allocations of greater than 25% to alternatives over the next five years, but that lack of liquidity and lack of transparency remain the large obstacles to investing, obstacles that a regulated mutual fund structure solves.

Fund Reports

Bull Path Long Short

by **Nadia Papagiannis,** CFA

Advisor
Bull Path Capital Management LLC

Advisor Location
New York, New York

Assets Under Management
$12.8 million (fund)

Inception Date
Oct. 1, 2002

Investment Type
U.S. open-end mutual fund

Morningstar Category
Long-Short

Management
Robert Kaimowitz founded Bull Path Capital Management in 2002. Kaimowitz manages the firm's assets, which total $50 million in both hedge fund and mutual fund form. The mutual fund began as a limited partnership hedge fund seeded by internal capital. It was converted into a mutual fund in 2009, retaining its hedge fund track record. Kaimowitz is supported by Scott Lisbon, CFA, director of research, and Noah Kroll, head trader, as well as five analysts, organized by sectors. Prior to establishing Bull Path, Kaimowitz served as managing director at SG Cowen and ING Baring Furman Selz, specializing in satellite communications and other media-related technology. Lisbon has helped to manage the fund since its inception, having covered oil services and equipment stocks at Jefferies & Co., as well as the packaging industry at JP Morgan.

Strategy
The fund aims to outperform the S&P 500 Index with lower risk through a long-short, primarily domestic-equity strategy. Management believes the fund should serve as a core equity holding, as it does not attempt to tamp any of the upside of the equity market's returns. The fund's strategy differs from a typical long-short equity fund's in that long-only stocks, which the fund holds for approximately 18 months, comprise about 25% of the assets, while 75% of assets are allocated to an opportunistic long-short strategy. Management classifies short positions as "hard" and "soft." Hard short positions are based on longer-term fundamental views and are therefore held for longer periods of time (several months); soft short ideas arise from shifts in sentiment or short-term catalysts, meriting shorter-term holding periods. Management selects long stocks that propose a minimum 3 to 1 upside/downside ratio, based on price targets, and short stocks with at least a 2.5 to 1 ratio. The fund is relatively concentrated, holding about 20 stocks on both the long and short sides.

Process
The fund's analysts (including Lisbon) each focus on a "watch list" of up to 25 names, which doesn't change very often. Management expects analysts to hold an in-depth, long-term knowledge of the companies on their lists. In order to add a stock to the watch list, the analyst prepares a write-up to present to management over a two-day process: The first day is spent discussing the industry, and the second day is spent establishing a price target. A price target is the group's valuation of the stock on the upside and the worst-case scenario on the downside. A stock must be on the watch list for two to six months in order to be added to the portfolio. Despite this formal process, the portfolio managers and the analysts sit in close proximity to each other and talk regularly on an informal basis. Ideas for the portfolio are bottom-up and come from outside research as well as company visits. Management typically looks at the universe of stocks with a market-cap range of $1 billion to $12 billion, as it believes these stocks are relatively underfollowed, yet have sufficient liquidity.

Risk Management
The fund revised some risk-management parameters as a result of the 2008 stock market fallout. Previously, the fund relied on reward/risk parameters based on price targets, cutting a long position if the ratio declines to 0.5 and covering or selling the position if the ratio moves to 0.33 or lower. Now, a significant stock decline (about 25%) may merit a position cut, even if the holding still falls within acceptable reward/risk parameters. If the portfolio managers feel that there are no good investment opportunities, the fund will sit in cash. The fund typically invests 80%–95% of its assets, but in January and February, the fund was only 40% invested. This large cash stake occurred because the fund's short positions hit their upside price targets, forcing the fund to cover while management lacked long-investment opportunities. The fund hedged its long positions slightly using exchange-traded funds, but typically the fund will hedge only in a crisis situation. Typical position limits for the fund are 5%–7% on the long side and 1%–3% on the short side.

Bull Path Long Short I (USD)

Incept	Type	Total Assets	Morningstar Cat
10-01-2002	MF	$7.32 mil	Long-Short

Performance 11-30-2009

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2007	3.12	6.01	3.09	-0.54	12.08
2008	-6.83	0.63	-4.84	-13.70	-23.00
2009	1.93	2.98	0.28	—	7.88

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Std Monthly	7.19	—	4.47	—	8.96
Std Quarterly	-9.16	—	4.00	—	8.80
Total Return	7.19	-2.07	4.47	—	8.96
+/- ML USD LIBOR 3 Mon	5.85	-5.68	0.71	—	—
+/- S&P 500 TR	-18.20	3.72	3.76	—	—
% Rank Cat	—	—	—	—	
No. in Cat	—	—	—	—	
7-day Yield	—				

Performance Disclosure

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 888-899-2726 or visit www.Bullpathfunds.com.

Fees and Expenses

Sales Charges

Front-End Load %	**NA**
Deferred Load %	**NA**

Fund Expenses

Management Fees %	1.25
12b1 Expense %	NA
Gross Expense Ratio %	**1.99**

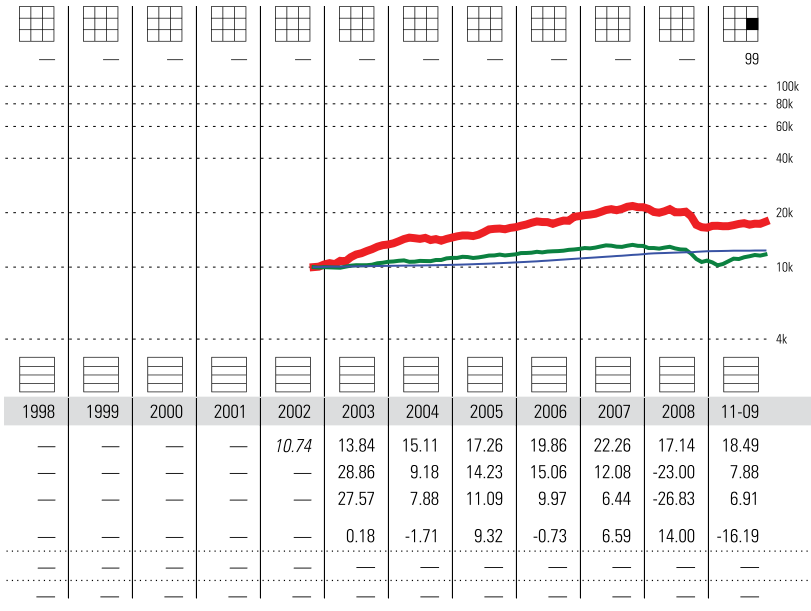
Risk and Return Profile

	3 Yr	5 Yr	10 Yr
	—	—	—
Morningstar Rating™	—	—	—
Morningstar Risk	—	—	—
Morningstar Return	—	—	—

	3 Yr	5 Yr	10 Yr
Standard Deviation	—	—	—
Mean	-2.07	4.47	—
Sharpe Ratio	—	—	—

MPT Statistics	Standard Index ML USD LIBOR 3 Mon	Best Fit Index
Alpha	—	—
Beta	—	—
R-Squared	—	—

12-Month Yield	—
30-day SEC Yield	—
Potential Cap Gains Exp	—

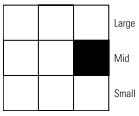


1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	11-09	History
—	—	—	—	*10.74*	13.84	15.11	17.26	19.86	22.26	17.14	18.49	NAV/Price
—	—	—	—	—	28.86	9.18	14.23	15.06	12.08	-23.00	7.88	Total Return %
—	—	—	—	—	27.57	7.88	11.09	9.97	6.44	-26.83	6.91	+/- ML USD LIBOR 3 Mon
—	—	—	—	—	0.18	-1.71	9.32	-0.73	6.59	14.00	-16.19	+/- S&P 500 TR
—	—	—	—	—	—	—	—	—	—	—	—	% Rank Cat
—	—	—	—	—	—	—	—	—	—	—	—	No. of Funds in Cat

Portfolio Analysis 07-31-2009

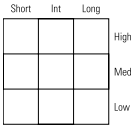
Composition %	Net %	Long %	Short %
Cash	2.55	2.55	0.00
US Stocks	104.62	221.93	117.31
Non-US Stocks	-7.17	0.00	7.17
Bonds	0.00	0.00	0.00
Other/Not Clsfd	0.00	0.00	0.00
Total	100.00	224.48	124.48

Equity Style



Portfolio Statistics	Port Avg	Rel Index	Rel Cat
P/E Ratio TTM	15.7	—	0.97
P/C Ratio TTM	7.7	—	1.02
P/B Ratio TTM	2.1	—	0.91
Geo Avg Mkt Cap $mil	6956	—	0.38

Fixed-Income Style



Avg Eff Duration	—
Avg Eff Maturity	—
Avg Credit Quality	—
Avg Wtd Coupon	—
Avg Wtd Price	—

Credit Analysis	Bond %
AAA	—
AA	—
A	—
BBB	—
BB	—
B	—
Below B	—
NR/NA	—

Regional Exposure	Stocks %	Rel ML USD LIBOR 3 Mon
Americas	100.0	—
Greater Europe	0.0	—
Greater Asia	0.0	—

Share Chg since — | Share Amount | 38 Total Stocks, 0 Total Fixed-Income, — Turnover Ratio

	Share Amount		% Net Assets
✲	8,148	Ball Corporation	22.36
✲	12,198	Liberty Media Corp	19.36
✲	3,913	Transocean, Inc.	17.69
✲	3,673	Equinix, Inc.	17.03
✲	6,795	XTO Energy, Inc.	15.51
✲	9,654	SBA Communications Corporation	14.29
✲	6,915	Owens-Illinois, Inc.	13.32
✲	5,505	Southwestern Energy Company	12.94
✲	18,362	Activision Blizzard, Inc.	11.93
✲	12,923	People's United Financial, Inc.	11.91
✲	8,000	Federated Investors, Inc. B	11.77
✲	9,457	Electronic Arts, Inc.	11.52
✲	5,599	Prosperity Bancshares, Inc.	-10.64
✲	15,700	New York Community Bancorp, Inc.	-9.74
✲	6,415	Pactiv Corporation	-9.16

Sector Weightings	Stocks %	Rel ML USD LIBOR 3 Mon
Information Economy	**38.2**	—
Software	10.6	—
Hardware	0.0	—
Media	11.6	—
Telecommunication	16.0	—
Service Economy	**24.9**	—
Healthcare Services	3.2	—
Consumer Services	3.9	—
Business Services	0.0	—
Financial Services	17.8	—
Manufacturing Economy	**36.9**	—
Consumer Goods	16.1	—
Industrial Materials	0.0	—
Energy	20.8	—
Utilities	0.0	—

Operations

Family:	Bull Path Funds
Manager:	Robert Kaimowitz
Tenure:	7.2 Years
Objective:	Growth
Base Currency:	USD
Ticker:	BPFIX
Minimum Initial Purchase:	$100,000
Min Auto Investment Plan:	$50,000

Purchase Constraints:

MORNINGSTAR®

Fund Reports

Putnam Absolute Return Funds, 100 Fund and 300 Fund

by **Nadia Papagiannis** CFA

Advisor
Putnam Investments

Advisor Location
Boston, Massachusetts

Assets Under Management
$447 million (in both funds)

Inception Date
Dec. 24, 2008

Investment Type
U.S. open-end mutual fund

Morningstar Category
US OE Multisector Bond

Management
Rob A. Bloemker serves as the head of fixed income for Putnam and also oversees both the 100 and the 300 Absolute Return funds. Bloemker is supported by six other portfolio managers, who specialize in the following areas: macroeconomics (Michael Atkin), portfolio construction (D. William Kohli and Raman Srivastava), structured credit (Carl Bell), high-yield credit (Paul Scanlon), and investment-grade credit and emerging markets (Kevin Murphy). The team has worked together for 10 years at Putnam managing institutional fixed-income accounts that employ hedging, shorting, or asset-allocation strategies. Putnam's Absolute Return funds offer a performance fee structure, where the total expense ratio is adjusted up or down based on management's performance.

Strategy
The goal of the 100 and 300 funds is to produce returns of 100 and 300 basis points, respectively, over the Merrill Lynch U.S. Treasury Bill Index over a three-year period, net of expenses. Management intends to manage the funds to a standard deviation of between 0% and 6% annualized, such that the Sharpe ratio is 1 or more. The funds allocate to several different fixed-income strategies or sources of fixed-income return: currently, term structure risk; credit risk (corporate, mortgage, and emerging markets); prepayment risk; pricing risk; and active currency risk, depending on the firm's macroeconomic outlook. Since inception, this fund has been a long-biased fixed-income strategy, taking advantage of the historically wide spreads of risky credits relative to Treasuries. To hedge, the fund may use Treasury futures, interest-rate swaps and swaptions, TBA mortgages, and credit default swaps (mostly on indexes such as the CMBX or ABX). The funds may also turn to relative value strategies. Both funds hold a significant amount of cash, but management expects these positions to decline as spreads narrow and volatility wanes.

Process
Management begins with a top-down strategy allocation, which is determined at the portfolio managers' formal weekly meetings. Although the sector managers freely manage their portfolios, all of the portfolio managers engage in informal dialogue on a daily basis about which strategies the funds should employ and how best to execute these strategies. For example, the structured credit manager, who employs some technical research, may help the more fundamental value-based sector managers. Major tactical shifts tend to occur on a quarterly or less frequent basis, despite the frequent interaction among managers. As of Oct. 31, 2009, the fund was allocated primarily to prepayment risk and mortgage credit risk strategies, as the 100 and 300 funds' assets were invested primarily in residential mortgage-backed securities, both agency (8% and 15%, respectively) and nonagency (3% and 6%, respectively), as well as commercial mortgage-backed securities (about 6% and 11%, respectively). Management also considers its allocation to CMBS a part of its pricing volatility strategy. The rest of the fund is allocated primarily to investment-grade corporate credit risk. The funds currently take on no duration risk or active currency risk, but they may in the future.

Risk Management
In the weekly meetings, management determines an expected return and risk for each sector and strategy, as well as the correlations of each strategy to each other. Management defines risk as the expected standard deviation of returns as well as the potential maximum downside losses or tail risk. Management uses a third-party risk software program to generate expected returns, correlations, and risk based on historical returns, but qualitative, forward-looking inputs of the managers are weighted more heavily. There are no formal limits to the portfolio-construction process, but management generally limits individual positions to 0.5% of assets. To limit downside risk, the fund will use both cash and shorter-term bonds. The funds' only negative return (–0.10) month occurred in November 2009, when spreads widened in the nonagency residential mortgage-backed securities, causing losses, and the bet on euro interest rates rising relative to U.K. rates worked against the funds. The fund is not intended to be tax-efficient.

Putnam Absolute Return 100 A (USD)

Incept	Type	Total Assets	Morningstar Cat
12-24-2008	MF	$64.58 mil	Multisector Bond

Performance 11-30-2009

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2007	—	—	—	—	—
2008	—	—	—	—	—
2009	0.20	1.30	1.18	—	3.10

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Std Monthly	—	—	—	—	-0.23
Std Quarterly	—	—	—	—	-0.62
Total Return	—	—	—	—	3.12
+/- BarCap US Agg Bond	—	—	—	—	—
+/- BarCap US Universa	—	—	—	—	—
% Rank Cat	—	—	—	—	
No. in Cat	—	—	—	—	
7-day Yield	—				

Performance Disclosure

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-225-1581 or visit www.putnaminvestments.com.

Fees and Expenses

Sales Charges

Front-End Load %	**3.25**
Deferred Load %	**NA**

Fund Expenses

Management Fees %	0.55
12b1 Expense %	0.25
Gross Expense Ratio %	**1.66**

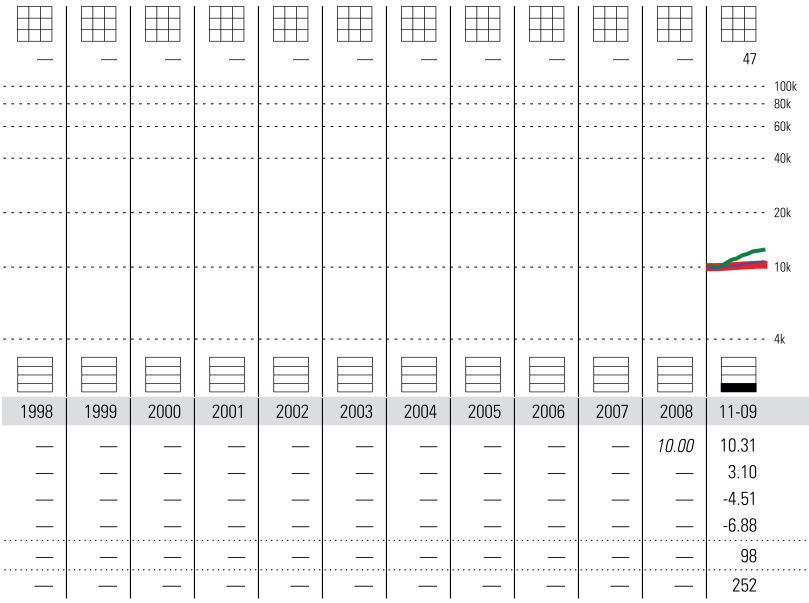
Risk and Return Profile

	3 Yr	5 Yr	10 Yr
	—	—	—
Morningstar Rating™	—	—	—
Morningstar Risk	—	—	—
Morningstar Return	—	—	—

	3 Yr	5 Yr	10 Yr
Standard Deviation	—	—	—
Mean	—	—	—
Sharpe Ratio	—	—	—

MPT Statistics	Standard Index BarCap US Agg Bond	Best Fit Index
Alpha	—	—
Beta	—	—
R-Squared	—	—

12-Month Yield	—
30-day SEC Yield	—
Potential Cap Gains Exp	—



Investment Style
Fixed-Income
Bond %

Growth of $10,000
- Putnam Absolute Return 100 A 10,310
- Cat Avg: Multisector Bond 12,467
- Index: BarCap US Agg Bond TR USD 10,761

Performance Quartile (within category)

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	11-09	History
—	—	—	—	—	—	—	—	—	—	*10.00*	10.31	NAV/Price
—	—	—	—	—	—	—	—	—	—	—	3.10	Total Return %
—	—	—	—	—	—	—	—	—	—	—	-4.51	+/- BarCap US Agg Bond
—	—	—	—	—	—	—	—	—	—	—	-6.88	+/- BarCap US Universa
—	—	—	—	—	—	—	—	—	—	—	98	% Rank Cat
—	—	—	—	—	—	—	—	—	—	—	252	No. of Funds in Cat

Portfolio Analysis 09-30-2009

Composition %	Net %	Long %	Short %
Cash	55.97	55.97	0.00
US Stocks	0.00	0.00	0.00
Non-US Stocks	0.00	0.00	0.00
Bonds	46.61	49.80	3.19
Other/Not Clsfd	-2.58	0.57	3.15
Total	100.00	106.34	6.34

Equity Style

Value | Blend | Growth — Large / Mid / Small

Portfolio Statistics	Port Avg	Rel Index	Rel Cat
P/E Ratio TTM	—	—	—
P/C Ratio TTM	—	—	—
P/B Ratio TTM	—	—	—
Geo Avg Mkt Cap $mil	—	—	—

Fixed-Income Style

Short | Int | Long — High / Med / Low

Avg Eff Duration	—
Avg Eff Maturity	—
Avg Credit Quality	—
Avg Wtd Coupon	4.08
Avg Wtd Price	—

Credit Analysis	Bond %
AAA	—
AA	—
A	—
BBB	—
BB	—
B	—
Below B	—
NR/NA	—

Regional Exposure	Stocks %	Rel BarCap US Agg Bond
Americas	—	—
Greater Europe	—	—
Greater Asia	—	—

0 Total Stocks
190 Total Fixed-Income
— Turnover Ratio

Share Chg since 06-2009	Share Amount		% Net Assets
✲	114	US Treasury Bond	15.08
✲	32	US Treasury Note	7.57
✲	29	US Treasury Note (Fut)	3.74
✲	7	Euro-Schatz (Fut)	-1.21
	925,000	Goldman Sachs Gp Inc Fdic Tlgp 1.62	1.02
✲	7 mil	FHLMC CMO	0.81
	700,000	Morgan Stanley Fdic Gtd Tlgp 2%	0.78
	625,000	JPMORGAN CHASE	0.70
	625,000	Genl Elec Cap Corp Fdic Tlgp 1.625%	0.69
✲	5 mil	FNMA CMO	0.68
✲	7 mil	Swptn 2yx10y R 4.52 Usd 07/22/2011	-0.61
✲	519,656	Greenwich Cap Cmbs 2005-Gg3 CMO 4.3	0.57
✲	3 mil	GNMA CMO	0.56
✲	4	US Treasury Note	-0.51
✲	749,566	Bear Stearns Alt-A Ii 2007-1 CMO	0.46

Sector Weightings	Stocks %	Rel BarCap US Agg Bond
Information Economy	—	—
Software	—	—
Hardware	—	—
Media	—	—
Telecommunication	—	—
Service Economy	—	—
Healthcare Services	—	—
Consumer Services	—	—
Business Services	—	—
Financial Services	—	—
Manufacturing Economy	—	—
Consumer Goods	—	—
Industrial Materials	—	—
Energy	—	—
Utilities	—	—

Operations

Family:	Putnam
Manager:	Multiple
Tenure:	1.0 Year
Objective:	Growth and Income

Base Currency:	USD
Ticker:	PARTX
Minimum Initial Purchase:	$500
Min Auto Investment Plan:	$0

Purchase Constraints:

Putnam Absolute Return 300 A (USD)

Incept	Type	Total Assets	Morningstar Cat
12-24-2008	MF	$122.17 mil	Multisector Bond

Performance 11-30-2009

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2007	—	—	—	—	—
2008	—	—	—	—	—
2009	0.60	2.19	2.63	—	6.40

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Std Monthly	—	—	—	—	2.96
Std Quarterly	—	—	—	—	2.09
Total Return	—	—	—	—	6.42
+/- BarCap US Agg Bond	—	—	—	—	—
+/- BarCap US Universa	—	—	—	—	—
% Rank Cat	—	—	—	—	
No. in Cat	—	—	—	—	
7-day Yield	—				

Performance Disclosure

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-225-1581 or visit www.putnaminvestments.com.

Fees and Expenses

Sales Charges

Front-End Load %	**3.25**
Deferred Load %	**NA**

Fund Expenses

Management Fees %	0.65
12b1 Expense %	0.25
Gross Expense Ratio %	**1.82**

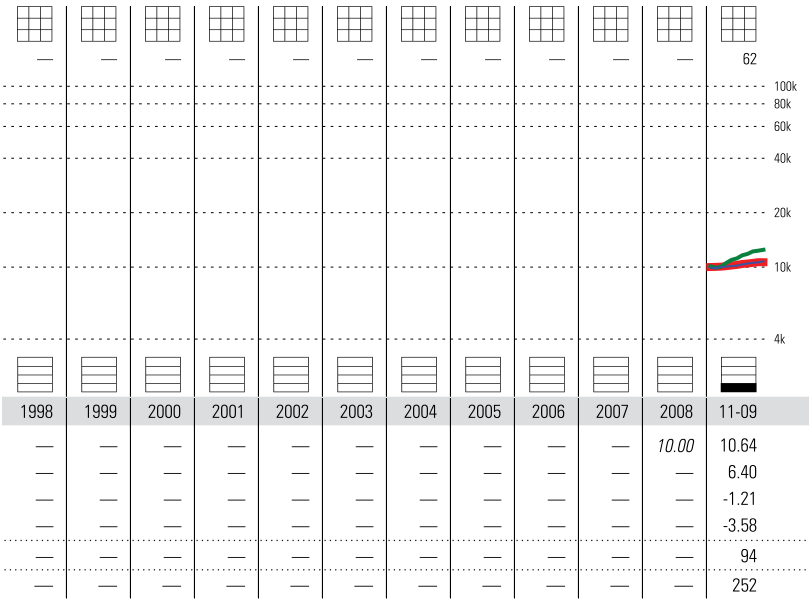
Risk and Return Profile

	3 Yr	5 Yr	10 Yr
	—	—	—
Morningstar Rating™	—	—	—
Morningstar Risk	—	—	—
Morningstar Return	—	—	—

	3 Yr	5 Yr	10 Yr
Standard Deviation	—	—	—
Mean	—	—	—
Sharpe Ratio	—	—	—

MPT Statistics	Standard Index BarCap US Agg Bond	Best Fit Index
Alpha	—	—
Beta	—	—
R-Squared	—	—

12-Month Yield	—
30-day SEC Yield	—
Potential Cap Gains Exp	—



Investment Style
Fixed-Income
Bond %

Growth of $10,000
- Putnam Absolute Return 300 A 10,640
- Cat Avg: Multisector Bond 12,467
- Index: BarCap US Agg Bond TR USD 10,761

Performance Quartile (within category)

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	11-09	History
—	—	—	—	—	—	—	—	—	—	*10.00*	10.64	NAV/Price
—	—	—	—	—	—	—	—	—	—	—	6.40	Total Return %
—	—	—	—	—	—	—	—	—	—	—	-1.21	+/- BarCap US Agg Bond
—	—	—	—	—	—	—	—	—	—	—	-3.58	+/- BarCap US Universa
—	—	—	—	—	—	—	—	—	—	—	94	% Rank Cat
—	—	—	—	—	—	—	—	—	—	—	252	No. of Funds in Cat

Portfolio Analysis 09-30-2009

Composition %	Net %	Long %	Short %
Cash	43.65	43.65	0.00
US Stocks	0.00	0.00	0.00
Non-US Stocks	0.00	0.00	0.00
Bonds	59.64	71.82	12.18
Other/Not Clsfd	-3.28	0.92	4.20
Total	100.00	116.38	16.38

Equity Style

Value / Blend / Growth — Large / Mid / Small

Portfolio Statistics	Port Avg	Rel Index	Rel Cat
P/E Ratio TTM	—	—	—
P/C Ratio TTM	—	—	—
P/B Ratio TTM	—	—	—
Geo Avg Mkt Cap $mil	—	—	—

Fixed-Income Style

Short / Int / Long — High / Med / Low

Avg Eff Duration	—
Avg Eff Maturity	—
Avg Credit Quality	—
Avg Wtd Coupon	4.29
Avg Wtd Price	—

Credit Analysis	Bond %
AAA	—
AA	—
A	—
BBB	—
BB	—
B	—
Below B	—
NR/NA	—

Regional Exposure	Stocks %	Rel BarCap US Agg Bond
Americas	—	—
Greater Europe	—	—
Greater Asia	—	—

Share Chg since 06-2009	Share Amount	0 Total Stocks 204 Total Fixed-Income — Turnover Ratio	% Net Assets
✲	357	US Treasury Bond	21.23
✲	103	US Treasury Note	10.95
✲	140	US Treasury Note	-7.96
✲	27	Euro-Schatz (Fut)	-2.10
✲	28 mil	FHLMC CMO	1.45
	2 mil	Goldman Sachs Gp Inc Fdic Tlgp 1.62	1.00
✲	13 mil	GNMA CMO	1.00
✲	10	Long Gilt (Fut)	-0.93
✲	15 mil	FNMA CMO	0.90
✲	13 mil	GNMA	0.85
✲	10	Euro BOBL (Fut)	0.83
	2 mil	Morgan Stanley Fdic Gtd Tlgp 2%	0.75
✲	14 mil	FHLMC CMO	0.73
✲	2 mil	Wachovia Cmbs 2006-C28 CMO 5.679%	0.71
✲	17 mil	FHLMC CMO	0.66

Sector Weightings	Stocks %	Rel BarCap US Agg Bond
Information Economy	—	—
Software	—	—
Hardware	—	—
Media	—	—
Telecommunication	—	—
Service Economy	—	—
Healthcare Services	—	—
Consumer Services	—	—
Business Services	—	—
Financial Services	—	—
Manufacturing Economy	—	—
Consumer Goods	—	—
Industrial Materials	—	—
Energy	—	—
Utilities	—	—

Operations

Family:	Putnam
Manager:	Multiple
Tenure:	1.0 Year
Objective:	Growth and Income

Base Currency:	USD
Ticker:	PTRNX
Minimum Initial Purchase:	$500
Min Auto Investment Plan:	$0

Purchase Constraints:

Fund Reports

Turner Spectrum Fund

by **Nadia Papagiannis,** CFA

Advisor
Turner Investment Partners

Advisor Location
Berwyn, Pennsylvania

Assets Under Management
$19.5 million (fund)

Inception Date
May 7, 2009

Investment Type
U.S. open-end mutual fund

Morningstar Category
Long-Short

Management
Turner Investment Partners is a 20-year-old investment-management firm that employs more than 120 people. It runs traditional long-only mutual funds as well as long-short and market-neutral equity hedge funds (since 2005). In November 2008, Turner launched a private fund that combined several of its long-short strategies into one equally weighted fund. Turner then launched this multimanager approach in mutual fund format in May 2009. The fund is intended to exploit the best equity research teams at Turner, and the equal weighting helps to promote performance competition among managers. While there is no single portfolio manager, and each of the underlying funds is allowed to operate independently, a committee of operations, trading, legal, and compliance managers oversees the fund.

Strategy
This fund of six equally weighted, internally managed funds is intended to produce equitylike returns at a lower volatility than traditional long-only equity funds. One of the six funds, Turner Market Neutral L.P., is run by firm's founder, Bob Turner, and is a concentrated portfolio of 21 long and 21 short stocks, including each of the firm's 21 analysts' best-idea long and short stock picks (updated weekly). Turner Select Opportunities L.P. is a small-cap fund run by Frank Sustersic, who has also managed the long-only, 4-star Turner Emerging Growth **TMCGX** since its 1998 inception. Turner Long/Short Equity L.P. is a multisector, mid- to large-cap fund run by Christopher McHugh. David Honold manages Turner Global Financial Services L.P., having worked at the New York Federal Reserve. Vijay Shankaran runs Turner Global Medical Sciences, having previous experience in this sector at a hedge fund firm, Caxton. Finally, Jason Schrotberger manages Turner Global Consumer L.P., which boasts one of the longest track records of funds in the Spectrum lineup (incepted in January 2005), along with Turner Global Financial Services L.P.

Process
Management does not tactically allocate among managers. The managers are given equal weightings at the start of each year, and the weightings are allowed to drift within a large range (up to 30%) to encourage competition, although the weightings don't fluctuate significantly in practice (15%–18%). The six internal funds were selected based on past performance and correlation with each other so as to maximize returns but reduce risk. Each fund must work within equity exposure parameters of 20% net short to 60% net long, and each is capped at 200% gross exposure. On the long side, only one fund approaches the long directional limit, Turner Long/Short Equity L.P. This fund performed the worst of the six in 2008. In 2009, Turner Global Financial Services L.P., which favors high-quality financial-services stocks with solid balance sheets, underperformed in 2009 as the fund took on a low market exposure and low-quality stocks outperformed.

Risk Management
Besides portfolio exposure parameters, each fund limits individual positions to 5% of assets. Only four of the six teams have taken on positions of this size, and not in the same stocks, so the overall impact of these positions on the portfolio has been small. The total portfolio holds approximately 330 stocks, both long and short. The quantitative research team runs a daily risk report on the dollar, beta, and delta-adjusted exposures of the overall portfolio, which is distributed to 23 members of the firm. The fund's exposure currently runs at about 119% gross and 26% net long. The fund uses two different risk-management software packages to assess the real-time risk and performance of the portfolio, including scenario analysis and stress testing. The fund's goal is for low volatility, which it has achieved (approximately a 7% annualized weekly standard deviation through Nov. 28, 2009), but it has done so at the expense of much lower returns (also about 7% since inception) than the equity markets that have rallied since March. Because this fund exhibits midrange correlation to equities (0.6 weekly correlation to the S&P 500 through Nov. 28) with a low beta exposure, it will likely move with the equity markets, but it should outperform in poor stock market conditions.

Turner Spectrum Instl (USD)

Incept	Type	Total Assets	Morningstar Cat
05-07-2009	MF	$13.71 mil	Long-Short

Performance 11-30-2009

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2007	—	—	—	—	—
2008	—	—	—	—	—
2009	—	—	6.82	—	—

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Std Monthly	—	—	—	—	5.40
Std Quarterly	—	—	—	—	8.00
Total Return	—	—	—	—	5.40
+/- ML USD LIBOR 3 Mon	—	—	—	—	—
+/- S&P 500 TR	—	—	—	—	—
% Rank Cat	—	—	—	—	
No. in Cat	—	—	—	—	
7-day Yield	—				

Performance Disclosure

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-224-6312 or visit www.turnerinvestments.com.

Fees and Expenses

Sales Charges

Front-End Load %	**NA**
Deferred Load %	**NA**

Fund Expenses

Management Fees %	1.50
12b1 Expense %	NA
Gross Expense Ratio %	**2.15**

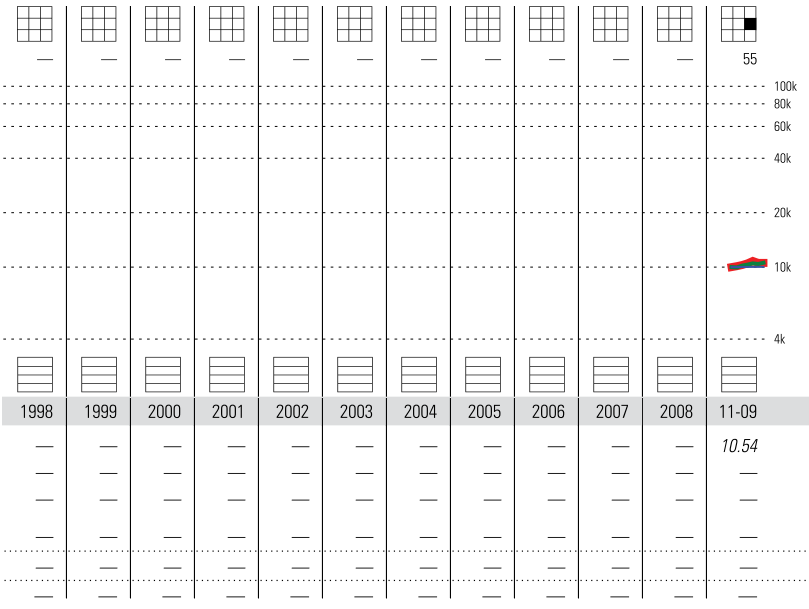
Risk and Return Profile

	3 Yr	5 Yr	10 Yr
	—	—	—
Morningstar Rating™	—	—	—
Morningstar Risk	—	—	—
Morningstar Return	—	—	—

	3 Yr	5 Yr	10 Yr
Standard Deviation	—	—	—
Mean	—	—	—
Sharpe Ratio	—	—	—

MPT Statistics	Standard Index ML USD LIBOR 3 Mon	Best Fit Index
Alpha	—	—
Beta	—	—
R-Squared	—	—

12-Month Yield	—
30-day SEC Yield	0.00%
Potential Cap Gains Exp	1.38% Assets



Investment Style
Equity
Stock %

Growth of $10,000
Turner Spectrum Instl 10,551
Cat Avg: Long-Short 10,565
Index: ML USD LIBOR 3 Mon CM 10,031

Performance Quartile (within category)

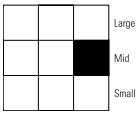
History

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	11-09
NAV/Price												10.54
Total Return %	—	—	—	—	—	—	—	—	—	—	—	—
+/- ML USD LIBOR 3 Mon	—	—	—	—	—	—	—	—	—	—	—	—
+/- S&P 500 TR	—	—	—	—	—	—	—	—	—	—	—	—
% Rank Cat	—	—	—	—	—	—	—	—	—	—	—	—
No. of Funds in Cat	—	—	—	—	—	—	—	—	—	—	—	—

Portfolio Analysis 09-30-2009

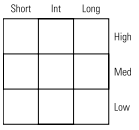
Composition % 08-31-2009	Net %	Long %	Short %
Cash	68.38	69.62	1.24
US Stocks	25.18	69.59	44.40
Non-US Stocks	5.75	12.29	6.54
Bonds	0.00	0.00	0.00
Other/Not Clsfd	0.68	0.68	0.00
Total	100.00	152.18	52.18

Equity Style



Portfolio Statistics	Port Avg	Rel Index	Rel Cat
P/E Ratio TTM	—	—	—
P/C Ratio TTM	8.6	—	1.13
P/B Ratio TTM	1.7	—	0.76
Geo Avg Mkt Cap $mil	2954	—	0.16

Fixed-Income Style



Avg Eff Duration	—
Avg Eff Maturity	—
Avg Credit Quality	—
Avg Wtd Coupon	—
Avg Wtd Price	—

Credit Analysis	Bond %
AAA	—
AA	—
A	—
BBB	—
BB	—
B	—
Below B	—
NR/NA	—

Regional Exposure	Stocks %	Rel ML USD LIBOR 3 Mon
Americas	86.3	—
Greater Europe	6.5	—
Greater Asia	7.2	—

Top Holdings 08-31-2009

Share Chg since 08-2009	Share Amount	2,391 Total Stocks, 1 Total Fixed-Income, 663% Turnover Ratio	% Net Assets
⊖	593,423	Pfpc Temp Cash Blackrock	6.57
⊕	3,150	SPDRs	-3.58
⊕	6,990	PowerShares QQQ	-3.10
⊕	13,640	Savient Pharmaceuticals	2.10
⊕	9,940	Continental Airlines, Inc. B	1.46
⊕	7,480	Pfizer Inc.	1.38
⊕	3,830	Merck & Co., Inc.	-1.38
⊕	6,250	Human Genome Sciences	1.37
✲	8,110	ING Groep N.V. ADR	1.35
⊕	12,136	Och-Ziff Capital Management Group L	1.34
⊕	5,350	Diedrich Coffee, Inc.	1.27
⊕	2,890	iShares FTSE/Xinhua China 25 Index	-1.26
⊖	2,290	Schweitzer-Mauduit International, I	1.25
✲	2,130	Santander-Chile Bank ADR	-1.21
⊕	5,700	Net 1 Ueps Technologies, Inc.	1.21

Sector Weightings	Stocks %	Rel ML USD LIBOR 3 Mon
Information Economy	**17.6**	—
Software	3.8	—
Hardware	11.3	—
Media	0.4	—
Telecommunication	2.0	—
Service Economy	**59.7**	—
Healthcare Services	18.5	—
Consumer Services	13.9	—
Business Services	5.1	—
Financial Services	22.2	—
Manufacturing Economy	**22.7**	—
Consumer Goods	10.7	—
Industrial Materials	8.5	—
Energy	2.5	—
Utilities	1.0	—

Operations

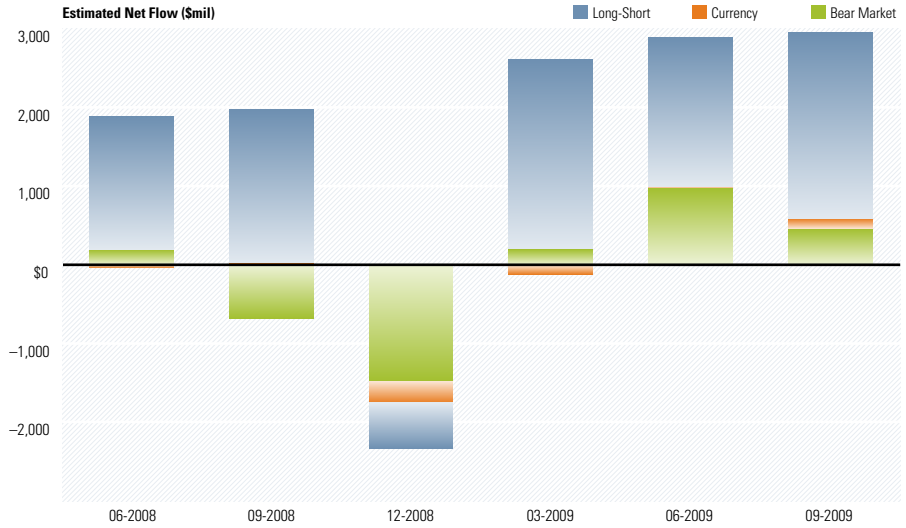
Family:	Turner Investment Partners	Base Currency:	USD	Minimum IRA Purchase:	$100,000
Manager:	Multiple	Ticker:	TSPEX	Purchase Constraints:	
Tenure:	0.6 Year	Minimum Initial Purchase:	$100,000		
Objective:	Growth	Min Auto Investment Plan:	$100,000		

MORNINGSTAR®

Flows and Assets Under Management: Alternative Mutual Funds

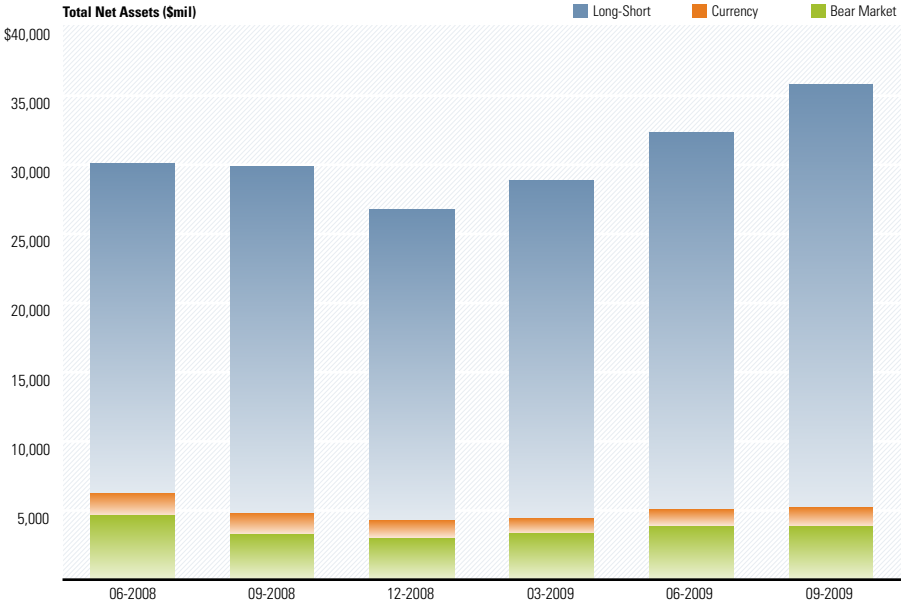
Quarterly Alternative Mutual Fund Flows

Alternative mutual funds continued to see record inflows in the third quarter of 2009, of an estimated $2.98 billion. Year-to-date flows through September have exceeded $8.4 billion. Most of these assets, $6.7 billion, flowed into funds in Morningstar's long-short category. Flows experienced by these funds in 2009 significantly top the annual inflows of the past 10 years. Currency funds, which are fewer in number than long-short funds, showed only modest inflows of $127 million during the third quarter.



Quarterly Alternative Mutual Fund Assets Under Management

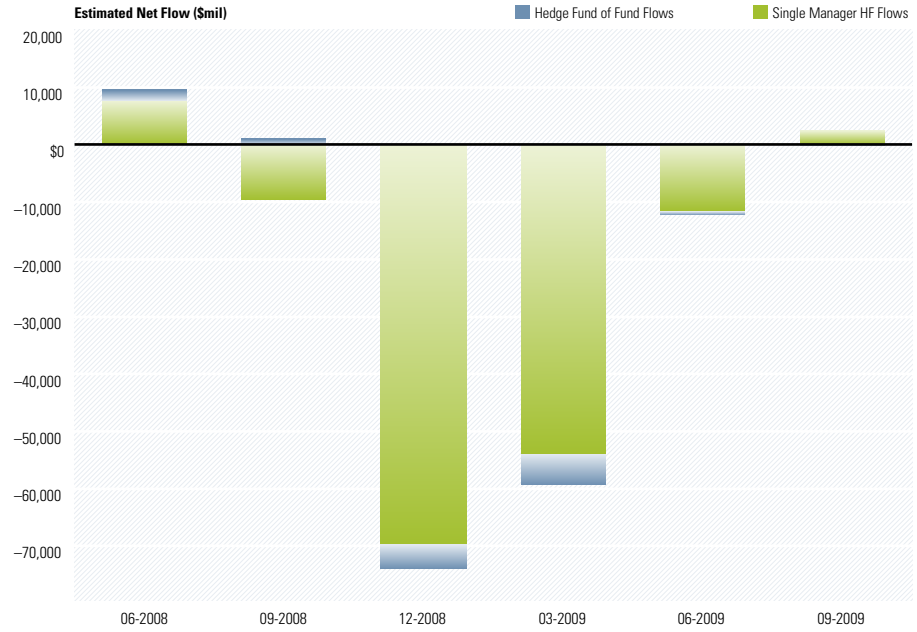
In the third quarter of 2009, long-short mutual funds' assets under management increased 12% to $30.5 billion. Currency mutual funds saw an 18.8% increase in assets, while bear-market mutual fund assets fell 1.9% in the second quarter due to poor performance. Total assets in alternative mutual funds as of Sept. 30—$35.8 billion—represent a 34% increase over 2008 year-end assets.



Flows and Assets Under Management: Hedge Funds

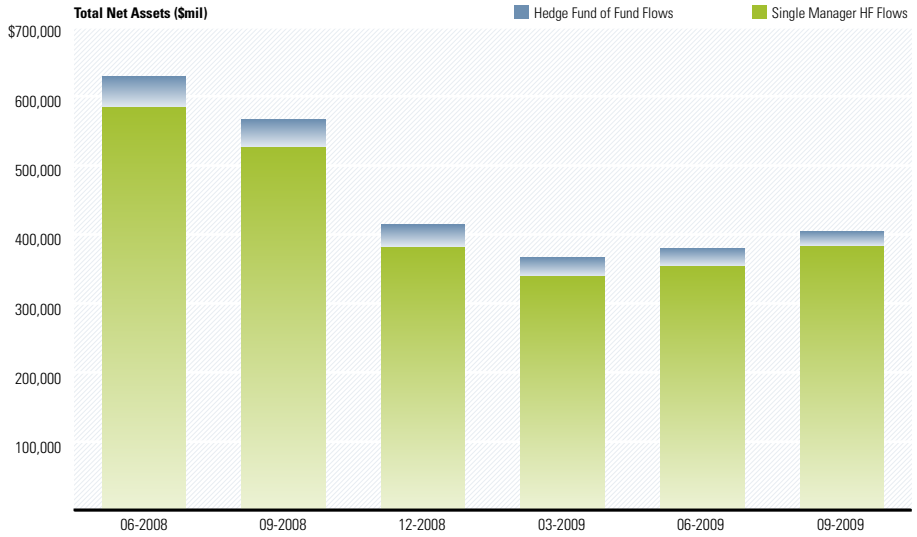
Quarterly Hedge Fund Flows

Hedge funds enjoyed inflows for the first time since the second quarter of 2008. A total of $2.5 billion flowed into hedge funds in the third quarter, a figure that would have been larger had it not been for substantial redemptions from a single, large multistrategy hedge fund in September. Funds in the Europe equity and global trend hedge fund categories received the bulk of the inflows, at $2.0 and $2.5 billion, respectively, while the multistrategy and global debt categories saw outflows of $4.95 billion and $1.2 billion, respectively.



Quarterly Hedge Fund Assets Under Management

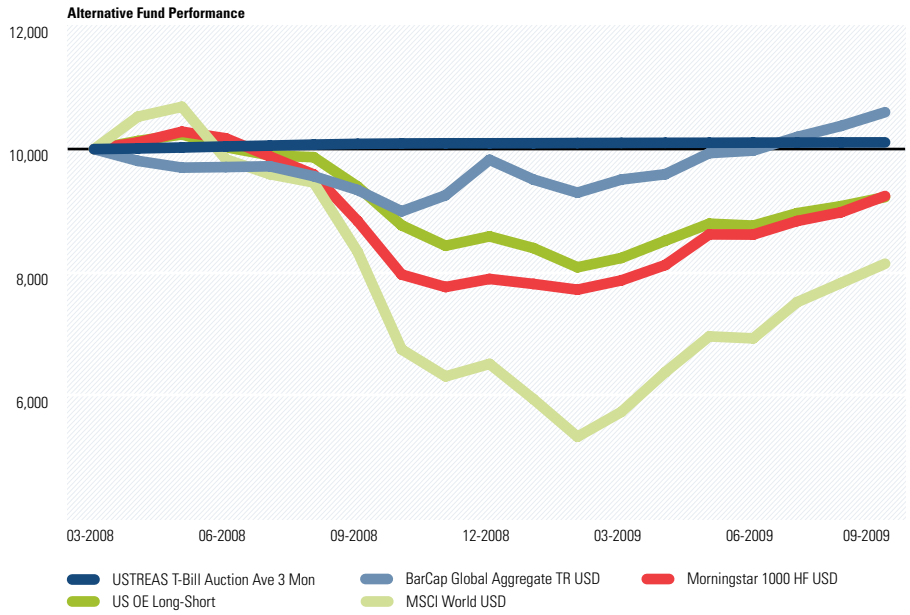
Single-manager hedge fund assets grew in the third quarter by 8.2%, as a result of both inflows and positive performance. Hedge fund assets are still down 34%, however, since the second quarter of 2008. In contrast to single-manager hedge funds, hedge fund of fund assets continued to free fall. Assets dropped 18% in the third quarter of 2009 and are down 46% since June 30, 2008.



Alternative Investment Performance

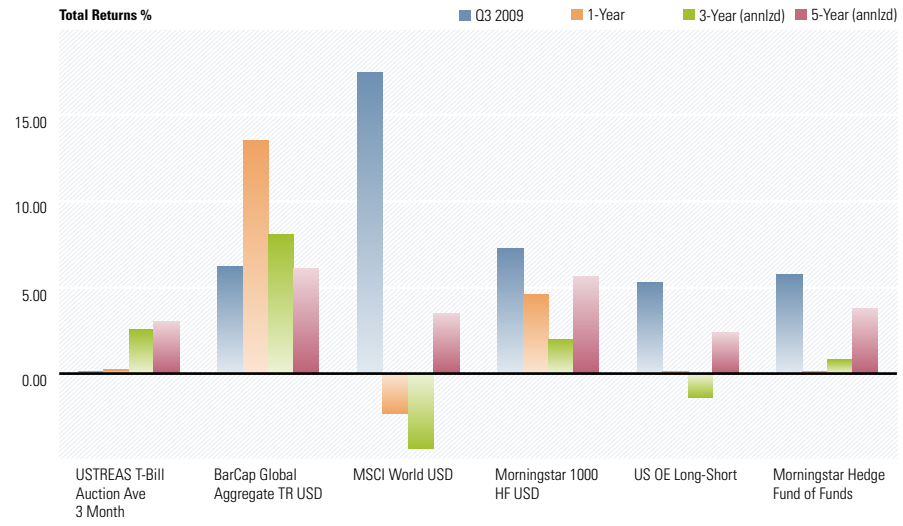
Growth of a $10,000 Alternative Investment

Hedge funds and long-short mutual funds rallied along with the equity markets in the third quarter of 2009 but are still down about 8% on average over the last 18 months. As global equities are still off approximately 19% in the 18 months ended June 2009, alternative investments have successfully hedged much of the equity markets' losses. Investors, however, would have still fared significantly better in a risk-free or cash investment over this time period.



Performance of Alternative Investments Over Time

The Morningstar 1000 Hedge Fund Index increased by 7.3% in the third quarter, about 1 percentage point more than global bonds but 11 percentage points short of global equities. Long-short mutual funds grew by 2 percentage points less than the hedge fund average, but mutual fund strategies do not employ the levels of leverage that hedge funds do. Over the last year, hedge funds of funds and long-short mutual funds have performed roughly on par with each other, but hedge funds of funds have outperformed over the last three and five years.

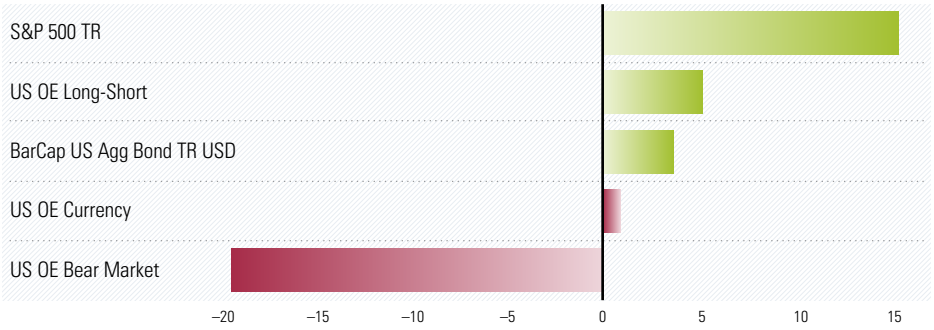


Q3 Performance by Category

Alternative Mutual Funds

Because of the continued rally in equity markets, U.S. bear-market mutual funds again suffered a large quarterly decline, this time of 19.6%. Currency funds ended up 0.9% for the quarter, as several currencies appreciated against the U.S. dollar. U.S. long-short mutual funds participated in only some of the stock market's gains (due to hedging), returning 5.3% in the third quarter versus the S&P 500's 15.6% rise.

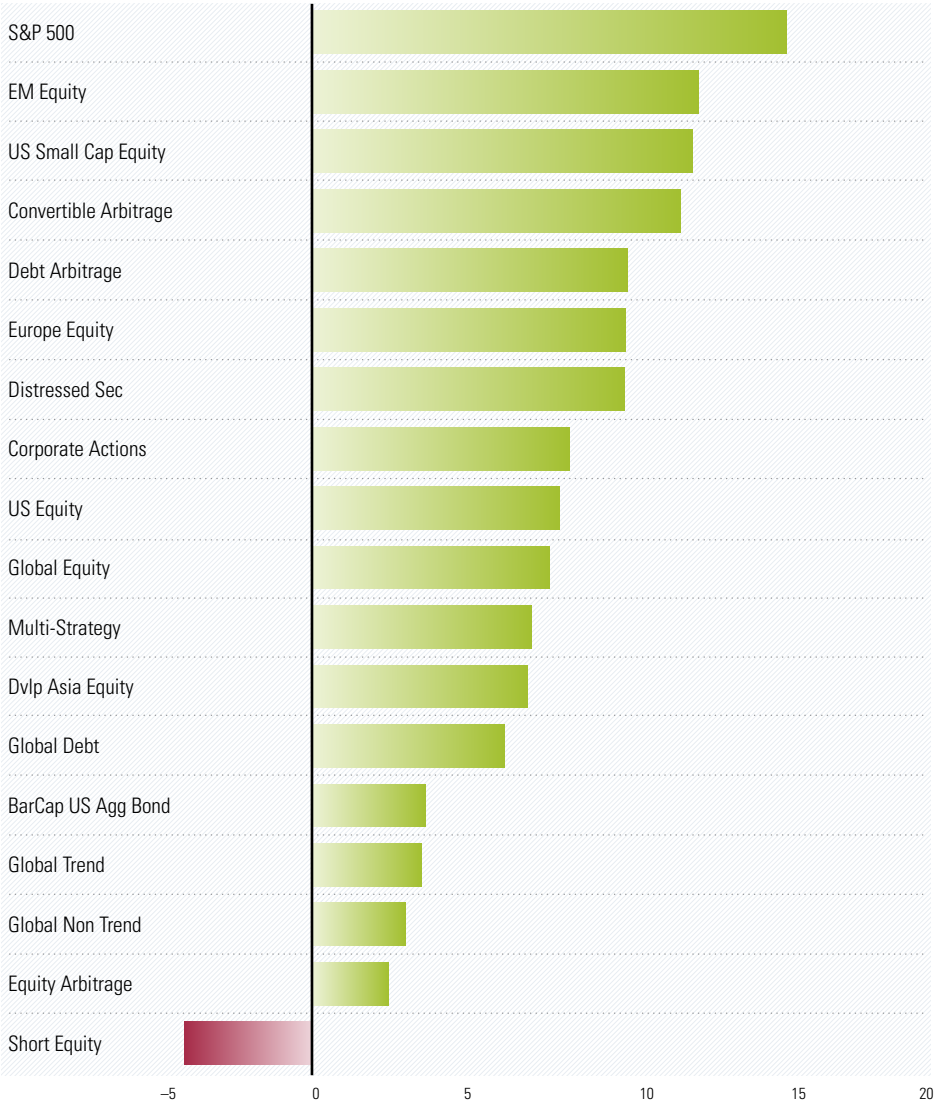
Morningstar Alternative Mutual Fund Category Averages: Quarter 3 2009 Total Returns %



Hedge Funds

Hedge funds benefited from the equity market rebound, especially hedge funds trading in the higher-beta, less liquid markets. The Emerging Markets Equity and U.S. Small Cap Equity Hedge Fund Indexes sported the biggest gains, at 12.7% and 12.5%, respectively, while the Morningstar Short Equity Hedge Fund Index lost 4.2%. Equity arbitrage funds gained 2.5% as many of these funds trade volatility, which remained relatively stable throughout the quarter.

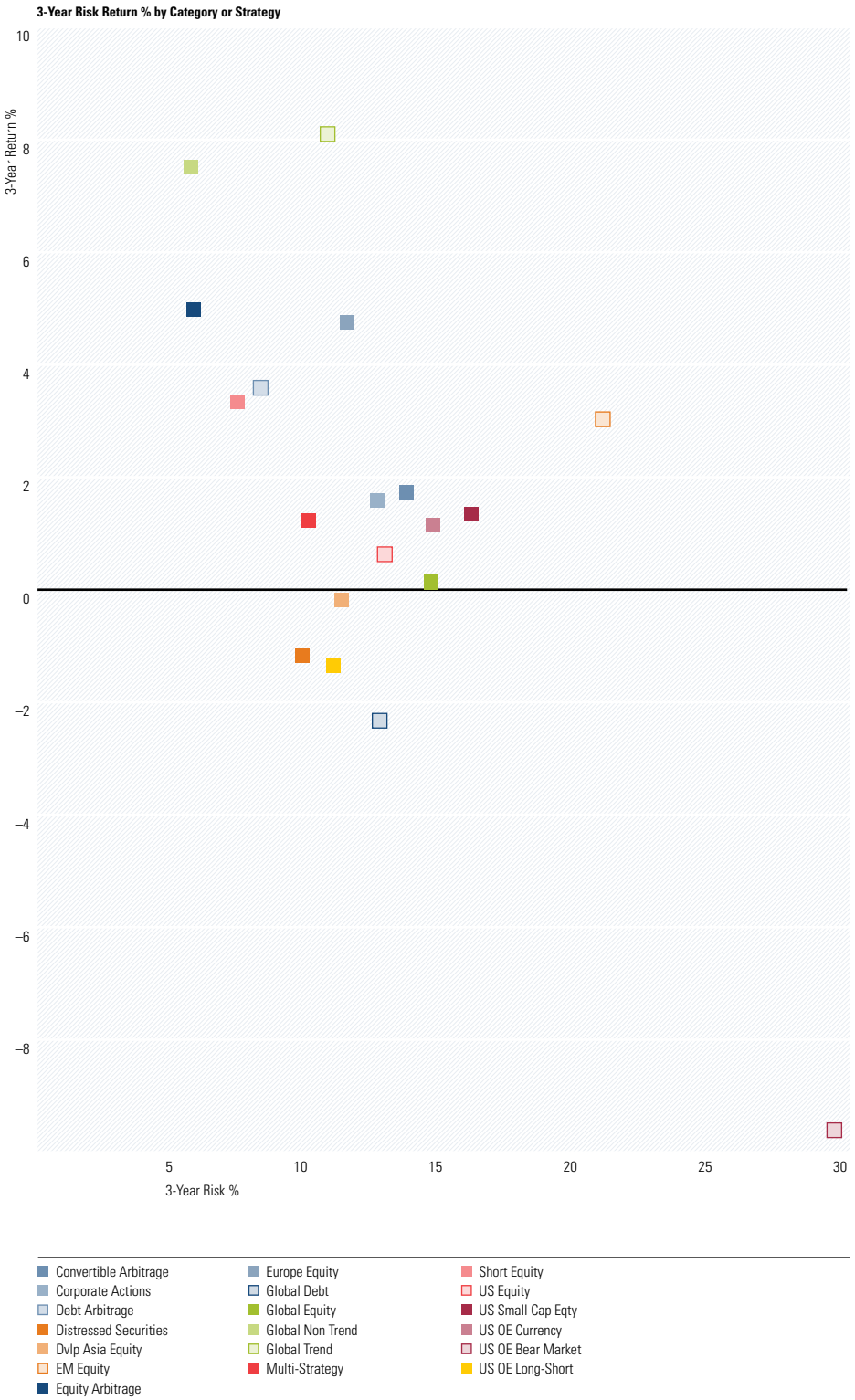
Morningstar Hedge Fund Category Indexes: Quarter 3 2009 Total Returns %



Risk versus Return: Alternative Mutual Funds and Hedge Funds

Three-Year Standard Deviation and Return

Only five alternative investment category indexes and averages failed to provide positive returns over the three years ended in September 2009: Distressed Securities (–1.2%), Developed Asia Equity (–0.2%), Global Debt (–2.3%), Bear Market (–9.6%), and Long Short (–1.4%). Several hedge fund category indexes, including Convertible Arbitrage, Corporate Actions, Global and U.S. Equity, and MultiStrategy, pushed back into the black after strong performance in the third quarter. Funds in the Morningstar Global Non-Trend Hedge Fund Index provided the best risk-adjusted return on average, with a low three-year annualized standard deviation of 5.7% and gains of 7.5%, while funds in the bear-market mutual fund category proved the worst on average, with three-year return and annualized standard deviation figures of –9.6% and 29.5%, respectively.



Correlations by Alternative Fund Strategy

Three-Year Correlations: Alternative Mutual Fund Categories	1	2	3	4
1 US OE Long-Short Cat Avg	1.00			
2 US OE Bear Market Cat Avg	–0.92	1.00		
3 US OE Currency Cat Avg	0.42	–0.27	1.00	
4 Morningstar 1000 HF Index	0.91	–0.74	0.46	1.00

Three-Year Correlations: Hedge Fund Category Indexes	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Morningstar Convtbl Arbitrage HF USD	1.00															
2 Morningstar Corporate Actions HF USD	0.89	1.00														
3 Morningstar Debt Arbitrage HF USD	0.95	0.90	1.00													
4 Morningstar Distressed Sec HF USD	0.74	0.84	0.83	1.00												
5 Morningstar Dvlp Asia Equity HF USD	0.83	0.87	0.86	0.68	1.00											
6 Morningstar EM Equity HF USD	0.82	0.94	0.86	0.80	0.91	1.00										
7 Morningstar Equity Arbitrage HF USD	0.79	0.85	0.79	0.63	0.83	0.82	1.00									
8 Morningstar Europe Equity HF USD	0.83	0.92	0.86	0.77	0.87	0.92	0.92	1.00								
9 Morningstar Global Debt HF USD	0.94	0.91	0.93	0.83	0.80	0.86	0.83	0.88	1.00							
10 Morningstar Global Equity HF USD	0.86	0.94	0.88	0.78	0.93	0.95	0.92	0.96	0.87	1.00						
11 Morningstar Global Non Trend HF PUSD	0.62	0.73	0.67	0.51	0.76	0.75	0.88	0.80	0.64	0.84	1.00					
12 Morningstar Global Trend HF USD	0.05	0.23	0.10	0.11	0.24	0.24	0.51	0.38	0.09	0.35	0.68	1.00				
13 Morningstar Multi-Strategy HF USD	0.91	0.97	0.93	0.86	0.88	0.92	0.87	0.92	0.93	0.95	0.76	0.29	1.00			
14 Morningstar Short Equity HF PUSD	–0.51	–0.34	–0.50	–0.22	–0.27	–0.23	–0.45	–0.38	–0.43	–0.32	–0.31	–0.04	–0.35	1.00		
15 Morningstar US Equity HF USD	0.87	0.93	0.86	0.86	0.84	0.91	0.76	0.85	0.88	0.91	0.63	0.13	0.94	–0.22	1.00	
16 Morningstar US Small Cap Eqty HF USD	0.84	0.92	0.88	0.85	0.90	0.94	0.78	0.87	0.86	0.93	0.69	0.19	0.94	–0.20	0.96	1.00

1.00 to 0.75 | 0.75 to 0.50 | 0.50 to 0.25 | 0.25 to 0.00
0.00 to –0.25 | –0.25 to –0.50 | –0.50 to –0.75 | –0.75 to –1.00

Correlations of Alternative Funds to Traditional Asset Classes

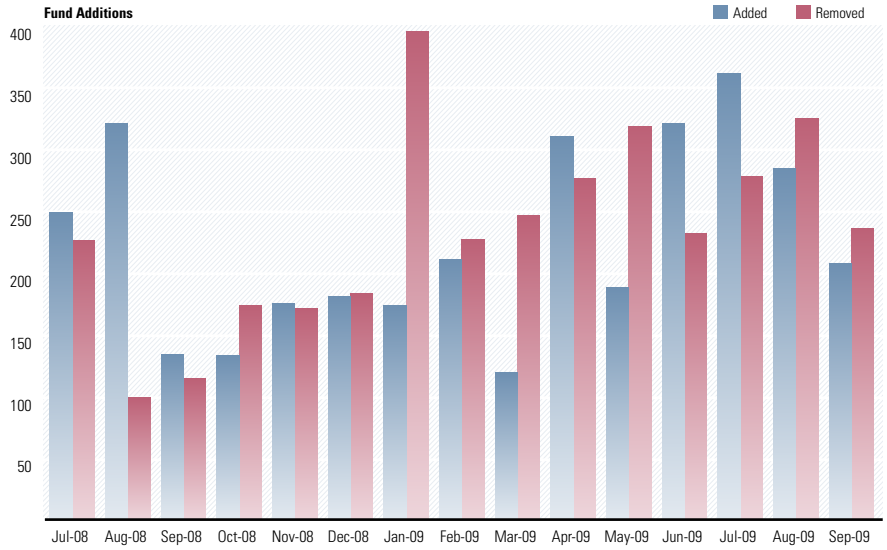
Correlation of Hedge Funds to U.S. Stocks and Bonds	S&P 500 Correlation (USD)			BarCap US Agg Correlation (USD)		
	2006-10-01 to 2009-09-30 3-Year	2004-10-01 to 2009-09-30 5-Year	1999-10-01 to 2009-09-30 10-Year	2006-10-01 to 2009-09-30 3-Year	2004-10-01 to 2009-09-30 5-Year	1999-10-01 to 2009-09-30 10-Year
US OE Long-Short	0.94	0.93	0.72	0.31	0.19	0.16
US OE Bear Market	–0.97	–0.96	–0.94	–0.43	–0.34	0.00
US OE Currency	0.34	0.25	0.11	0.24	–0.03	0.31

Correlation of Hedge Funds to U.S. Stocks and Bonds	S&P 500 Correlation (USD)			BarCap US Agg Correlation (USD)		
	2006-10-01 to 2009-09-30 3-Year	2004-10-01 to 2009-09-30 5-Year	2003-01-01 to 2009-09-30 Since Index Inception	2006-10-01 to 2009-09-30 3-Year	2004-10-01 to 2009-09-30 5-Year	2003-01-01 to 2009-09-30 Since Index Inception
Morningstar 1000 HF USD	0.77	0.76	0.76	0.33	0.20	0.23
Morningstar Convtbl Arbitrage HF USD	0.72	0.69	0.65	0.50	0.38	0.35
Morningstar Corporate Actions HF USD	0.73	0.72	0.72	0.28	0.16	0.17
Morningstar Debt Arbitrage HF USD	0.74	0.71	0.68	0.47	0.34	0.37
Morningstar Distressed Sec HF USD	0.74	0.73	0.72	0.05	–0.04	0.01
Morningstar Dvlp Asia Equity HF USD	0.77	0.72	0.68	0.44	0.26	0.19
Morningstar EM Equity HF USD	0.78	0.76	0.74	0.26	0.16	0.22
Morningstar Equity Arbitrage HF USD	0.59	0.56	0.54	0.44	0.25	0.29
Morningstar Europe Equity HF USD	0.74	0.69	0.70	0.39	0.23	0.25
Morningstar Global Debt HF USD	0.76	0.74	0.71	0.40	0.30	0.32
Morningstar Global Equity HF USD	0.77	0.76	0.76	0.33	0.20	0.19
Morningstar Global Non Trend HF USD	0.43	0.45	0.42	0.34	0.18	0.32
Morningstar Global Trend HF USD	–0.04	0.07	0.11	–0.02	–0.07	0.11
Morningstar Multi–Strategy HF USD	0.75	0.73	0.71	0.30	0.16	0.22
Morningstar Short Equity HF PUSD	–0.16	–0.11	–0.11	–0.56	–0.49	–0.31
Morningstar US Equity HF USD	0.86	0.85	0.85	0.19	0.10	0.11
Morningstar US Small Cap Eqty HF USD	0.88	0.87	0.86	0.24	0.13	0.11

Morningstar Hedge Fund Database Overview as of 12-7-09

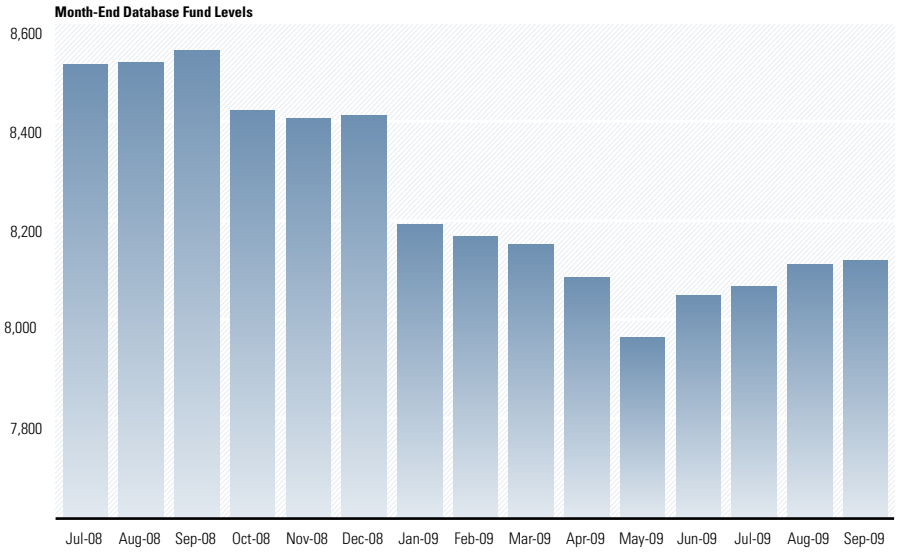
Net Fund Additions by Month

In the third quarter of 2009, Morningstar's hedge fund database experienced a small net increase of 13 funds, as additions in July outweighed dropouts in August and September. This quarter marked the first quarter of net additions to the database since the third quarter of 2008. (Funds drop out because they have liquidated or because they refuse to share performance data, typically due to poor performance.)



Month-End Database Fund Levels

As of Sept. 30, 2009, Morningstar's hedge fund database reached 8,122 funds. This figure includes both single-manager hedge funds and funds of hedge funds, which account for approximately 3,100 and 5,000 funds, respectively. As of the end of the third quarter, the number of funds in the database had almost rebounded to March 2009 levels.

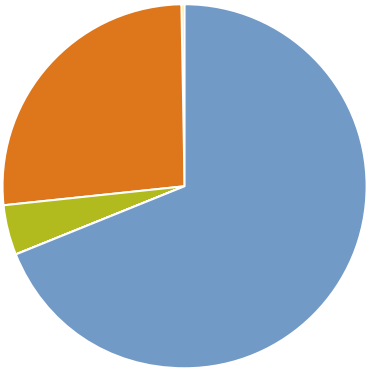


Morningstar Hedge Fund Database Overview as of 12-7-09

Hedge Funds by Region

Most hedge fund advisors in Morningstar's database are located in North America or the Caribbean, because many U.S. hedge funds follow a master-feeder structure whereby an offshore feeder is set up for U.S. tax-exempt institutions to retain their tax status. In Europe, many hedge funds are located in Luxembourg, which provides tax-haven status similar to Caribbean jurisdictions. In Asia, most hedge funds in the database are located in China.

Morningstar Hedge Fund Database by Region



Region	# Funds
North America/Carribbean	5,951
Africa	13
Asia/Australia	375
Europe	2,280
South America	12
Total	**8,631**

Hedge Funds by Location

The United States and the Cayman Islands house the largest number of hedge funds in Morningstar's database. The Cayman Islands Monetary Authority requires registration of hedge funds, as long as there are more than 15 investors, and the mandatory filing of certain statistics, such as assets under management, investment strategy, and holdings by asset class.

North America & Surrounding	**5,951**
Cayman Islands	2,098
British Virgin Islands	660
Canada	202
Netherlands Antilles	52
Belize	1
United States	2,397
Bermuda	531
Bahamas	73
St. Vincent & the Grenadines	6
Barbados	1

Africa	**13**
Mauritius	9
South Africa	3
Botswana	1

Asia & Australia	**375**
China	302
Hong Kong	5
Malaysia	2
Marshall Islands	1
Australia	60
Singapore	2
Bahrain	2
Samoa	1

Europe	**2,280**
Luxembourg	798
France	266
Switzerland	183
Sweden	93
Spain	40
Liechtenstein	46
Finland	14
Germany	17
Denmark	10
Cyprus	4
Norway	4
Andorra	2
Ireland	249
Guernsey	175
Italy	107
Jersey	93
Netherlands	53
Isle of Man	28
United Kingdom	25
Austria	13
Malta	53
Belgium	3
Portugal	2
Gibraltar	2

South America	**12**
Brazil	12

Morningstar Hedge Fund Database Overview as of 12-7-09

Service Providers

Morgan Stanley and Goldman Sachs account for the largest percentage of prime brokerage service providers in Morningstar's database, with more than a 31% share combined. The big four accounting firms are used by 74% of the database. Citco Fund Services provides administration services to the largest number of funds in Morningstar's database, accounting for more than 11% of funds. China Resources SZITIC Trust Co. emerged as one of the top 10 administrators in the database this quarter, as the firm hosts China's largest platform for trust-based hedge funds. Seward and Kissel LLP is the largest legal service provider to hedge funds in the database.

Type	Rank	Service Provider	% of Database
Prime Broker	1	Morgan Stanley	16.37
	2	Goldman Sachs	15.17
	3	UBS AG	8.52
	4	Banc of America Securities LLC	5.04
	5	Credit Suisse	5.04
	6	JP Morgan	4.28
	7	Deutsche Bank AG	4.12
	8	Guosen Securities Co., Ltd.	2.24
	9	Citigroup	2.08
	10	Newedge Group Inc.	1.84
Auditor	1	Price Waterhouse Cooper LLP	23.09
	2	Ernst & Young	18.31
	3	KPMG	18.16
	4	Delloite & Touche	14.81
	5	Rothstein Kass	5.42
	6	Grant Thornton LLP	3.06
	7	BDO Seidman Financial Services Ltd.	1.51
	8	McGladrey & Pullen LLP	1.29
	9	Cabinet Patrick Sellam	1.11
	10	Eisner LLP	1.05
Administrator	1	Citco Fund Services Ltd	11.66
	2	HSBC Financial Services	5.00
	3	Apex Fund Services Ltd.	3.44
	4	Fortis Fund Services	2.81
	5	BNY Fund Management	2.72
	6	China Resources SZITIC Trust Co., Ltd	2.65
	7	Citi	2.63
	8	Northern Trust	1.97
	9	UBS AG	1.79
	10	Bisys Hedge Fund Services	1.72
Legal Counsel	1	Seward & Kissel LLP	7.85
	2	Walkers Group	5.61
	3	Maples & Calder	5.11
	4	Dechert LLC	4.34
	5	Elvinger, Hoss & Prussen	4.12
	6	Schulte Roth & Zabel LLP	3.87
	7	Simmons & Simmons	3.82
	8	Sidley Austin LLP	2.90
	9	Appleby	2.60
	10	Conyers Dill & Pearman	2.35

Alternative Investments Observer

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