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Not All Commodities Companies Are Created Equal

Different business models offer various degrees of leverage.

by
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When Jim Rogers wrote *Hot Commodities: How Anyone Can Invest Profitably in the World's Best Market* in 2004, his opening observation was: "Commodities get no respect." This statement is far from the truth today. The popularity of commodities investing has grown considerably in recent years, and the financial industry has responded to investors' demand with a wide range of products. Whereas at the end of 2002, only $10.3 billion was invested in 61 commodity-related mutual funds and exchange-traded funds, at the end of 2012, there were 365 funds and $317.7 billion in assets.

While participating in commodities through futures markets is an option for many investors, others are more comfortable with investing in equities of commodity companies. Stocks are convenient—there is no need to find a futures broker or fill out extra paperwork and disclosures. Further, it's feasible that certain commodity-related equities—the producers that pump oil and gas out of underground reservoirs or the miners that dig minerals out of seams below the surface, for example—could outperform commodities in a rising price environment. Careful analysis is required, however. Not all commodity companies are equal.

The Rationale for Commodity Investing With Equities
Investors turn to commodities generally because of their diversification properties. They are believed to exhibit a low correlation with stocks and bonds and may even hedge against inflation. Even though commodity-related stocks are still equities, their correlations to the broad markets have been relatively low (see Exhibit 1), and they have exhibited higher risk-adjusted returns over the past 10 years (see Exhibit 2) than have the broader indexes.

Commodity Equities as an Inflation Hedge
Many investors choose the equities of commodity companies in order to gain exposure to rising commodity prices. This option has its appeal. It eliminates the complexities of commodity futures investing, particularly as it relates to the term structure of futures contracts. Many investors have been burned by commodity futures indexes underperforming the actual commodity prices as a result of contango and negative roll yield (replacing an expiring futures contract with a more expensive one). Over the past 10 years, for example,

Exhibit 1: Correlation of Commodity-Related Equities, January 2003–December 2012

	Investment Name	1	2	3	4
1	MSCI World Agriculture&Food Chain GR USD				
2	MSCI World/Metals&Mining GR USD	0.71			
3	MSCI World/Energy GR USD	0.71	0.81		
4	Morningstar US Market TR USD	0.77	0.73	0.72	
5	Morningstar Global GR USD	0.84	0.83	0.79	0.96

Exhibit 2: Return and Risk-Adjusted Returns of Commodity-Related Equities

As of Dec. 31, 2012	Total Return Annlzd 10-Yr	Sharpe Ratio 10-Yr
MSCI World Agriculture&Food Chain GR USD	11.61	0.76
MSCI World/Metals&Mining GR USD	14.52	0.56
MSCI World/Energy GR USD	11.60	0.54
Morningstar US Market TR USD	7.90	0.46
Morningstar Global GR USD	9.05	0.50

the S&P GSCI Spot Index has returned 10.6%, while the S&P GSCI total return index is up only 2.8%. And commodity stocks do exhibit positive correlations to commodity prices, although not always high correlations. (See Exhibit 3.)

Exhibit 3: 10-Yr Correlation of Commodity-Related Equities to Commodity Returns (as of Dec. 31, 2012)

MSCI World Agriculture & Food Chain GR USD to S&P GSCI Agricultural Spot	0.62
MSCI World/Metals&Mining GR USD to S&P GSCI Precious Metal Spot	0.54
MSCI World/Energy GR USD to S&P Energy Spot	0.83

Moreover, in periods of rising prices, it's mathematically feasible that producers' equities will materially outperform the commodities themselves. First, for any given percentage increase in the commodity price, a producer's profits will increase by a greater percentage, all else equal. This leverage to commodity prices is greater for higher-cost producers (those with lower profit margins). Second, higher prices usually mean that more of a company's potential resources are economical to produce. To illustrate, consider Company A that produces one unit of a commodity whose current price is $1. Company A has a unit cost of $0.50, so profits are currently $0.50. If the commodity price rises 10% (to $1.10), the company's earnings increase by 20% ($0.60 versus $0.50) assuming costs stay the same. Also consider Company B with a higher unit cost, of $0.70. Given the commodity price of $1, profits are $0.30. And with a 10% increase in the commodity price, profits increase 33% (to $0.40 versus $0.30, all else equal).

Not All Commodity Stocks Are Created Equal

When looking to invest in the equities of commodity companies, it's important to note that not all business models result in the same degree of leverage to the relevant commodity prices. In most cases, upstream producers—those that are directly involved in extracting or harvesting the resources from Mother Nature—are the ones that offer the highest leverage to commodity prices. Downstream companies—those that buy raw commodities and then process or refine them for end markets—tend to provide less leverage to commodity prices.

Take Exxon Mobil **XOM**, for example, a holding in the Global Upstream Natural Resources Index, which measures the performance of stocks issued by companies that have significant business operations in the ownership, management, or production of natural resources. Exxon Mobil generates approximately 80% of its profits from upstream activities, or the actual production of oil and natural gas, activities that benefit from higher oil and gas prices. However, Exxon Mobil's downstream activities in crude oil refining and chemical manufacturing can suffer from high energy prices as the cost of raw materials is higher. High energy prices have also decreased demand for refined product in developed markets. A better option to capture rising energy prices may be more pure exploration and production companies such as Occidental Petroleum **OXY**. (See Exhibit 4.)

Furthermore, higher-cost producers tend to exhibit a higher beta and correlation to commodity prices than do low-cost producers. The performance of AK Steel **AKS** and Nucor **NUE** during the 2003–08 runup in steel prices (following the Asian financial crisis and preceding the global financial crisis) illustrates this. AK Steel is one of the highest-cost producers of steel in the United States. The company must purchase costly iron ore, and it has significant legacy and financial costs (because of its significant pension obligations and high debt burden). Nucor is one of the most efficient steel producers in the country.

Exhibit 4: Relationship Between OXY, XOM, and Energy Prices

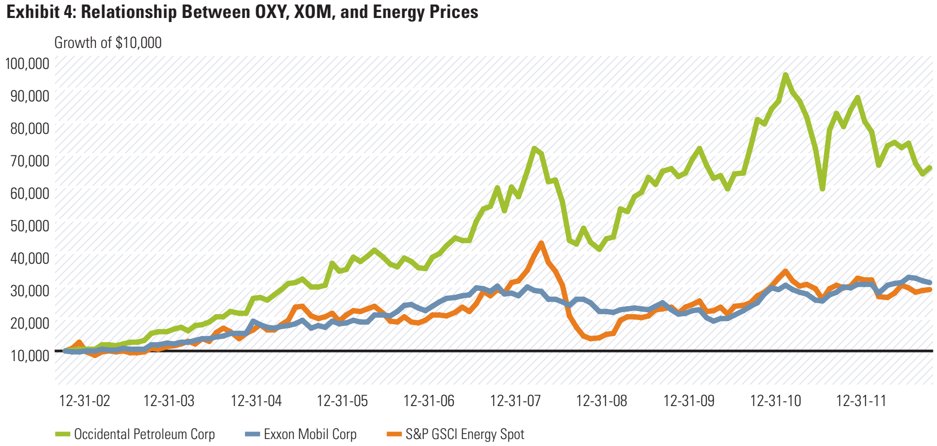


Exhibit 5: Growth of a $10,000 Investment in AK Steel AKS vs. Nucor NUE, July 2003–June 2008

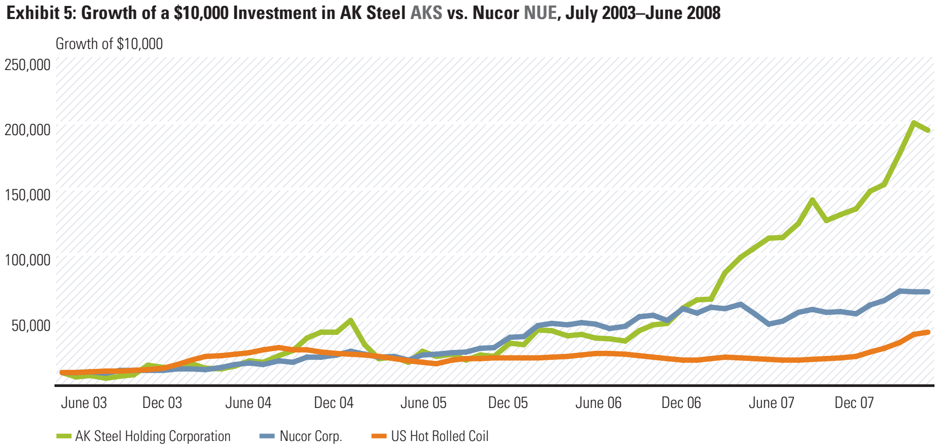


Exhibit 6: Growth of $10,000, Gold Prices vs. Gold Stocks, May 16, 2006–Dec. 31, 2012

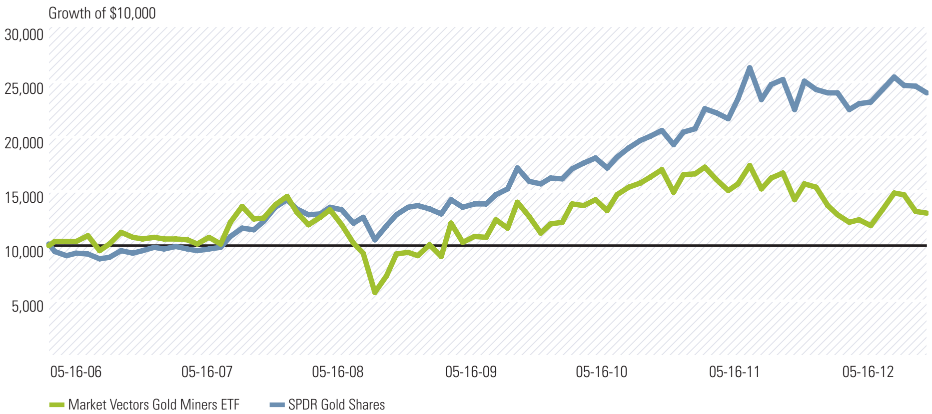


Exhibit 7: Morningstar Commodity Producer Index Data Through 2011

Morningstar Commodity Producers Agriculture Index Correlation Matrix | 2008–2011 (Monthly Data)

		1	2	3	4	5
1	S&P GSCI Agricultural Spot	1.00				
2	Morningstar Commodity Producers Ag Index	0.75	1.00			
3	MSCI World Agriculture & Food Chain	0.64	0.83	1.00		
4	S&P Global Agribusiness Equity	0.70	0.94	0.88	1.00	
5	FSE DAXglobal Agribusiness	0.71	0.97	0.87	0.98	1.00

Morningstar Commodity Producers Agriculture Index 10-Year Risk/Return (Monthly Data)

As of Dec. 31, 2011	Return	Std Dev	Sharpe Ratio	Max Drawdown
Morningstar Commodity Producers Ag Index	15.72	21.70	0.69	–55.32
MSCI World Agriculture & Food Chain USD	5.90	13.47	0.34	–39.76
S&P GSCI Agricultural Spot	8.18	24.04	0.36	–41.31

Morningstar Commodity Producers Energy Index Correlation Matrix | 2010–2011 (Monthly Data)

	Investment Name	1	2	3	4
1	S&P GSCI Energy Spot	1.00			
2	Morningstar Commodity Producers Energy Index	0.88	1.00		
3	Thomson R/J CRB Wildcatters E&P TR USD	0.81	0.96	1.00	
4	MSCI ACWI/Energy USD	0.88	1.00	0.96	1.00

Morningstar Commodity Producers Energy Index 10-Year Risk/Return

As of Dec. 31, 2011	Inception Date	Return	Std Dev	Sharpe Ratio	Max Drawdown
Morningstar CP Energy	12-14-00	10.01	21.72	0.45	–52.35
MSCI ACWI/Energy USD	12-30-94	5.50	21.46	0.26	–53.58
S&P GSCI Energy Spot	12-30-82	8.53	31.60	0.36	–41.31

The firm has low-cost electric arc furnaces, which rely on mostly scrap metal rather than expensive iron ore. It has no legacy liabilities and lower financial costs. While AK Steel's disadvantaged cost position is a serious threat during weak industry conditions, its shareholders benefit from its high degree of leverage during boom times. (See Exhibit 5 on the previous page.)

Finally, beyond considering where a company is on the commodity-production spectrum,investors must also consider that stocks in certain commodity-related industries react differently from others to changes in commodity prices. Gold-mining stocks, for example, have actually underperformed gold prices in recent years, even though the vast majority of companies categorized as gold miners are indeed pure-play upstream producers. (See Exhibit 6.) Rising operating costs, ballooning capital budgets, disappointing production, and increased taxes and royalties have all muted the effects of higher gold prices on companies' profits and expectations for future profitability. Moreover, the valuation that the market is willing to pay for gold miners' earnings has dramatically compressed, either because equity investors aren't willing to factor in today's relatively high gold prices for an extended period of time, or because of the proliferation of gold ETFs, which offer an easy and more direct way to invest in gold. SPDR Gold Shares **GLD** held 6.7 million ounces of gold worth $3.2 billion in September 2005, about a year after the fund launched, and by Jan. 19, 2013, that figure had soared to 42.8 million ounces of gold worth $72.3 billion. Despite the fact that gold-mining equities have dramatically underperformed gold prices in the recent past, investors may still choose equities over gold ETFs because of the possibility that producers' equities may outperform in a rising price environment.

A Better Way to Invest in Commodities

Given the fact that different business models result in different degrees of leverage to commodity prices, Morningstar's equity and index analysts worked together to create equity indexes that offer investors a high correlation with the underlying commodities. In 2011, the team launched two commodity producer indexes, the Morningstar Commodity Producers Agricultural Index and the Morningstar Commodity Producers Energy Index, which will soon be available in Morningstar Direct℠. Rather than embrace a standard market-capitalization weighting system, these indexes also weight stocks based on a structural leverage score system.

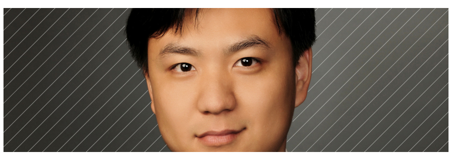
The Morningstar Commodity Producers Agriculture Index℠ includes companies in the agriculture inputs, farm and construction equipment, farm products, and confectioners industries. In order to offer more exposure to agricultural commodity prices, the index places the greatest weighting on companies in the agricultural inputs industry, such as Potash Corporation of Saskatchewan **POT** and CF Industries **CF**, followed by farm and construction equipment companies, then farm products companies like Archer-Daniels Midland **ADM**, and then finally confectioners get the lowest weighting.

Morningstar Commodity Producers Energy Index℠ includes companies in the oil and gas exploration and production, integrated oil and gas, coal, and oil and gas refining industries. Exploration and production companies such as Occidental Petroleum receive the highest weighting in this index, followed by integrated companies like Exxon Mobil, then coal miners, and finally refiners, which get the lowest weighting.

The proof is in the pudding. Through 2011, the Morningstar Commodity Producers Agriculture Index showed a greater positive correlation with the S&P GSCI Agricultural Spot Index than with the MSCI World Agriculture & Food Chain, S&P Global Agribusiness Equity, and FSE DAXglobal Agribusiness Equity indexes. The Morningstar Commodity Producers Energy Index showed greater positive correlation with the S&P GSCI Energy Spot Index than with the Thomson R/J Wildcatters E&P TR USD Index, and equal correlation when compared with MSCI ACWI/Energy USD. The performance of the Morningstar Commodity Producer indexes was also encouraging in comparison to relevant alternatives. Based on these encouraging early findings (2012 data will be available soon), Morningstar equity and index analysts are working to fine-tune these indexes and gauge interest from clients.

Quant Corner: Managed Futures and Cash Rates

Before investors cash in on managed futures, understand how these funds use cash.



by
Terry Tian
Alternative Investments Analyst

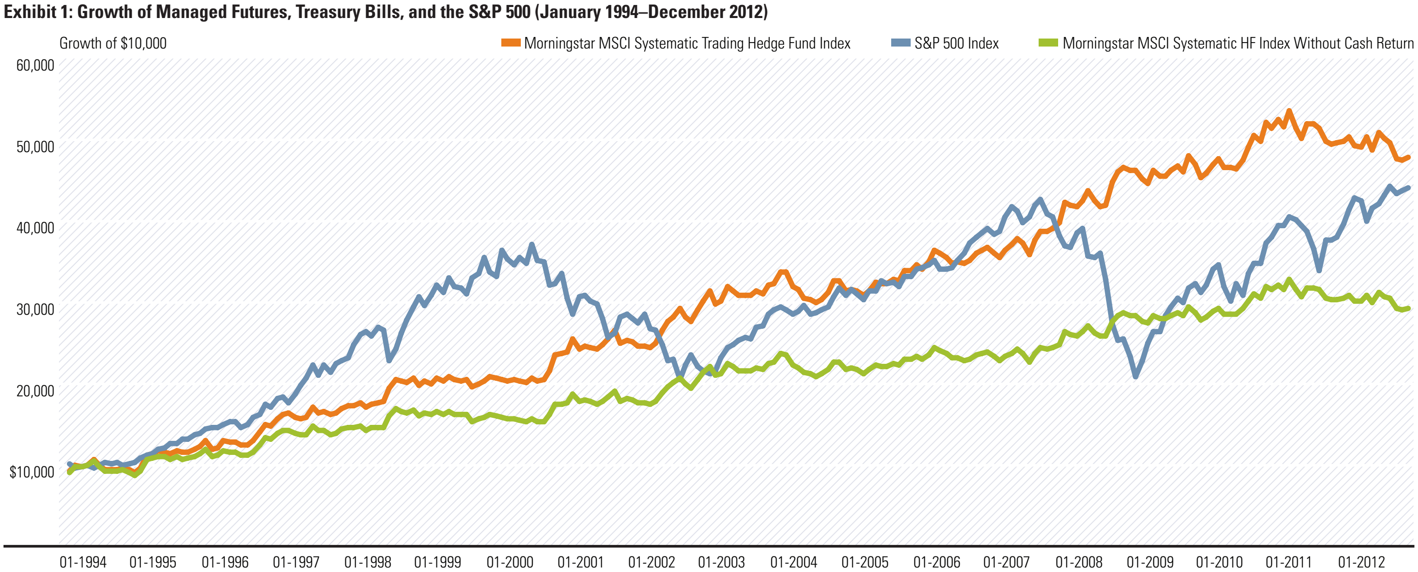
Managed-futures mutual funds introduced the concept of momentum-based futures trading strategies to many investors. Before the first such mutual fund launched in late 2009, managed-futures strategies were only accessible to those who had the wherewithal to open a futures trading account and several hundred thousand dollars to invest. Now, 50 different managed-futures mutual funds are available to all types of investors, with minimum investments as low as $500. These funds often lure investors with statistics such as the near-zero long-term correlations to stocks and bonds, as well as the amazing historical returns of various managed-futures industry indexes. What the fund marketing material, and even academic literature, fails to explain, however, is how much of these historical returns were attributable to high interest rates. After all, since short-term interest rates dropped to near-zero levels at the end of 2008, managed-futures strategies have languished (a 0.7% gain and a 3.4% loss on average for the Morningstar Systematic Trading Hedge Fund Index℠ and the U.S. open-end managed-futures category average, respectively, between 2009 and 2012).

In this article, we estimate the proportion of cash returns of managed-futures trading programs (both private pools and separate account composites) in the Morningstar MSCI Systematic Trading Hedge Fund Index℠ (which had 128 constituents as of January 2013) and the relationship between interest rates and managed-futures returns.

Cash Efficiency

Unlike traditional investments, such as stocks and bonds, futures contracts are traded on margin. This means that an investor needs only

Exhibit 1: Growth of Managed Futures, Treasury Bills, and the S&P 500 (January 1994–December 2012)



a small percentage of the total (notional) value of the contract up front (about 5% for the E-Mini S&P 500 contract, for example). Margin requirements are higher for more-volatile assets, such as some commodity contracts. Often, managed-futures trading programs only use 15% of their assets for margin (this is called the margin/equity ratio).[1] The rest of the assets sit in cashlike instruments, typically short-term U.S. Treasuries. This special structure enables managers to easily adjust a managed-futures fund's leverage to match their clients' risk appetites (a 2 times leveraged program, for example, would use 30% of the total account assets for margin purposes, instead of 15%), and it also frees up the capital to earn additional short-term interest-rate returns aside from the futures strategy returns.

Exhibit 2: Managed-Futures Risk and Return Statistics 1994–2012

	Correlation to the S&P 500	Correlation to Barclays U.S. Agg Bond	Return	Standard Deviation
Morningstar MSCI Systematic Trading	–0.09	0.19	8.59	13.59
40/40/20 Managed Futures Portfolio	N/A	N/A	7.97	9.42
Traditional 60/40 Portfolio	N/A	N/A	7.79	13.69

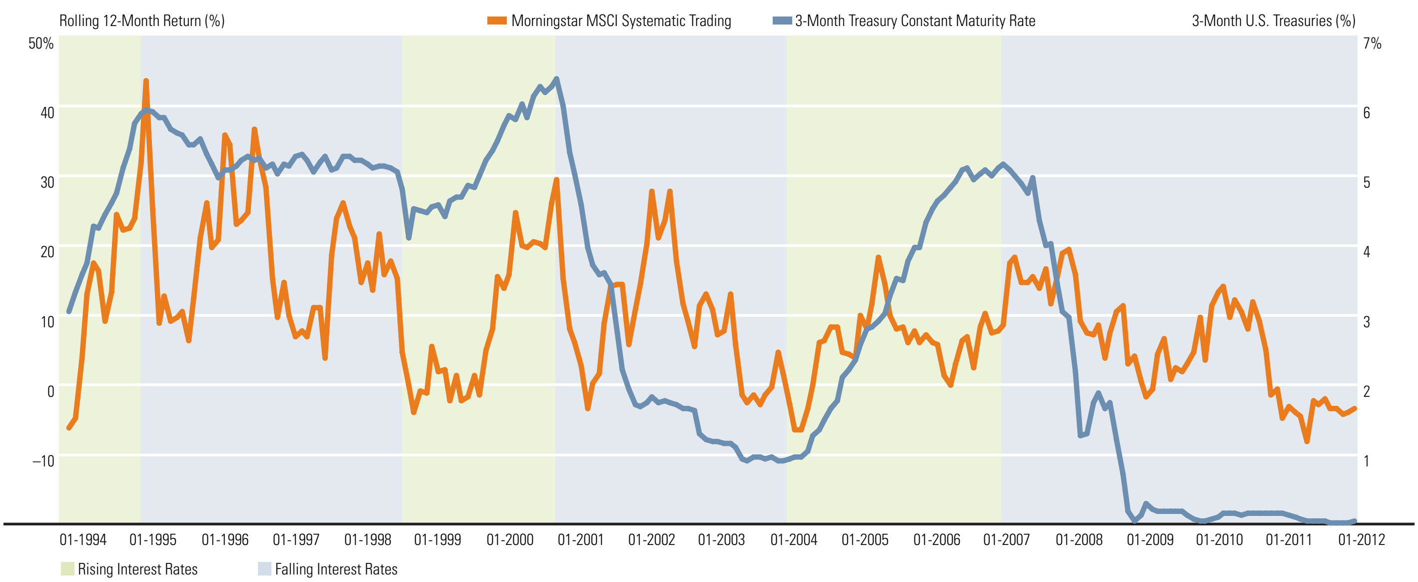
Excess Returns of Managed Futures

Many studies touting the benefits of managed-futures returns often fail to mention that these returns come from both futures trading as well as from interest earned on the cash collateral. For example, Schneeweis, Spurgin, and Szado (2012) studied the return drivers of three indexes—Barclay Trader Index CTA, CISDM CTA Asset Weighted Index, and CSFB/Tremont Managed Futures Index, each of which has returned more than 6% annualized between 1994 and 2009—but do not delve into the effects of interest rates on the funds' returns.[2] In today's near-zero interest-rate environment, the returns on cash seem negligible, but over the period studied, short-term interest rates were much higher.

Looking at our own data, the Morningstar MSCI Systematic Trading Index, which was incepted in January 1994, returned an annualized 8.6% between January 1994 and December 2012, while three-month U.S. Treasuries returned an annualized 3.1%. If we assume that the index constituents invested 85% of their assets in three-month Treasuries, and 15% in futures contracts (which results in a notional exposure of more than 100% of assets), the cash portion would have contributed 2.6% of the returns over the time period (30% of the total return). If we assume the interest rate had been zero throughout the time, the Morningstar MSCI Systematic Trading Index would have returned 5.82% annually from January 1994 to December 2012.[3] That is still a decent return, although it trails equities over the same time period. (See Exhibit 1 on the previous page.)

When investing in managed-futures strategies, however, one must remember that the purpose of investing in managed futures is not just for the absolute return, but also for the low correlation to stocks and bonds (negative 0.09 and 0.19 to the S&P 500 and

Exhibit 3: Managed-Futures Returns in Rising/Falling Interest-Rate Environments



1 Based upon CTA programs that disclose this informaion in Morningstar's Hedge Fund Database.

2 *Managed Futures: A Composite CTA Performance Review.* Thomas Scneeweis, Michael and Cheryl Philipp, Professor of Finance, Richard Spurgin, Associated Professor of Finance, Clark University, Worcester, Mass., and Edward Szado, Director of Research/INGARM Amherst, Mass.

3 The difference between 5.82% and 6.00% results from the rounding and compounding effect of 228 monthly return data.

the Barclays U.S. Aggregate Bond Index, respectively, between 1994 and 2012). When added to a 60/40 portfolio (as represented by the S&P 500 and Barclays U.S. Aggregate Bond Indexes, respectively), a 20% investment in the Morningstar MSCI Systematic Trading Index (out of equities) would have improved both the return (from 7.79 to 7.97) and the standard deviation (13.69% to 9.42%). (See Exhibit 2 on the previous page.)

Interest-Rate Environments

If interest-rate returns consist of such a large portion of managed-futures index returns, does the movement of interest rates explain the returns of managed-futures strategies? We examined managed-futures strategies' performances in rising and falling interest-rate environments.

We identified the peaks and valleys of the three-month U.S. Treasury bill rate over the studied period and define the periods in between those dates as rising and falling interest-rate environments. In Exhibit 3 (previous page), rising and falling interest-rate environments are shaded in green and blue, respectively.

It's apparent from the chart that managed-futures returns tend to move with interest-rate levels, and the peak and valley points of the two tend to coincide with one another. The actual correlation (0.12) and R-squared (0.01), however, are relatively weak as the variation in managed-futures returns is largely explained by factors (momentum) other than interest-rate movements.

The Implications

Investors should be mindful when being presented with historical managed-futures returns, as these strategies are no longer receiving a boost from interest rates, which have largely benefited them in the past. Some funds, such as the Altegris Futures Evolution Strategy **EVOAX**, have tried to solve this problem by introducing credit and interest-rate risk into the cash sleeve of the portfolio. But active cash management only slightly improved this fund's return over its more traditional managed-futures strategy, Altegris Managed Futures Strategy **MFTAX**, in 2012 (negative 3.2% versus negative 3.9%). And when interest rates do eventually rise, these risky strategies likely will buckle, and more pure managed-futures strategies probably will outperform.

Morningstar Product Spotlight: Morningstar Estimated Performance for Hedge Funds

Bringing transparency to private hedge funds.

by
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Commercial databases such as Morningstar's have done much to increase transparency in the hedge fund industry. But the voluntary nature of hedge fund self-reporting still prevents investors from understanding the complete picture. Several studies have shown that about 40% of the industry's largest single-manager hedge funds do not report to any major databases.[1] As a result, investors have no access to the full spectrum of hedge fund returns and volatility.

However, in March 2011 Morningstar introduced a partial solution to this pervasive problem—Morningstar Estimated Performance℠. This new data point estimates the returns of more than 1,900 hedge funds, including more than 85% of the industry's largest funds, many of which do not typically self-report and whose performance would be otherwise inaccessible.[2] Morningstar clients have access to this unique data set through Morningstar Direct℠, our flagship product for institutional investors. The raw underlying holdings information for the individual registered funds of hedge funds, as well as the calculated estimated performance figures, can be viewed through a licensed data feed. When used as a supplement to self-reported returns, Morningstar Estimated Performance provides a fuller and more representative view of hedge fund industry performance.

Estimated Performance Calculation Methodology

Since 2004, a small subset of funds of hedge funds has chosen to register with the SEC under the Investment Company Act of 1940. Registration affords these funds of hedge funds the right to actively market and distribute their funds through investment advisors (like mutual funds) and gives them access to an unlimited number of investors.[3]

Once registered, these funds of hedge funds must comply with all 1940-Act filing requirements, including semiannual and annual reports (forms N-CSRS and N-CSR) and quarterly holding statements (form N-Q). These quarterly filings disclose the fund of funds' portfolio of investments, including the name of each underlying hedge fund, the cost basis of the position, and the current market value of the position.

To calculate the estimated quarterly returns of the underlying hedge fund managers, Morningstar looks at the change in current market value of each hedge fund investment between two consecutive quarterly filing periods. It's important to note that Morningstar calculates estimated performance only when the cost basis of a holding remains constant across filings (meaning no cash flows throughout the quarter). Excluding holdings with uncertain cash flows increases the overall accuracy of the data set.[4]

Using this new methodology, Morningstar has calculated 13,412 total estimated quarterly returns between September 2004 (the earliest available N-Q/N-CSR filing date) and June 2012 for 1,914 hedge funds. This doesn't amount to multiple years of history for all hedge funds, but investors are much less in the dark than before.

Access to Nonreporting Hedge Fund Performance

More information is always nice, but exactly how does this data benefit investors? First, investors can create better or more custom benchmarks for their hedge fund investments.

Because of the voluntary nature of hedge fund disclosure, research shows that databases of self-reported hedge fund returns, and

1 Fung, William and David A. Hsieh. 2009. "Measurement Biases in Hedge Fund Performance Data: An Update." *Financial Analysts Journal.* vol. 65, no. 3: 36. ProQuest. Web. March 6, 2011.
2 Allen, Katrina D. "Billion Dollar Club." *AR Absolute Return.* Sept. 30, 2010.
3 Aiken, Adam L., Christopher P. Clifford, and Jesse Ellis. "Out of the Dark: Hedge Fund Reporting Biases and Commercial Database." *The Review of Financial Studies.* Sept. 28, 2012. http://rfs.oxfordjournals.org/content/26/1/208.full.
4 Morningstar Corporate Research. "Morningstar Estimated Performance Methodology." October 2010.

therefore indexes based on these databases, are often missing the industry's top and bottom performers, depriving investors of a clear view of industry performance, as well as understating the overall risks involved in hedge fund investing. In choosing whether to report to a commercial database, hedge funds face a trade-off between the costs of disclosure (potential regulatory scrutiny, for example) and the gains of raising additional capital through marketing the fund's returns. Funds that have already raised sufficient capital or that simply view the costs of disclosing their performance or strategy as too high may choose not to report.[5] Additionally, funds with poor past performance are unlikely to see much benefit in advertising their returns and subsequently opt out of reporting to a database. Although a recent study concluded that the positive effects of including the largest and best-performing hedge funds in aggregate hedge fund performance indexes were essentially offset by funds that do not report their poor performance, investors may not want to benchmark to the "average" hedge fund.[6]

For example, SAC Capital Advisors, one of the industry's most prominent hedge fund firms with $14 billion in assets, has never reported performance to Morningstar's hedge fund database, but both *The Wall Street Journal* and *The New York Times* have characterized the firm's flagship SAC Capital International Fund as one of the most successful, citing roughly 30% annualized returns since its 1992 inception (compared with only 8.2% annualized for the S&P 500).[7,8] Given SAC's impressive size and performance, it's no surprise investors are eager for more information on this firm's hedge funds. And thanks to the Morningstar Estimated Performance methodology, they are finally able to get this highly sought-after information.

Exhibit 1: Performance of SAC Capital International Ltd. vs. the Morningstar MSCI Composite AW Hedge Fund Index

My Lists SAC Capital - Nonreporting Hedge Fund Performance

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	Name	Estimated Quarterly Return 2010-Q3	Estimated Quarterly Return 2010-Q4	Estimated Quarterly Return 2011-Q1	Estimated Quarterly Return 2011-Q2	Estimated Quarterly Return 2011-Q3	Estimated Quarterly Return 2011-Q4	Estimated Quarterly Return 2012-Q1	Estimated Quarterly Return 2012-Q2
1	SAC Capital International Ltd								

Please see accredited-investor version for this fund's Morningstar Estimated Performance.

My Lists SAC Capital - Nonreporting Hedge Fund Performance

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	Name	Quarterly Return 2010-Q3 USD	Quarterly Return 2010-Q4 USD	Quarterly Return 2011-Q1 USD	Quarterly Return 2011-Q2 USD	Quarterly Return 2011-Q3 USD	Quarterly Return 2011-Q4 USD	Quarterly Return 2012-Q1 USD	Quarterly Return 2012-Q2 USD
1	Morningstar MSCI Composite AW	4.34	4.92	1.03	(1.17)	(3.89)	1.26	3.06	(1.23)

According to SEC filings, two registered funds of hedge funds have invested in the firm's flagship fund since mid-2010: Morgan Stanley Global Long/Short and AIP Multi-Strategy. By analyzing the quarterly filings of these two registered funds of hedge funds, Morningstar has been able to calculate estimated quarterly performance for SAC Capital International Ltd. from September 2010 to June 2012 (date of the most recent SEC filing). Investors can gain access to this information in Morningstar Direct by searching for the data point Estimated Quarterly Return and setting the dates accordingly. (See Exhibit 1 above.) This estimated performance clearly corroborates the claim that SAC Capital International Ltd. is better than average—its estimated quarterly returns have outpaced that of the broad Morningstar MSCI Asset-Weighted Composite Hedge Fund Index℠ each quarter, often by a wide margin.

Comparison Tool for Self-Reported Returns

Morningstar Estimated Performance also provides a credible method to verify that managers are reporting their performance honestly and accurately. More than 7,500 hedge fund managers self-report their returns to Morningstar, making it one of the largest and most comprehensive databases in the industry. Morningstar cannot verify the accuracy of this self-reported data, but now there is a way for investors to do so on a fund-by-fund basis. Besides being potentially inaccurate, self-reported data may not represent the actual investor experience in a hedge fund—self-reported return data can diverge from the actual investors' experience as a result of holding periods, cash flow timing, and, most importantly, fees.

For example, Fund A[9] has self-reported its performance to the Morningstar Hedge Fund Database since its July 2007 inception. Investors can view this hedge fund's self-reported returns in Morningstar Direct against the Morningstar Estimated Performance. Lazard Alternative Strategies Fund LLC has invested in Fund A since September 2010, and NT Alpha Strategies and Arden Sage Multi-Strategy LLC have recently begun allocating capital as well. In cases like this where multiple registered funds of funds are investing in the same underlying funds, Morningstar reports the median return observation as the fund's estimated quarterly performance. As established in Exhibit 2, the divergence between self-reported

Exhibit 2: Quarterly Performance of Fund A

Date	Self-Reported Quarterly Returns	Morningstar Estimated Performance	Divergence
03-31-2011	5.01	5.03	0.02
06-30-2011	1.88	1.88	0.00
09-30-2011	–8.67	–8.67	0.01
12-31-2011	8.26	8.27	0.01
03-31-2012	4.85	4.87	0.01
06-30-2012	–0.53	–0.53	0.00

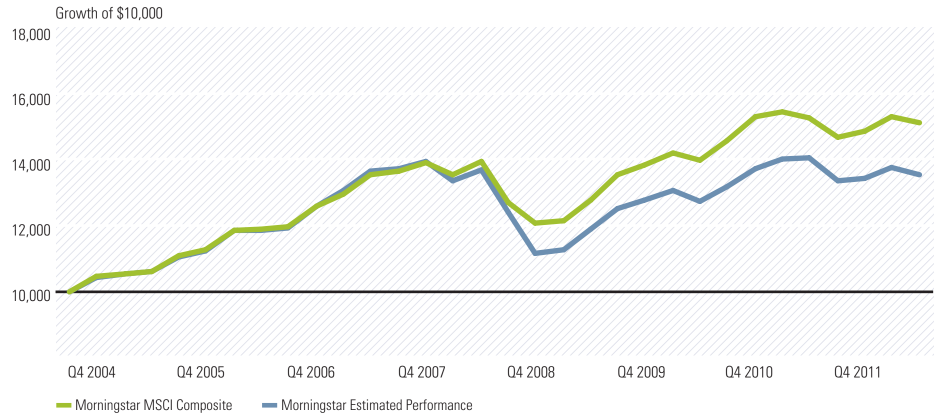
5 Aiken, Adam L., Christopher P. Clifford, and Jesse Ellis. "Out of the Dark: Hedge Fund Reporting Biases and Commercial Database." *The Review of Financial Studies*. Sept. 28, 2012. http://rfs.oxfordjournals.org/content/26/1/208.full
6 Edelman, Daniel, William Fung, and David A. Hsieh. "Exploring Uncharted Territories of the Hedge Fund Industry: Empirical Characteristics of Mega Hedge Fund Firms." Oct. 12, 2012. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2161123
7 Chung, Juliet. "Citi Adds to Drain of Funds at SAC." Jan. 24, 2013. http://online.wsj.com/article/SB10001424127887324039504578261631722835380.html
8 "SAC Capital Advisors." *The New York Times*. Jan. 9, 2013. (Accessed Jan. 24, 2013.) http://topics.nytimes.com/top/news/business/companies/sac_capital_advisors/index.html
9 For access to individual hedge fund names and performance, subscribers to Morningstar Direct℠ can download the accredited-investor version of this newsletter.

composite returns and estimated performance figures for this hedge fund is negligible.

However, in cases where the disparity is great, current and potential investors should investigate further. The returns could be completely different for investors who are invested in the side pockets (where less-liquid securities often reside), or different fee agreements could be in place for different investors (a "most favored nation" clause, for example). As Morningstar's research has illustrated time and again that lower fees contribute to above-average mutual fund performance,[10] hedge fund investors, who routinely pay average management and incentive fees of 2% and 20%, would be wise to scrutinize costs more closely as well. Fund B[9] is one example of a fund with some large discrepancies between self-reported performance and Morningstar Estimated Performance.

High-Level View of the Hedge Fund Industry
Last but not least, investors can use the aggregate estimated performance data set to draw industry-level conclusions. For example, Exhibit 3 shows the growth over time of the Morningstar MSCI Asset-Weighted Composite Hedge Fund Index versus an equal-weighted composite of Morningstar Estimated Performance figures. The two lines track closely until mid-2008, the height of the financial crisis, at which point the Morningstar Estimated Performance composite dips down much lower than the Morningstar MSCI Composite Asset-Weighted Index. Morningstar Estimated Performance figures have continued to trail self-reporting funds ever since.

Exhibit 3: Hedge Fund Performance Over Time



The likely explanation for this divergence is that the worst-performing hedge funds simply stopped reporting to Morningstar's database during the financial crisis. A quick look at the database's history confirms this—delisting was prevalent throughout 2008, as 1,782 hedge funds dropped out of the Morningstar Hedge Fund Database because of liquidation, manager requests for removal, or delinquent performance updating. This marked a 170% increase from 2007, when only 661 funds disappeared. It's likely that these funds stopped reporting well in advance of their liquidation, so that the full extent of these losses was never reflected in the commercial databases.

Until hedge funds are required to file with the SEC (currently the largest hedge fund advisors must register, but their funds do not have filing requirements), hedge fund databases and benchmarks will be incomplete and potentially rife with biases, but Morningstar Estimated Performance brings this opaque industry one step closer to transparency.

10 Kinnel, Russel. "How Expense Ratios and Star Ratings Predict Success." Morningstar.com. Aug. 9, 2010.

Industry Trends: Alternative Mutual Funds

Surprising shifts in alternative mutual fund.

by
Josh Charney
Alternative Investments Analyst

Alternative Mutual Funds
Alternative mutual funds and exchange-traded funds once again saw large inflows in 2012—$19.1 billion and $10.8 billion, respectively. Inflows were not as strong as they have been in the previous four years, but total assets in these liquid alternative strategies are inching up. Alternative mutual funds now represent 1.62% of total mutual fund assets (excluding money market funds), up from 1.53% a year ago. For ETFs, this figure now stands at 11.4%.

While inflows into alternative strategies as a whole are nothing new, some new trends emerged in 2012. For one, it's apparent that investors are redeploying capital within alternative categories. Some of the oldest and once largest mutual funds are falling out of the limelight. In the long-short equity category, for example, investors pulled $1.8 billion from 13-year-old Hussman Strategic Growth **HSGFX** (with a Negative Morningstar Analyst Rating), while investors appeared to favor Bronze-rated but lesser-known MainStay Marketfield **MFADX**, which saw inflows of $3.3 billion.

As another example, two of the oldest funds in the multialternative category topped the list for outflows last year. Hedge fund replicators Natixis ASG Global Alternatives **GAFAX** and Goldman Sachs Absolute Return Tracker **GARTX** bled $283.4 billion and $386.8 billion, respectively, even though both these funds ended with positive performance last year (3.5% and 2.3%, respectively). Each failed to keep pace with the Morningstar MSCI Composite AW Hedge Fund Index℠, however (up 6.2% in 2012). Conversely, newcomer Arden Alternative Strategies **ARDNX**, a mutual fund of some well-known hedge fund managers (such as JANA, York, and Chilton), ranked third in inflows with $759 million in new money last year. It appears that investors are losing faith in replication strategies and are opting for the real deal. There now are at least 20 such hedge funds of funds (eight of which launched in 2012) in the multialternative mutual fund category, which is gaining much traction ($4.3 billion of inflows, second only to the long-short equity category) as well as new products as investors look for one-stop-shop solutions to their alternatives allocation problem.

The long-short equity category remains the largest alternative mutual fund category, both in terms of offerings (90) and assets. In 2012, the category pulled ahead with a gain of 5.1%. Inflows and assets were also extremely positive. Flows for 2012 stood at a record $6.1 billion, and total assets are up 33.0% to $25.7 billion.

If there were a contest for best category in 2012, the award would go to the non-traditional-bond category (on both an absolute and risk-adjusted basis). The average fund in the category gained 7.5% last year. But the feat may be less meaningful given that many of these funds were long credit and duration, which was a winning bet last year. The Barclays U.S. High Yield Long Bond Index, for instance, was up 24.7%. The worst category award goes to the bear-market category, which lost 23.7% on average in 2012. Surprisingly, the category attracted $3.5 billion in inflows, but much of that gain was driven by PIMCO StocksPLUS Total Return Short Strategy **PSSAX**. One of the category's oldest and most famous funds, Federated Prudent Bear **BEARX**, lost the most assets in the category ($280 million), as well as its lead manager, Doug Nolan.

Fund Reports

Collins Alternative Solutions

by **Mallory Horejs**

Advisor
Collins Capital Investments, LLC

Advisor Location
Coral Gables, Florida

Assets Under Management
$28.8 million (fund)

Inception Date
April 30, 2012

Investment Type
Mutual fund

Morningstar Category
Multialternative

Management
Dorothy Weaver and Michael Collins co-founded this fund's advisor, Collins Capital Investments, LLC, in 1995. Weaver previously served as president of Intercap Investments Inc., and as chairman of the Federal Reserve Bank in Miami. Collins previously held senior leadership roles at Fidelity Union Life Insurance and Allianz Investment Corporation, after which he transitioned into investment management as general partner of a long-short hedge fund. Weaver and Collins are assisted by the firm's third principal, Pete Windhorst, who handles the operations; Stephen Mason, who leads portfolio management; and Richard de Garis, the director of risk management. Collins Capital has been running this strategy in hedge fund format since 1995.

Strategy

This multistrategy alternative mutual fund allocates to hedge fund managers with the intent of providing a one-stop solution for investors seeking exposure to alternatives and diversification in their bond portfolios. Portfolio managers Dorothy Weaver, Michael Collins, and Steve Mason look primarily for discretionary (rather than systematic) hedge fund strategies across asset classes, investing time horizons, and geographic regions and sectors. As of December 2012, the fund was invested in five subadvisors (through separate accounts): Whitebox Advisors (21%), Cambridge Strategy (18%), Stadion Money Management (25%), Battenkill Capital Management (18%), and an undisclosed long-short credit manager (18%). Whitebox applies quantitative and qualitative analysis to capture arbitrage opportunities in credit, equity, and event-driven situations; macro manager Cambridge trades currencies, fixed-income, and credit instruments predominantly in emerging markets; Stadion manages a hedged equity strategy with a volatility overlay; and Battenkill runs a market-neutral strategy that executes pair trades largely in the energy, industrials, and basic-materials sectors. With this multimanager approach, Collins aims to generate absolute returns in the mid-to-high single digits with bondlike volatility. Since inception, the mutual fund has posted an annualized return and volatility of 4.39% and 1.75%, respectively (using weekly data from May 5, 2012, to Jan. 12, 2013). Diversification is another key mandate, and the fund's correlation to the S&P 500 and Barclays Global Aggregate Bond indexes have been 0.68 and 0.12, respectively.

Process

The investment process is top-down. Weaver holds a three-day semiannual portfolio review in which the seven-person investment team examines the macro outlook for each hedge fund strategy and sets the asset allocation accordingly. The team then meets monthly to monitor portfolio performance and rebalance as necessary. Weaver and her team source hedge funds primarily through the firm's existing relationships and industry connections. The team holds a monthly meeting dedicated to discussing pipeline opportunities after which prospective managers are quantitatively analyzed over various time horizons. Next, the team conducts qualitative due diligence, which focuses on factors like management's character, experience running the strategy, competitive advantages, and risk management framework. Style drift, personnel turnover, and asset-gathering tendencies are viewed as red flags. Operational due diligence rounds out the selection process—Collins examines each hedge fund's overall organization, structure, back office, valuation policies, and service providers. Allocations are sized based upon the strategy's risk/return profile (for example, long-short equity and global macro receive smaller allocations than market-neutral because of their higher expected volatility) and conversations with the managers themselves.

Risk Management

The firm's risk-mitigation process starts with manager selection: Collins conducts extensive operational due diligence on each potential manager and looks specifically for firms with tight risk controls. In addition, the team has developed several internal tools to closely monitor portfolio risk. Exposure aggregation models, for example, ensure that the portfolio does not become too concentrated in any single sector, asset class, instrument, or geography. A cross-correlation model serves to enhance diversification. Lastly, management considers a variety of risk metrics (through stress tests, scenario analysis, VaR analysis, and expected tail loss analysis) to avoid large losses.

Release date 12-31-2012

Collins Alternative Solutions Instl (USD)

Standard Index	Category Index	Morningstar Cat
S&P 500 TR	Barclays US Agg Bond TR USD	US OE Multialternative

Performance 12-31-2012

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2010	—	—	—	—	—
2011	—	—	—	—	—
2012	—	—	1.60	0.61	—

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	—	—	—	—	2.52
Std 12-31-2012	—	—	—	—	2.52
Total Return	—	—	—	—	2.52
+/- Std Index	—	—	—	—	—
+/- Cat Index	—	—	—	—	—
% 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 855-552-5863 or visit www.collinsalternativefunds.com.

Fees and Expenses

Sales Charges

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

Fund Expenses

Management Fees %	1.95
12b1 Expense %	NA
Gross Expense Ratio %	**2.53**

Risk and Return Profile

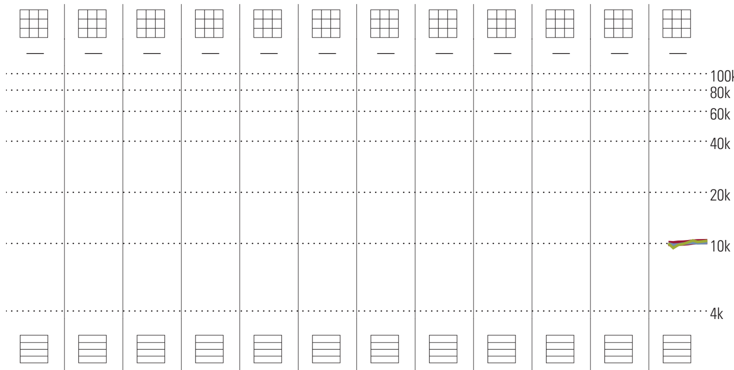
	3 Yr 125 funds	5 Yr 62 funds	10 Yr 5 funds
Morningstar Rating™	—	—	—
Morningstar Risk	—	—	—
Morningstar Return	—	—	—

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

MPT Statistics	Standard Index	Best Fit Index
Alpha	—	—
Beta	—	—
R-Squared	—	—

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

Investment Style
Equity
Stock %



Growth of $10,000
- Collins Alternative Solutions Instl 10,252
- Category Average 10,082
- Standard Index 10,369

Performance Quartile (within category)

History	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	12-12
NAV/Price	—	—	—	—	—	—	—	—	—	—	—	10.21
Total Return %	—	—	—	—	—	—	—	—	—	—	—	—
+/- Standard Index	—	—	—	—	—	—	—	—	—	—	—	—
+/- Category Index	—	—	—	—	—	—	—	—	—	—	—	—
% Rank Cat	—	—	—	—	—	—	—	—	—	—	—	—
No. of Funds in Cat	—	—	—	—	—	—	—	—	—	—	—	—

Portfolio Analysis

Asset Allocation %	Net %	Long %	Short %
Cash	—	—	—
US Stocks	—	—	—
Non-US Stocks	—	—	—
Bonds	—	—	—
Other/Not Clsfd	—	—	—
Total	—	—	—

Share Chg since	Share Amount	Holdings: 0 Total Stocks , 0 Total Fixed-Income, — Turnover Ratio	% Net Assets
—			

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

Ltd Mod Ext / High Med Low

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

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

Regional Exposure	Stock %	Rel Std Index
Americas	—	—
Greater Europe	—	—
Greater Asia	—	—

Sector Weightings	Stocks %	Rel Std Index
Cyclical	—	—
Basic Materials	—	—
Consumer Cyclical	—	—
Financial Services	—	—
Real Estate	—	—
Sensitive	—	—
Communication Services	—	—
Energy	—	—
Industrials	—	—
Technology	—	—
Defensive	—	—
Consumer Defensive	—	—
Healthcare	—	—
Utilities	—	—

Operations

Family:	Collins Capital Investments, LLC	Base Currency:	USD	Incept:	04-30-2012
Manager:	Multiple	Ticker:	CLLIX	Type:	MF
Tenure:	0.8 Year	Minimum Initial Purchase:	$1 mil	Total Assets:	$28.78 mil
Objective:	Growth and Income	Purchase Constraints:	—		

Fund Reports

KKR Alternative High Yield

by **Nadia Papagiannis, CFA**

Advisor
KKR Asset Management

Advisor Location
New York, New York

Assets Under Management
$108.7 million

Inception Date
Oct. 23, 2012

Investment Type
Mutual fund

Morningstar Category
High-yield bond

Management
Chris Sheldon, Erik Falk, and William Sonnenborn are the named managers on this fund. Sheldon and Falk head up leveraged credit research and serve on the firm's investment committee. Sonnenborn heads KKR Asset Management, or KAM, and is CEO of KKR Financial Holdings LLC. Sheldon is based in San Francisco and joined KKR in 2004 from Wells Fargo's high-yield securities group. Falk is based in New York and joined KAM in 2008 from Deutsche Bank, where he was the global co-head of securitized products. Sonnenborn is based in San Francisco and joined KAM in 2008 from TCW Group, where he was president and CEO of the TCW funds. KAM's investment team consists of 60 equity and credit research personnel.

Strategy
This fund is a long-only, primarily high-yield, U.S. corporate-bond fund. The fund will invest 70%–75% of its assets in high-yield bonds and 25%–30% of its assets in bank loans. The fund seeks to differentiate from other funds in the category in that it may hold some lower-rated assets (B- or CCC) and/or smaller issuers. The fund seeks to limit its duration exposure (to 4.0-5.0 years) by focusing on the shorter end of the maturity curve but will not hedge credit or duration risk. The fund does not have any strict portfolio construction parameters, but as of Dec. 31, 2012, the top 10 holdings constituted about 20% of fund assets and the largest sector allocations were to technology and electronics (14.4%), media (13.3%), and services (13.3%). Most issues the fund invests in are expected to be at least $300 million (with many of them greater than $1 billion).

Process
The fund's investment process is fundamental and bottom-up. The firm believes it has an edge in sourcing investment ideas through its private equity business and its relationships with investment banks. Analysts are organized by the same industry groups in both the private equity and credit parts of the firm and are encouraged to share investment ideas, although the fund is prohibited from taking positions in securities of related companies. The fund's top-down investment themes help guide the bottom-up security selection. The current themes, for example, are the deleveraging of European banks and other financials (including U.S. insurance brokerages), hospitals (a relative value winner in the health-care subsector), and energy (exploration and production). When seeking a potential investment, KKR wants to have a differentiated point of view relative to the markets.

On a weekly basis, the KAM investment committee approves individual credits and sets strategy level limits on specific credit, issuer, industry, and other parameters. Each credit is also reviewed quarterly during the portfolio-management committee meetings. Portfolio managers decide which credits to bring before the investment committee. A fundamental credit memo is presented for each potential investment with a valuation model (including stress cases), industry review, relative value analysis, management profile, investment strengths and weaknesses, and covenant review. Daily investment team meetings are held to review the markets overall and company and industry news.

Risk Management
Management does not hedge. It attempts to mitigate risk by investing in credits with limited downside, as determined by the fundamental research. Positions are exited if there are better investment opportunities elsewhere, if a company's financials have become more obscure, or if a company is failing to meet its financial targets. Management employs various external risk management systems (RiskMetrics, Bloomberg, Black Mountain Everest, Zephyr, and FactSet) to generate risk reports. The firm also has an independent analytics department and risk committee to assist and oversee portfolio managers with risk analysis. Management believes capacity in its liquid bank-loan strategies are $25 billion to $30 billion and $15 billion to $20 billion in its liquid high-yield strategies. As of September 2012, the firm managed $2.9 billion in high yield, $8.8 billion in bank loans, and $2.6 billion in a combination high-yield/bank-loan strategy.

KKR Alternative High Yield KKR (USD)

Standard Index	Category Index	Morningstar Cat
Barclays US Agg Bond TR USD	BofAML US HY Master II TR USD	US OE High Yield Bond

Performance 12-31-2012

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2010	—	—	—	—	—
2011	—	—	—	—	—
2012	—	—	—	—	—

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	—	—	—	—	1.77
Std 12-31-2012	—	—	—	—	1.77
Total Return	—	—	—	—	1.77
+/- Std Index	—	—	—	—	—
+/- Cat Index	—	—	—	—	—
% 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 855-859-3943 or visit kkrfunds.kkr.com.

Fees and Expenses

Sales Charges

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

Fund Expenses

Management Fees %	0.65
12b1 Expense %	NA
Gross Expense Ratio %	**1.06**

Risk and Return Profile

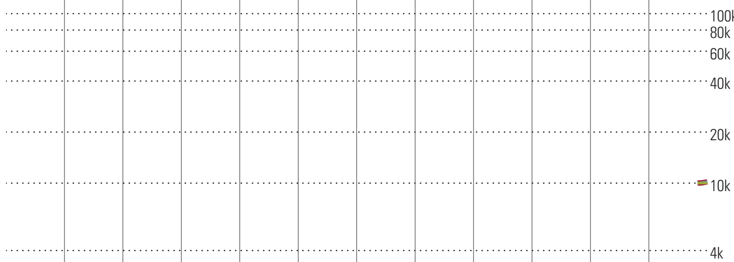
	3 Yr 517 funds	5 Yr 459 funds	10 Yr 322 funds
Morningstar Rating™	—	—	—
Morningstar Risk	—	—	—
Morningstar Return	—	—	—

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

MPT Statistics	Standard Index	Best Fit Index
Alpha	—	—
Beta	—	—
R-Squared	—	—

12-Month Yield	—
30-day SEC Yield	—
Potential Cap Gains Exp	0.38%

Investment Style
Fixed-Income
Bond %



Growth of $10,000

- KKR Alternative High Yield KKR 10,171
- Category Average 10,223
- Standard Index 10,002

Performance Quartile (within category)

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	12-12	History
—	—	—	—	—	—	—	—	—	—	—	10.04	NAV/Price
—	—	—	—	—	—	—	—	—	—	—	—	Total Return %
—	—	—	—	—	—	—	—	—	—	—	—	+/- Standard Index
—	—	—	—	—	—	—	—	—	—	—	—	+/- Category Index
—	—	—	—	—	—	—	—	—	—	—	—	% Rank Cat
—	—	—	—	—	—	—	—	—	—	—	—	No. of Funds in Cat

Portfolio Analysis

Asset Allocation %	Net %	Long %	Short %
Cash	—	—	—
US Stocks	—	—	—
Non-US Stocks	—	—	—
Bonds	—	—	—
Other/Not Clsfd	—	—	—
Total	—	—	—

Share Chg since	Share Amount	Holdings: 0 Total Stocks , 0 Total Fixed-Income, 1% Turnover Ratio	% Net Assets
—			

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

Ltd Mod Ext
High Med Low

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

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

Regional Exposure	Stock %	Rel Std Index
Americas	—	—
Greater Europe	—	—
Greater Asia	—	—

Sector Weightings	Stocks %	Rel Std Index
Cyclical	—	—
Basic Materials	—	—
Consumer Cyclical	—	—
Financial Services	—	—
Real Estate	—	—
Sensitive	—	—
Communication Services	—	—
Energy	—	—
Industrials	—	—
Technology	—	—
Defensive	—	—
Consumer Defensive	—	—
Healthcare	—	—
Utilities	—	—

Operations

Family:	KKR	Base Currency:	USD	Incept:	10-23-2012
Manager:	Multiple	Ticker:	KHYKX	Type:	MF
Tenure:	0.3 Year	Minimum Initial Purchase:	$5 mil	Total Assets:	$108.70 mil
Objective:	Corporate Bond - High Yield	Purchase Constraints:	—		

Fund Reports

Longboard Managed Futures Strategy

by **Terry Tian**

Advisor
Longboard Asset Management

Advisor Location
Scottsdale, Arizona

Assets Under Management
$19.9 million (fund)

Inception Date
June 27, 2012

Investment Type
Mutual fund

Morningstar Category
Managed futures

Management
This fund has four listed portfolio managers. Cole Wilcox and Eric Crittenden are founding partners of Longboard Asset Management. Wilcox is responsible for strategy allocation, and Crittenden is in charge of research, risk management, and trading operations. Prior to Longboard, Wilcox was the managing director and Crittenden was the director of research at Blackstar Funds LLC, a quantitative long-short equity hedge fund shop. Jason Klatt assists in the testing and development of Longboard's trading strategies. Jill King of Horizon Cash Management LLC is charged with the fund's cash collateral management.

Strategy

This managed-futures strategy attempts to capture long-term price trends in the futures markets. Unlike most other managed-futures funds, which use multiple time-frame signals to identify trends, this fund focuses exclusively on long-term (15-month) price momentum. Management is convinced that multiyear, secular price trends have a higher probability of outperforming shorter-term trends over the long run, and by focusing on long-term trends, the fund can minimize trading costs. As a result, the average holding period for all positions is approximately 12 months. Horizon Cash Management LLC is charged with the management of the fund's cash collateral. Horizon may invest in securities such as U.S. Treasuries, commercial papers, and repo agreements. Management targets the risk-free rate plus 50–60 basis points for the cash collateral. The fund's expected annualized volatility is 15%.

Process

The fund's investment universe includes 120 futures contract markets under the four major asset classes: equities, fixed-income securities, commodities, and currencies. The fund typically holds positions in 50%–60% of the markets. In order to identify trends, a program systematically screens the daily closing prices of all targeted futures markets over the past 15 months. If a futures market's last closing price is higher than 99% of all the daily closing prices over the past 15 months, the fund takes a long position in that futures market (as it is expected to continue to rise in price). Conversely, if the last closing price is lower than 99% of all the daily closing prices over the past 15 months, the fund takes a short position. When the last closing price of a current position is higher (or lower, for short positions) than less than 50% of all the daily closing prices in the past 15 months (meaning the trend has reversed) the fund will completely exit that position (the 50th percentile price becomes the stop loss or exit price). After taking a position, the fund will dynamically adjust the position size on a daily basis, reducing longs (shorts) when the spread between the exit price and the highest market price (or the lowest price for short positions) widens (akin to taking money off the table).

Risk Management

Management sets a fund-level risk budget, which is the maximum loss of capital if all positions are simultaneously closed at loss. The risk budget is a dynamic figure and typically ranges between 15% and 35% of the portfolio. Management systematically monitors four factors to determine the risk budget: first, the diversification in the portfolio (which attempts to avoid position concentration and ensure established positions are spread across at least three of the four asset classes); second, the degree of position independence (which measures whether the futures markets are strongly correlated); third, the volatility of all individual positions; and fourth, the liquidity constraint of certain futures markets. The fund employs a risk-parity program so that the risk budget is equally distributed among all positions in the portfolio, based on their volatility; more-volatile futures markets will have smaller position sizes. When the fund enters a new trade or closes an existing trade, all positions will be resized so that each position still holds the same risk budget. In terms of the cash collateral, the credit quality of every security is limited to investment grade. To ensure liquidity, approximately one third of the cash collateral is held in overnight instruments, one third with maturity within three weeks, and one third between one and three months.

Longboard Managed Futures Strategy I (USD)

Standard Index	Category Index	Morningstar Cat
S&P 500 TR	Morningstar Diversified Futures TR USD	US OE Managed Futures

Performance 12-31-2012

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2010	—	—	—	—	—
2011	—	—	—	—	—
2012	—	—	-0.70	-0.81	—

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	—	—	—	—	-1.50
Std 12-31-2012	—	—	—	—	-1.50
Total Return	—	—	—	—	-1.50
+/- Std Index	—	—	—	—	—
+/- Cat Index	—	—	—	—	—
% 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 855-294-7540 or visit www.longboardmutualfunds.com.

Fees and Expenses

Sales Charges

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

Fund Expenses

Management Fees %	2.99
12b1 Expense %	NA
Gross Expense Ratio %	**2.99**

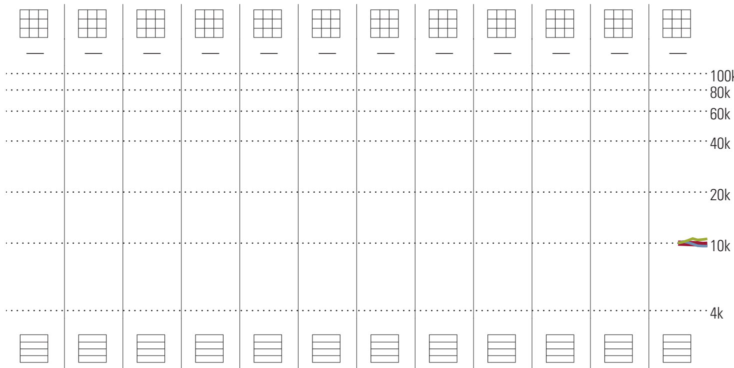
Risk and Return Profile

	3 Yr 18 funds	5 Yr 4 funds	10 Yr —
Morningstar Rating™	—	—	—
Morningstar Risk	—	—	—
Morningstar Return	—	—	—

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

MPT Statistics	Standard Index	Best Fit Index
Alpha	—	—
Beta	—	—
R-Squared	—	—

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



Investment Style
Equity
Stock %

Growth of $10,000
Longboard Managed Futures Strategy I
9,850
Category Average
9,609
Standard Index
10,595

Performance Quartile (within category)

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	12-12	History
—	—	—	—	—	—	—	—	—	—	—	9.85	NAV/Price
—	—	—	—	—	—	—	—	—	—	—	—	Total Return %
—	—	—	—	—	—	—	—	—	—	—	—	+/- Standard Index
—	—	—	—	—	—	—	—	—	—	—	—	+/- Category Index
—	—	—	—	—	—	—	—	—	—	—	—	% Rank Cat
—	—	—	—	—	—	—	—	—	—	—	—	No. of Funds in Cat

Portfolio Analysis

Asset Allocation %	Net %	Long %	Short %
Cash	—	—	—
US Stocks	—	—	—
Non-US Stocks	—	—	—
Bonds	—	—	—
Other/Not Clsfd	—	—	—
Total	—	—	—

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

Ltd Mod Ext
High Med Low

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

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

Regional Exposure	Stock %	Rel Std Index
Americas	—	—
Greater Europe	—	—
Greater Asia	—	—

Share Chg since	Share Amount	Holdings:	% Net Assets
—		0 Total Stocks , 0 Total Fixed-Income, — Turnover Ratio	

Sector Weightings	Stocks %	Rel Std Index
Cyclical	**—**	**—**
Basic Materials	—	—
Consumer Cyclical	—	—
Financial Services	—	—
Real Estate	—	—
Sensitive	**—**	**—**
Communication Services	—	—
Energy	—	—
Industrials	—	—
Technology	—	—
Defensive	**—**	**—**
Consumer Defensive	—	—
Healthcare	—	—
Utilities	—	—

Operations

Family:	Longboard	Ticker:	WAVIX	Incept:	06-27-2012
Manager:	Multiple	Minimum Initial Purchase:	$10,000	Type:	MF
Tenure:	0.6 Year	Min Auto Investment Plan:	$500,000	Total Assets:	$19.90 mil
Objective:	Growth and Income	Minimum IRA Purchase:	$500,000		
Base Currency:	USD	Purchase Constraints:	—		

Fund Reports

Ramius Strategic Volatility

by **Terry Tian**

Advisor
Ramius LLC

Advisor Location
New York, New York

Assets Under Management
$64.9 million (fund)

Inception Date
Oct. 1, 2012

Investment Type
Mutual fund

Morningstar Category
Bear market

Management
This fund is comanaged by Vikas Kapoor and Stuart Davies. Kapoor is responsible for portfolio construction and risk management. Prior to joining Ramius, Kapoor was managing director at Arden Asset Management, a fund of hedge funds, focusing on portfolio construction and risk management. Prior to that, he was a managing director in Deutsche Bank's absolute return strategies group where he headed the quantitative analysis and applications group. Davies is primarily in charge of the fund's arbitrage strategies. Before joining Ramius, Davies was a portfolio manager at Coronation (a South African fund company) and the CIO at Nedcor Investment Bank, a subsidiary of Old Mutual.

Strategy

Historically, equity volatility has exhibited strong negative correlations with equity market returns; however, being long volatility in traditional forms, such as VIX futures and VIX-tracking exchange-traded notes, can be very costly over the long run. This fund is a long volatility strategy that attempts to provide investors with a hedge against equity market tail risk, while minimizing the cost of owning volatility in normal market environments by employing volatility arbitrage strategies and various carry strategies. Management allocates among three strategy buckets. The first is a directional long volatility strategy, which will be negatively correlated with the equity market; the second is a bucket of long-short volatility arbitrage strategies, which hedge the cost of long volatility with short positions (such as being long midterm volatility futures and short front-month volatility futures) but are expected to generate positive returns when the market turns bearish. The third component consists of various types of carry trades, which are expected to generate positive returns in a normal (flat or bullish) equity market environment. The fund targets a 30% annualized volatility. The cash collateral is held in short-term U.S. Treasuries.

Process

Management uses swap contracts with (six different) investment banks to achieve exposures in all three buckets. Each swap dynamically adjusts based on a systematic program with predefined rules and settles daily. In the directional long volatility bucket (which holds between 35% and 50% of the portfolio weight), the program would normally hold longer-dated VIX futures contracts (which generate lower negative roll yield) but will shift to shorter-dated VIX futures contracts when the market is in distress (as these contracts are more sensitive to equity market volatility). In the long-short volatility arbitrage bucket (which is 15% to 30% of the portfolio weight), the program normally takes long positions in midterm VIX futures contracts and shorts the front-month VIX futures contracts but will switch to outright long VIX positions when the market turns and stays bearish for an extended period of time. Finally, in the carry bucket (which is 15% to 30% of the portfolio weight), the program is diversified among currency carry strategies, commodity strategies (for example, taking advantage of commodity backwardation), volatility arbitrage strategies (such as selling volatility straddles), and equity strategies (such as betting on equity indexes' mean reversion). Some carry positions will be reversed when the market environment changes from normal to distressed. In order to identify the market environment, the underlying programs will examine indicators such as the steepness of the volatility curve, volatility momentum, standard deviation, and the cost of rolling futures contracts.

Risk Management

As part of the portfolio construction, management attempts to achieve a balanced risk distribution among the three buckets of underlying strategies. Management looks at multiple risk metrics, such as strategy volatility, value at risk, and maximum drawdown. Portfolio managers monitor the real-time profit and loss of all strategies against their historical behavior. If any individual strategy experiences a two-standard-deviation loss, or if the portfolio experiences a one-standard-deviation loss, management will examine the strategies in question. Finally, management estimates the future volatility of all swaps in the portfolio (30-day, 60-day, 90-day, and so on) and adjusts portfolio leverage by allocating more or less to swap margins in order to achieve the 30% target volatility.

Release date 12-31-2012

Ramius Strategic Volatility A (USD)

Standard Index	Category Index	Morningstar Cat
S&P 500 TR	BofAML USD LIBOR 3 Mon CM	US OE Bear Market

Performance 12-31-2012

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2010	—	—	—	—	—
2011	—	—	—	—	—
2012	—	—	—	—	—

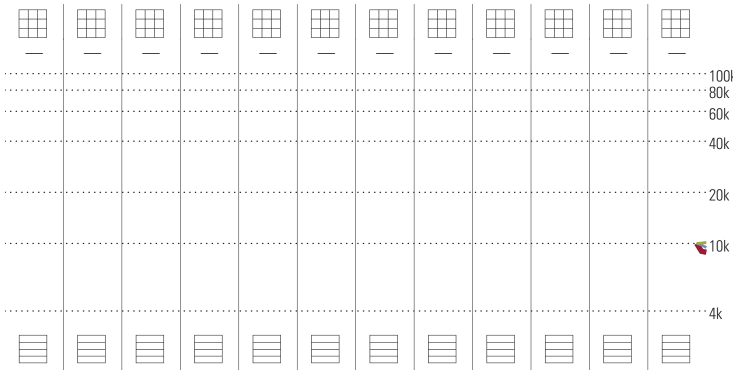
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	—	—	—	—	-15.12
Std 12-31-2012	—	—	—	—	-15.12
Total Return	—	—	—	—	-10.18
+/- Std Index	—	—	—	—	—
+/- Cat Index	—	—	—	—	—
% Rank Cat	—	—	—	—	
No. in Cat	—	—	—	—	
7-day Yield	—				

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 877-672-6487 or visit www.ramiusreplication.com.



Investment Style
Fixed-Income
Bond %

Growth of $10,000
Ramius Strategic Volatility A
8,867
Category Average
9,459
Standard Index
10,150

Performance Quartile (within category)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	12-12	History
	—	—	—	—	—	—	—	—	—	—	—	8.96	NAV/Price
	—	—	—	—	—	—	—	—	—	—	—	—	Total Return %
	—	—	—	—	—	—	—	—	—	—	—	—	+/- Standard Index
	—	—	—	—	—	—	—	—	—	—	—	—	+/- Category Index
	—	—	—	—	—	—	—	—	—	—	—	—	% Rank Cat
	—	—	—	—	—	—	—	—	—	—	—	—	No. of Funds in Cat

Fees and Expenses

Sales Charges

Front-End Load %	**5.50**
Deferred Load %	**NA**

Fund Expenses

Management Fees %	1.20
12b1 Expense %	0.25
Gross Expense Ratio %	**2.14**

Risk and Return Profile

	3 Yr 78 funds	5 Yr 74 funds	10 Yr 28 funds
Morningstar Rating™	—	—	—
Morningstar Risk	—	—	—
Morningstar Return	—	—	—

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

MPT Statistics	Standard Index	Best Fit Index
Alpha	—	—
Beta	—	—
R-Squared	—	—

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

Portfolio Analysis

Asset Allocation %	Net %	Long %	Short %
Cash	—	—	—
US Stocks	—	—	—
Non-US Stocks	—	—	—
Bonds	—	—	—
Other/Not Clsfd	—	—	—
Total	—	—	—

Share Chg since	Share Amount	Holdings: 0 Total Stocks , 0 Total Fixed-Income, — Turnover Ratio	% Net Assets
—			

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

Ltd Mod Ext; High Med Low

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

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

Regional Exposure	Stock %	Rel Std Index
Americas	—	—
Greater Europe	—	—
Greater Asia	—	—

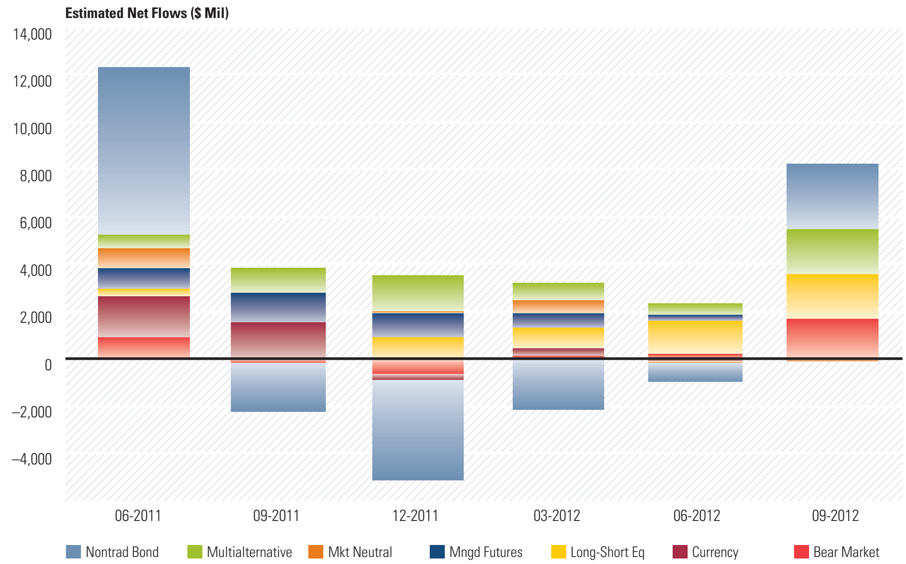
Sector Weightings	Stocks %	Rel Std Index
Cyclical	—	—
Basic Materials	—	—
Consumer Cyclical	—	—
Financial Services	—	—
Real Estate	—	—
Sensitive	—	—
Communication Services	—	—
Energy	—	—
Industrials	—	—
Technology	—	—
Defensive	—	—
Consumer Defensive	—	—
Healthcare	—	—
Utilities	—	—

Operations

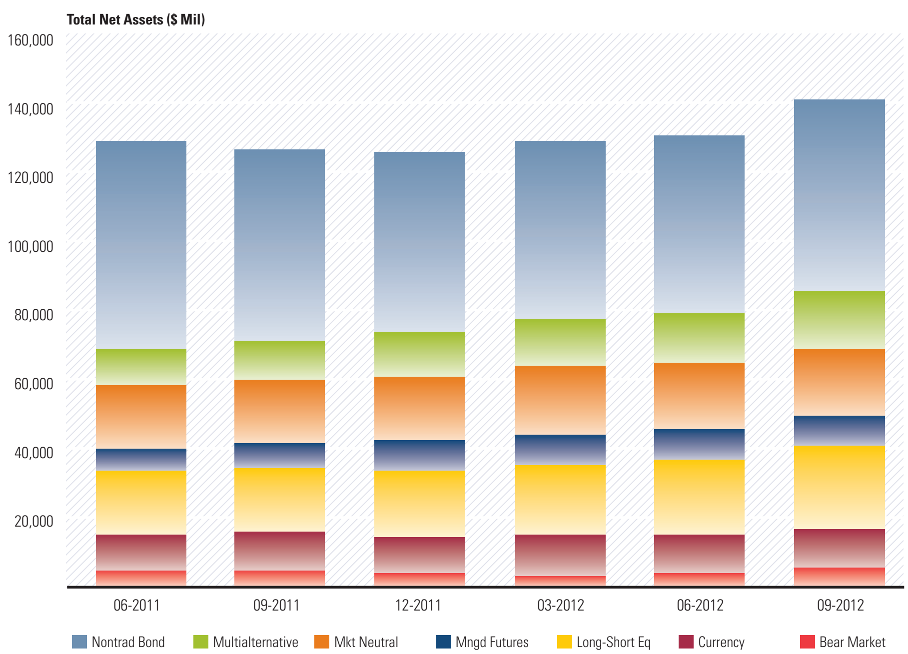
Family:	Ramius	Ticker:	RVOAX	Incept:	10-01-2012
Manager:	Multiple	Minimum Initial Purchase:	$1,000	Type:	MF
Tenure:	0.3 Year	Min Auto Investment Plan:	$250	Total Assets:	$64.85 mil
Objective:	Growth and Income	Minimum IRA Purchase:	$250		
Base Currency:	USD	Purchase Constraints:	—		

Flows and Assets Under Management: Alternative Mutual Funds

Quarterly Alternative Mutual Fund Flows
During the third quarter of 2012, alternative mutual fund net inflows amounted to nearly $8.2 billion, an increase of more than $6.5 billion over the previous quarter and the third quarter of 2011. The nontraditional bond category led with the largest inflows ($2.7 billion), reversing the trend of outflows over the previous four quarters ($9.1 billion). The multialternative and long-short equity categories also saw substantial net inflows (about $1.9 billion each), as did the bear-market category ($1.7 billion). The market-neutral category was the only one to lose assets in the third quarter ($71.8 million). This category also saw outflows in the second quarter of 2012.



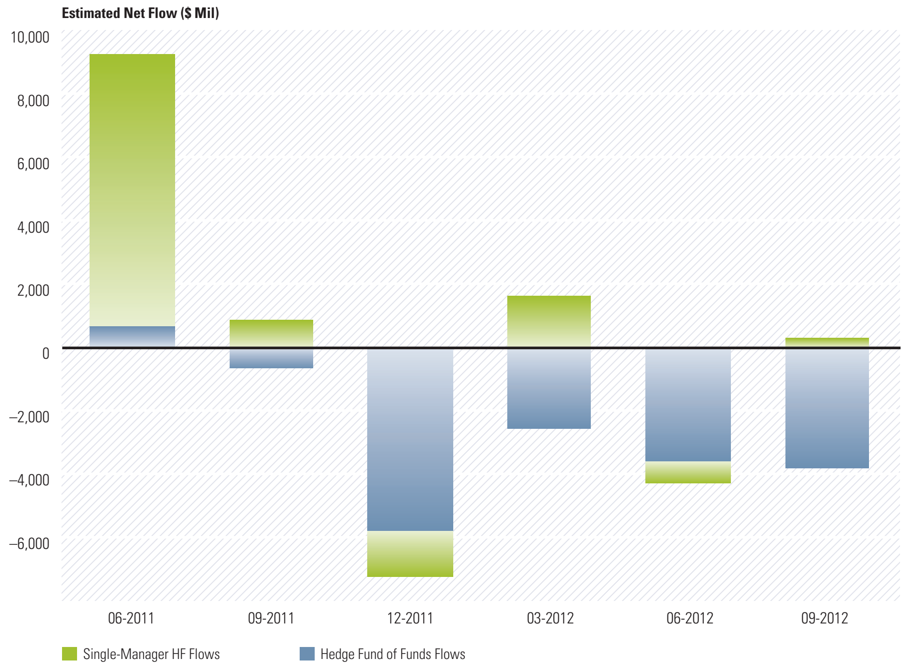
Quarterly Alternative Mutual Fund Assets Under Management
Assets under management for all alternative mutual funds increased 7.8% quarter over quarter, totaling more than $140 billion at the end of September 2012. Six of the seven alternative mutual fund categories gained assets in the third quarter. Bear-market funds experienced the largest quarter-over-quarter percentage gains in assets despite their poor third-quarter returns. The bear-market category still remains the smallest among all the alternative mutual fund categories at $5.4 billion as of Sept. 30, 2012. The managed-futures category was the only alternative mutual fund category to lose assets in the third quarter of 2012, because of poor performance.



Flows and Assets Under Management: Hedge Funds

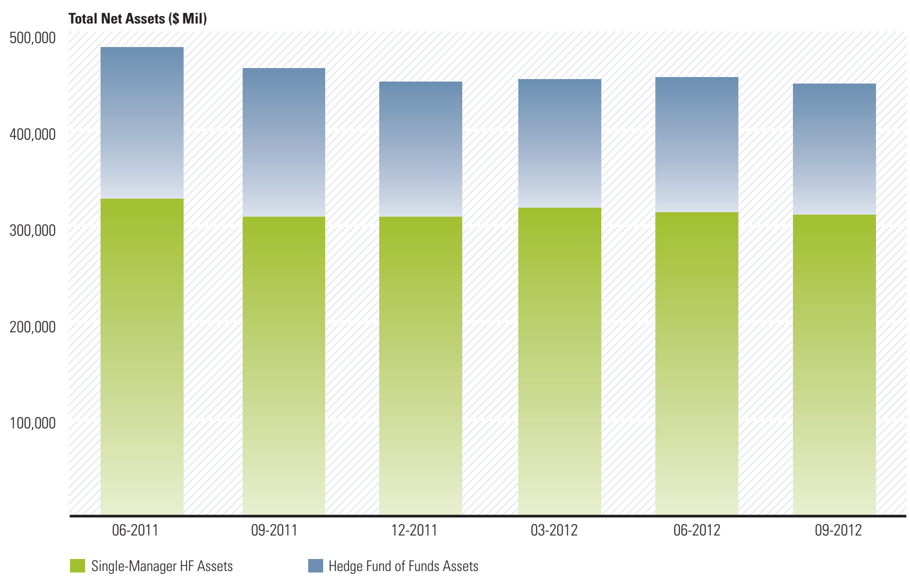
Quarterly Hedge Fund Flows

During the third quarter of 2012, single-manager hedge funds in Morningstar's database experienced small inflows, totaling $290 million, and funds of hedge funds recorded outflows of almost $3.8 billion. The outflows in the funds of hedge funds universe continued for a fifth-consecutive quarter, amounting to more than $16 billion since the second quarter of 2011. U.S. long-short equity single-manager hedge funds received the most inflows ($689 million), while event-driven and emerging-markets long-short equity single-manager hedge funds experienced the largest outflows, $730 million and $687 million, respectively. Multistrategy funds of hedge funds experienced the greatest outflows ($2.2 billion) in the third quarter, as they have over the previous four quarters.



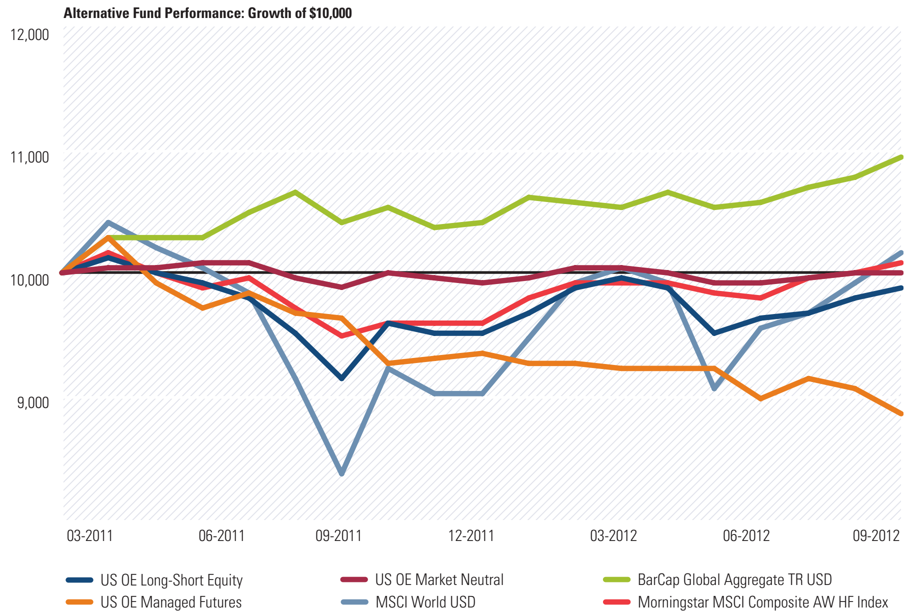
Quarterly Hedge Fund Assets Under Management

In the third quarter of 2012, single-manager hedge fund assets under management in Morningstar's database decreased 0.7% quarter over quarter, to $312 million. Over the past year (through Sept. 30, 2012), single-manager assets under management have increased by a small (1%) margin. Hedge funds of funds in Morningstar's database managed 3.9% fewer assets than in the prior quarter, with $133 million in assets recorded as of Sept. 30, 2012. Assets under management of hedge funds of funds dropped nearly 13% year over year (through September).

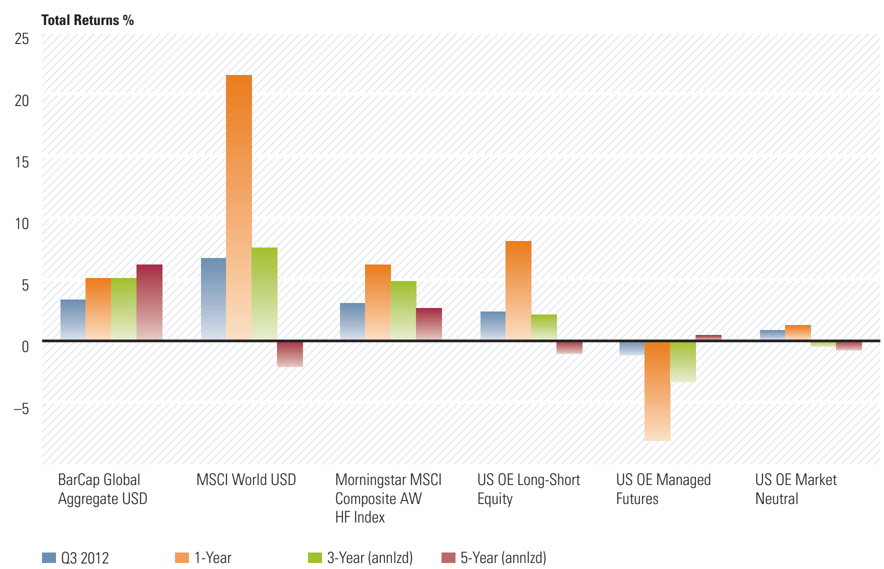


Alternative Investment Performance

Growth of a $10,000 Alternative Investment
Hedge funds, as proxied by the Morningstar MSCI Composite AW Hedge Fund Index, gained 3.0% in the third quarter, while global stocks, as represented by the MSCI World NR Index, gained 6.7%. Even global bonds, as tracked by the Barclays Global Aggregate TR USD Index, managed to record a sizable gain of 3.3%. Over the 18 months ended September 2012, the Barclays Global Aggregate Bond Index continued to outperform both global stocks and hedge funds with a 9.4% return. Over the same period, the MSCI World NR Index ended up with a modest 1.9% gain, while the Morningstar MSCI Composite AW Hedge Fund gained 0.8%. Global stocks, bonds, and hedge funds outperformed the long-short equity, managed-futures, and market-neutral mutual fund category averages over the past 18 months.



Performance of Alternative Investments Over Time
Global bonds, as represented by the Barclays Global Aggregate Index, outperformed hedge funds (as represented by the Morningstar MSCI Composite AW Hedge Fund Index) as well as the long-short-equity, managed-futures, and market-neutral mutual fund category averages, over the past quarter, one-year, and five-year time frames (ended Sept. 30, 2012). Global stocks, as represented by the MSCI World NR USD Index, outperformed over a three-year time frame by a large margin. The average managed-futures mutual fund lost money in all four time periods (ended Sept. 30, 2012).

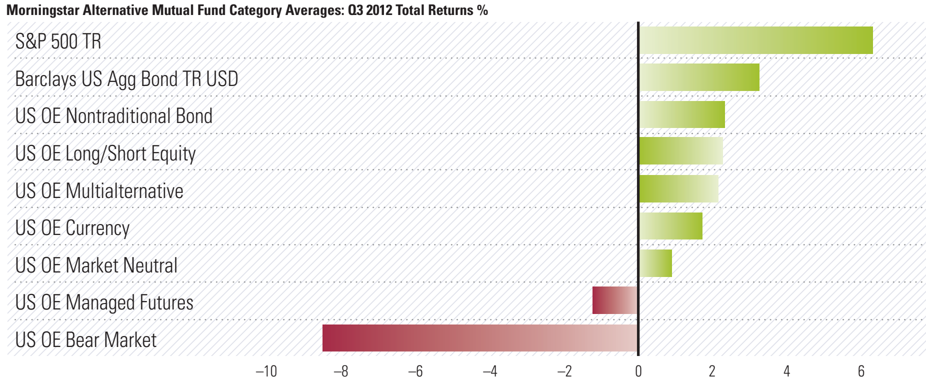


Q3 Performance by Category

Alternative Mutual Funds

Equities posted solid gains (6.4%) during the third quarter of 2012, reversing second-quarter losses as the global economy continued its modest recovery. Long-short equity mutual funds, which hedge out some stock market exposure, gained only 2.3% this quarter. The average bear-market fund, which aims to profit during weak equity markets, dropped 8.6% in the third quarter of 2012. Bonds also recorded substantial gains this quarter, and the non-traditional-bond fund category average underperformed (3.3% versus 2.3%, respectively). Currency mutual funds gained 1.7% on average, while the multialternative and market-neutral mutual fund category averages posted gains of 2.2% and 0.9%, respectively, in the third quarter. The average managed-futures mutual fund declined 1.2%.

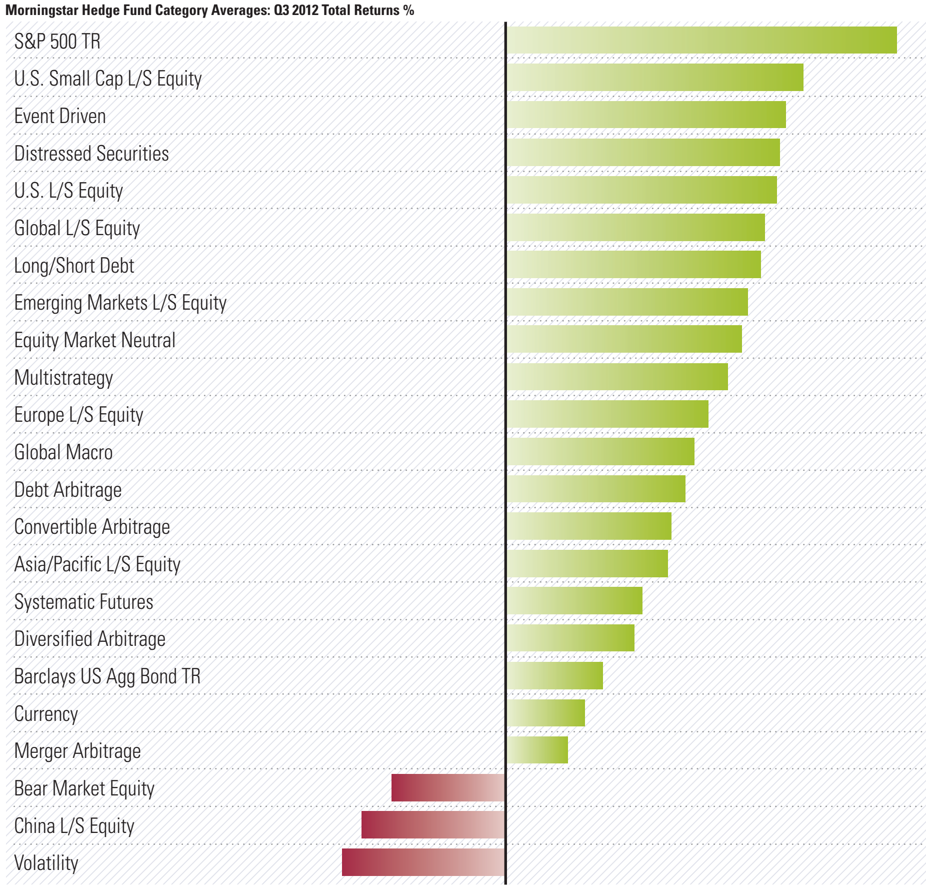
Morningstar Alternative Mutual Fund Category Averages: Q3 2012 Total Returns %



Hedge Funds

Hedge funds rebounded in the third quarter of 2012. All but three hedge fund categories recorded gains on average. U.S. small-cap long-short equity and event-driven funds topped the charts with returns of 4.8% and 4.5%, respectively, on average. None of Morningstar's 21 hedge fund categories beat the S&P 500 Index, however, which jumped 6.4% in the third quarter of 2012. The worst-performing hedge fund categories in the third quarter, China long-short equity, bear-market equity, and volatility, lost 2.3%, 1.8%, and 2.6%, respectively, on average.

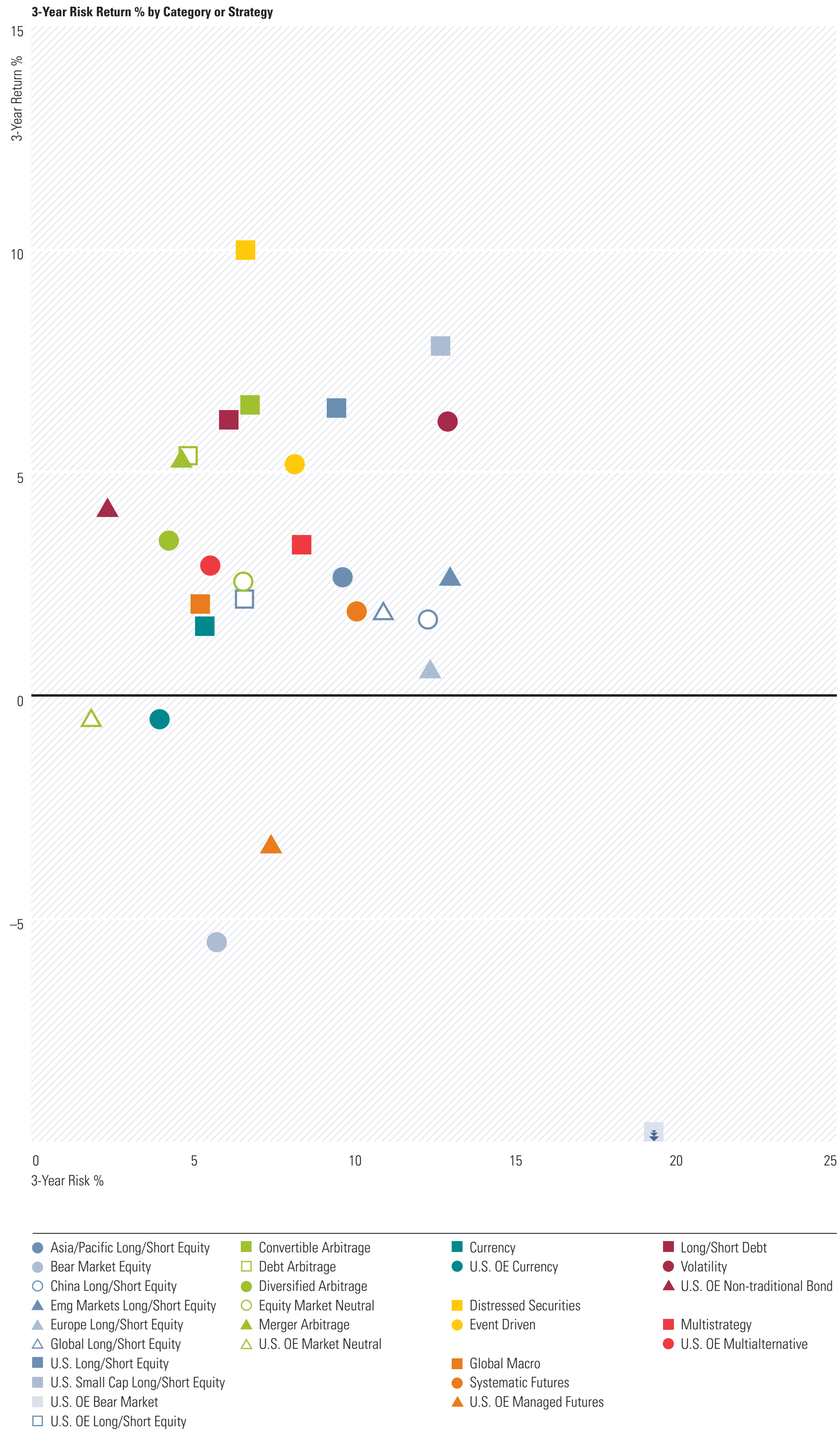
Morningstar Hedge Fund Category Averages: Q3 2012 Total Returns %



Risk Versus Return: Alternative Mutual Funds and Hedge Funds

Three-Year Standard Deviation and Return

Of the 28 alternative mutual fund and hedge fund category averages, 23 exhibited positive returns over the three years ended Sept. 30, 2012. For the third quarter in a row, funds in the distressed securities, U.S. small-cap long-short equity, and convertible-arbitrage hedge fund category averages produced the best three-year total returns, of 10.0%, 7.9%, and 6.5%, respectively. Nontraditional bond mutual funds provided the best risk-adjusted returns, however, on average, along with distressed securities and merger-and-debt arbitrage hedge funds. In contrast, the U.S. bear-market mutual fund category average fell 20.2% annualized over the three-year period ended Sept. 30, 2012, with the highest (19.2% annualized) standard deviation. Bear-market hedge funds performed better, losing 5.5% on average with a 5.8% annualized standard deviation.



Correlations by Alternative Fund Strategy

Three–Year Correlations: Alternative Mutual Fund Categories	1	2	3	4	5	6	7
1 US OE Bear Market	1.00						
2 US OE Currency	–0.82	1.00					
3 US OE Long/Short Equity	–0.96	0.84	1.00				
4 US OE Managed Futures	–0.22	0.16	0.24	1.00			
5 US OE Market Neutral	–0.35	0.52	0.45	–0.28	1.00		
6 US OE Multialternative	–0.92	0.75	0.90	0.47	0.23	1.00	
7 US OE Nontraditional Bond	–0.61	0.66	0.70	0.07	0.27	0.65	1.00

Three–Year Correlations: Hedge Fund Categories	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1 HF Asia/Pacific Long/Short Equity	1.00																				
2 HF Bear Market Equity	–0.36	1.00																			
3 HF China Long/Short Equity	0.42	–0.33	1.00																		
4 HF Convertible Arbitrage	0.81	–0.36	0.55	1.00																	
5 HF Currency	0.56	–0.15	0.38	0.48	1.00																
6 HF Debt Arbitrage	0.78	–0.32	0.48	0.91	0.58	1.00															
7 HF Distressed Securities	0.87	–0.36	0.41	0.86	0.46	0.79	1.00														
8 HF Diversified Arbitrage	0.61	–0.20	0.47	0.68	0.32	0.74	0.65	1.00													
9 HF Emerging Markets Long/Short Equity	0.77	–0.40	0.73	0.86	0.54	0.80	0.79	0.54	1.00												
10 HF Equity Market Neutral	0.79	–0.30	0.51	0.86	0.56	0.91	0.74	0.69	0.80	1.00											
11 HF Europe Long/Short Equity	0.88	–0.32	0.45	0.91	0.66	0.92	0.84	0.68	0.81	0.94	1.00										
12 HF Event Driven	0.87	–0.46	0.51	0.89	0.52	0.83	0.92	0.61	0.88	0.86	0.90	1.00									
13 HF Global Long/Short Equity	0.91	–0.36	0.51	0.92	0.61	0.91	0.88	0.66	0.88	0.93	0.97	0.96	1.00								
14 HF Global Macro	0.72	–0.19	0.45	0.72	0.83	0.78	0.59	0.47	0.69	0.82	0.84	0.71	0.81	1.00							
15 HF Long/Short Debt	0.83	–0.26	0.50	0.92	0.59	0.95	0.80	0.74	0.82	0.93	0.94	0.84	0.92	0.81	1.00						
16 HF Merger Arbitrage	0.80	–0.43	0.45	0.89	0.54	0.89	0.79	0.68	0.78	0.91	0.93	0.89	0.92	0.76	0.87	1.00					
17 HF Multistrategy	0.88	–0.31	0.51	0.92	0.66	0.93	0.82	0.67	0.84	0.95	0.98	0.91	0.98	0.87	0.96	0.91	1.00				
18 HF Systematic Futures	0.53	–0.10	0.44	0.46	0.77	0.51	0.41	0.27	0.46	0.52	0.56	0.48	0.57	0.82	0.54	0.47	0.63	1.00			
19 HF U.S. Long/Short Equity	0.89	–0.42	0.49	0.86	0.48	0.81	0.91	0.60	0.85	0.84	0.88	0.97	0.95	0.68	0.80	0.86	0.89	0.47	1.00		
20 HF U.S. Small Cap Long/Short Equity	0.86	–0.38	0.52	0.83	0.47	0.76	0.87	0.55	0.84	0.83	0.85	0.94	0.94	0.69	0.76	0.83	0.87	0.50	0.98	1.00	
21 HF Volatility	–0.16	0.08	0.16	0.03	0.06	0.07	–0.22	0.04	–0.13	0.11	0.03	–0.14	–0.02	0.22	0.07	0.07	0.09	0.36	–0.15	–0.07	1.00

1.00 to 0.76 | 0.75 to 0.51 | 0.50 to 0.26 | 0.25 to 0.00
0.00 to –0.24 | –0.25 to –0.49 | –0.50 to –0.74 | –0.75 to –1.00

Correlations of Alternative Funds to Traditional Asset Classes

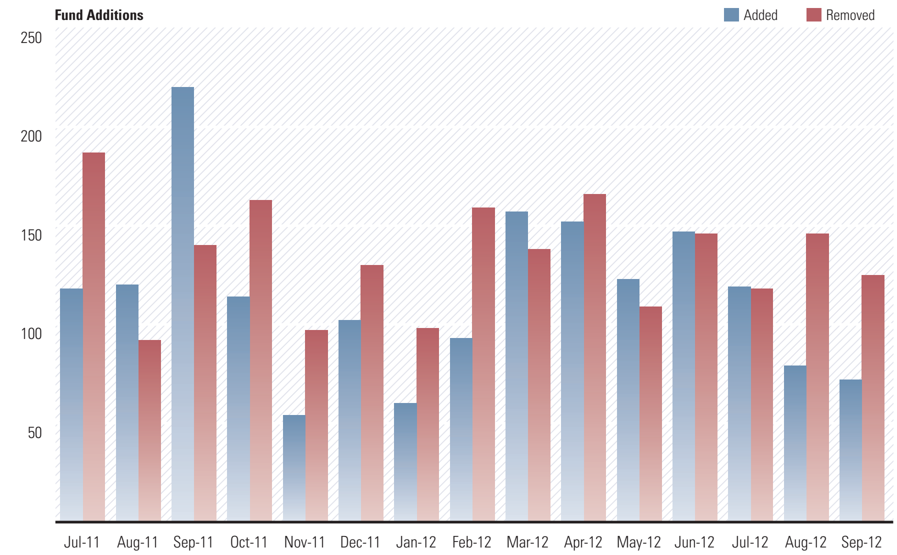
Correlation of Mutual Funds to U.S. Stocks and Bonds	S&P 500 Correlation (USD)			BarCap US Agg Correlation (USD)		
	3-Year	5-Year	10-Year	3-Year	5-Year	10-Year
US OE Bear Market	–0.97	–0.97	–0.96	0.38	–0.17	–0.06
US OE Currency	0.74	0.53	0.31	–0.15	–0.03	0.22
US OE Long/Short Equity	0.96	0.95	0.88	–0.40	0.10	0.06
US OE Managed Futures	0.25	–0.25	N/A	0.00	–0.31	N/A
US OE Market Neutral	0.35	0.16	–0.06	–0.08	0.05	0.10
US OE Multialternative	0.93	0.94	0.91	–0.27	0.22	0.09
US OE Nontraditional Bond	0.62	0.74	0.60	–0.17	0.22	0.36

Correlation of Hedge Funds to U.S. Stocks and Bonds	S&P 500 Correlation (USD)			BarCap US Agg Correlation (USD)		
	3-Year	5-Year	10-Year	3-Year	5-Year	10-Year
Morningstar MSCI Composite AW HF Index	0.77	0.70	0.65	–0.20	0.13	0.06
HF Asia/Pacific Long/Short Equity	0.83	0.82	0.69	–0.29	0.24	0.13
HF Bear Market Equity	–0.45	–0.45	–0.47	0.20	0.01	0.03
HF China Long/Short Equity	0.43	0.36	N/A	–0.15	0.11	N/A
HF Convertible Arbitrage	0.80	0.75	0.68	–0.27	0.30	0.22
HF Currency	0.50	0.38	0.31	0.05	0.23	0.25
HF Debt Arbitrage	0.80	0.79	0.70	–0.12	0.28	0.22
HF Distressed Securities	0.83	0.82	0.74	–0.43	0.02	–0.02
HF Diversified Arbitrage	0.57	0.64	0.56	–0.18	0.25	0.20
HF Emerging Markets Long/Short Equity	0.76	0.78	0.71	–0.21	0.18	0.11
HF Equity Market Neutral	0.84	0.75	0.66	–0.18	0.21	0.17
HF Europe Long/Short Equity	0.88	0.82	0.76	–0.27	0.18	0.11
HF Event Driven	0.91	0.86	0.80	–0.32	0.13	0.06
HF Global Long/Short Equity	0.92	0.86	0.78	–0.28	0.18	0.08
HF Global Macro	0.69	0.57	0.51	0.04	0.28	0.19
HF Long/Short Debt	0.77	0.78	0.70	–0.13	0.34	0.29
HF Merger Arbitrage	0.86	0.82	0.76	–0.22	0.31	0.20
HF Multistrategy	0.86	0.78	0.74	–0.18	0.19	0.10
HF Systematic Futures	0.45	0.08	0.09	0.14	0.08	0.16
HF U.S. Long/Short Equity	0.95	0.90	0.88	–0.42	0.04	–0.02
HF U.S. Small Cap Long/Short Equity	0.91	0.88	0.86	–0.42	0.03	–0.04
HF Volatility	–0.06	0.24	0.20	0.24	0.47	0.30

Morningstar Hedge Fund Database Overview as of 09-30-2012

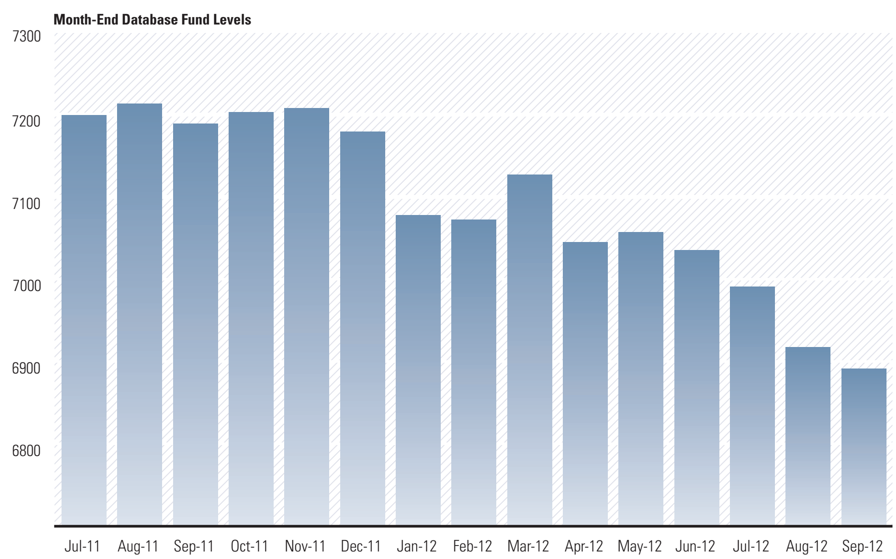
Net Fund Additions by Month

Morningstar's hedge fund database experienced a net removal of 119 funds during the third quarter of 2012. The database saw 270 additions and 389 fund withdrawals during the quarter. Funds drop out because they have liquidated or because they cease sharing performance data, typically because of poor performance. Fund additions occur as a result of new fund launches or a recent decision to supply data to Morningstar.



Month-End Database Fund Levels

As of Sept. 30, 2012, the Morningstar hedge fund database contained 6,891 funds that actively reported performance and assets-under-management data. This figure includes about 4,600 single-manager hedge funds and about 2,400 funds of hedge funds. As of quarter-end, the number of active funds in the database had dropped approximately 5.5% from June 2011 levels.

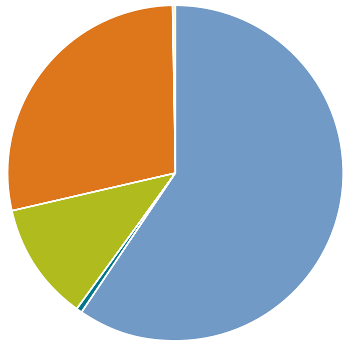


Morningstar Hedge Fund Database Overview as of 09-30-2012

Hedge Funds by Region

Approximately 60% of hedge funds in the Morningstar database are legally domiciled in the North American/Caribbean region, primarily in the Cayman Islands and United States. A large percentage of U.K. hedge funds are also domiciled in the Cayman Islands for tax and regulatory purposes. Approximately 28% of funds in Morningstar's database are domiciled in Europe, including both European Union and non-EU jurisdictions, and 11% o f funds are domiciled in Asia and Australia, primarily in China (95%). All figures are as of Sept. 30, 2012.

Morningstar Hedge Fund Database by Region



Region	# Funds
N. America/Caribbean	4,106
Africa	41
Asia/Australia	783
Europe	1,951
South America	4
Other	0
Total	**6,885**

Hedge Funds by Location

Approximately 78% of the hedge funds in Morningstar's database are domiciled in the U.S., the Cayman Islands, China, the British Virgin Islands, Bermuda, and Luxembourg. Both France and Ireland continue to domicile a large portion of European hedge funds, trailing Luxembourg.

North America and Surrounding	**4,211**
Cayman Islands	1,825
United States	1,321
British Virgin Islands	423
Bermuda	308
Canada	154
Curacao	45
Bahamas	25
Anguilla	1
Barbados	1
Panama	1
St. Kitts & Nevis	1
St. Vincent & the Grenadines	1

Africa	**41**
Mauritius	25
South Africa	14
Swaziland	1
United Arab Emirates	1

Asia and Australia	**783**
Australia	27
Bahrain	0
China	744
Christmas Island	1
Hong Kong	6
Japan	2
Marshall Islands	1
Singapore	1
Vanuatu	1

Europe	**1,951**
Luxembourg	769
Ireland	215
France	175
Switzerland	157
Guernsey	137
Italy	103
Jersey	66
Sweden	68
Malta	58
Liechtenstein	45
Netherlands	36
Spain	36
United Kingdom	21
Finland	14
Germany	11
Channel Islands	3
Austria	5
Isle of Man	8
Denmark	6
Cyprus	3
Norway	6
Gibraltar	2
Macedonia	3
Portugal	2
Andorra	1
Belgium	1
Greece	0

South America	**4**
Brazil	4

Morningstar Hedge Fund Database Overview as of 09-30-2012

Service Providers

Morgan Stanley **MS** and Goldman Sachs **GS** are the largest prime brokerage-service providers to hedge funds in Morningstar's database, serving a 34% share combined.

The big four accounting firms are employed by approximately 75% of the hedge funds listed in Morningstar's database, with PricewaterhouseCoopers leading the pack. Citco Fund Services provides administration services to more than 8% of funds in Morningstar's database, significantly more than the next-largest administrator, State Street/IFS, which services about 4.6% of funds in the database. Maples & Calder, Walkers, and Seward & Kissel are the three largest legal-counsel service providers to hedge funds in the database, with a combined 27% market share.

Type	Rank	Service Provider	% of Database
Prime Broker	1	Morgan Stanley	18.55
	2	Goldman Sachs	15.40
	3	Deutsche Bank	8.93
	4	UBS	8.67
	5	Credit Suisse	8.07
	6	JPMorgan	6.43
	7	Bank of America/Merrill Lynch	4.05
	8	Newedge	3.78
	9	Citigroup	3.04
	10	BNP Paribas	2.47
Legal Counsel	1	Maples & Calder	10.47
	2	Walkers	9.84
	3	Seward & Kissel	6.55
	4	Dechert LLP	6.34
	5	Elvinger, Hoss & Prussen	4.31
	6	Simmons & Simmons	4.12
	7	Schulte Roth & Zabel	2.95
	8	Sidley Austin	3.65
	9	Ogier	2.98
	10	Appleby	2.40
Auditor	1	PricewaterhouseCoopers	23.35
	2	Ernst & Young	21.36
	3	KPMG	17.67
	4	Deloitte	13.14
	5	Rothstein Kass	5.20
	6	RSM / McGladery & Pullen	2.52
	7	BDO	2.31
	8	Grant Thornton	2.05
	9	Eisner	1.49
	10	Arthur Bell	0.82
Administrator	1	Citco	8.47
	2	State Street/IFS	4.58
	3	Citigroup/BISYS	4.05
	4	Credit Suisse/Fortis	3.32
	5	HSBC	3.13
	6	SS&C GlobeOp	3.03
	7	CIBC/BNY Mellon	3.00
	8	UBS	2.40
	9	Northern Trust	2.19
	10	Apex	2.05

Alternative Investments Observer

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