MORNINGSTAR®

Alternative Investments Observer

March 2017

Absolute Return Funds Aren't Hitting Their Mark
We investigate whether target-return funds do as they say.

By Janet Yang, CFA
Alternative Strategies Analyst

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Fund Profiles

In 2016, we released a study on objectives-based investing, reviewing over 1,000 distinct multiasset funds to identify strategies aiming for income, volatility protection, inflation protection, and target returns. A healthy number of funds accomplish their objective, though comparable blended indexes would do the same, and usually with higher returns and lower volatility. In what follows, we focus on our findings related to target-return funds, which are often referred to as absolute-return strategies in the alternative investments space.

Target-return funds can vary quite widely in terms of the investment strategies they pursue and the securities they buy. But, by and large, these different approaches coalesce around a single overarching goal: earn positive returns regardless of market environment.

The pursuit of positive returns intuitively resonates. From a behavioral finance perspective, it addresses investors' strong preference to avoid losses. From an objectives-based framework, it can be attractive to investors looking to hit a certain return level; a number of target-return funds, for instance, come with specific return objectives, such as cash plus 4% or the Consumer Price Index plus 5%.

Target-Return Funds Deliver Positive Returns, and so Does the Index
Target-return funds don't produce positive returns month after month, in unerring fashion. This is no indictment, as it's probably not reasonable to expect that of virtually any strategy. Instead, we evaluated the performance of target-return funds over rolling three-year periods. By that measure, they fare pretty well: Of the 38 distinct target-return funds with at least three years of returns, 15 delivered positive returns in all rolling three-year periods since inception. As shown by Exhibit 1, a good majority produced positive returns in more than 80% of rolling three-year periods.

Alternative Investments Observer

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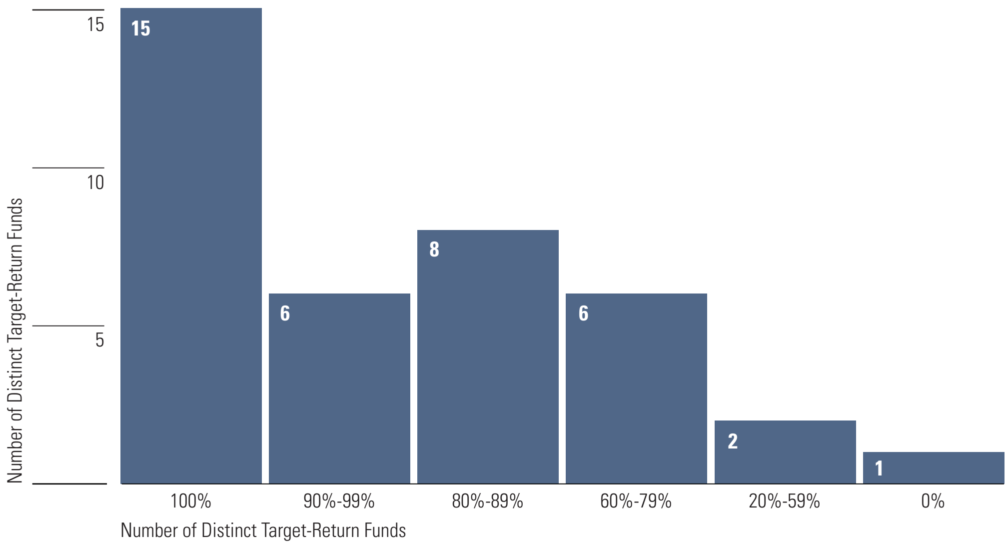
Exhibit 1 Most Target-Return Funds Have Delivered Long-Term Positive Returns
Number of funds that have positive three-year rolling returns, April 1, 2006 to March 31, 2016



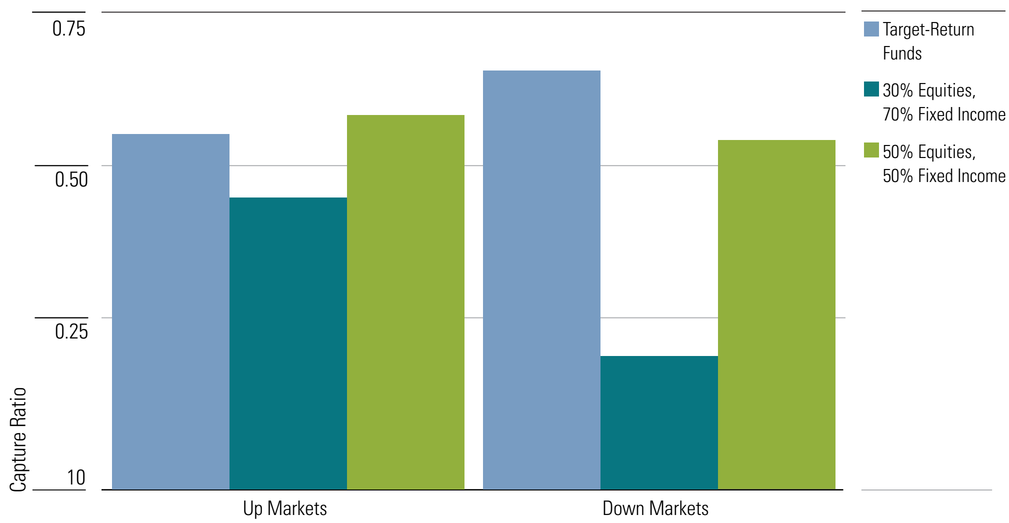
Source: Morningstar, Inc.

However, there's a catch: Comparable 30/70 and 50/50 blended indexes also had positive returns in every rolling three-year period in the last decade through March 31, 2016. We mainly compare target-return funds to a 30% equity, 70% fixed-income blended index because our holdings data show that they have an average net equity allocation of about 30%. However, as a number of the funds reside in the multialternative Morningstar Category, they often use derivatives, which may result in a different true equity exposure. Over the last three years, target-return funds' average monthly returns had a 0.91 correlation with a 30/70 index. Their correlations were highest—at 0.95—with a 50% equity, 50% fixed-income index, so throughout this section we also compare the funds with a 50/50 index.

A few caveats apply to this comparison. First, while target-return funds' average performance may resemble these simply constructed index composites, they're very different approaches. Indeed, the target-return funds within the multialternative category employ alternative investment strategies, which are a far cry from the traditional stocks and bonds of the 30/70 or 50/50 composites. In addition, U.S. stocks have been very difficult to beat over the past decade, arguably making upside capture more important than downside avoidance. Yet, as shown in Exhibit 2, target-return funds appear to excel primarily at avoiding losses, and thus, one could argue, this has placed them at a stylistic disadvantage in recent years.

Nevertheless, even after accounting for these factors, target-return funds have turned in rather disappointing results. For one, the two blended indexes capture less of the S&P 500's dips than the typical target-return fund; each index lacks exposure to high-yield bond funds, which has helped. For another, in exchange for the downside protection they've afforded, target-return funds have sacrificed much of the upside.

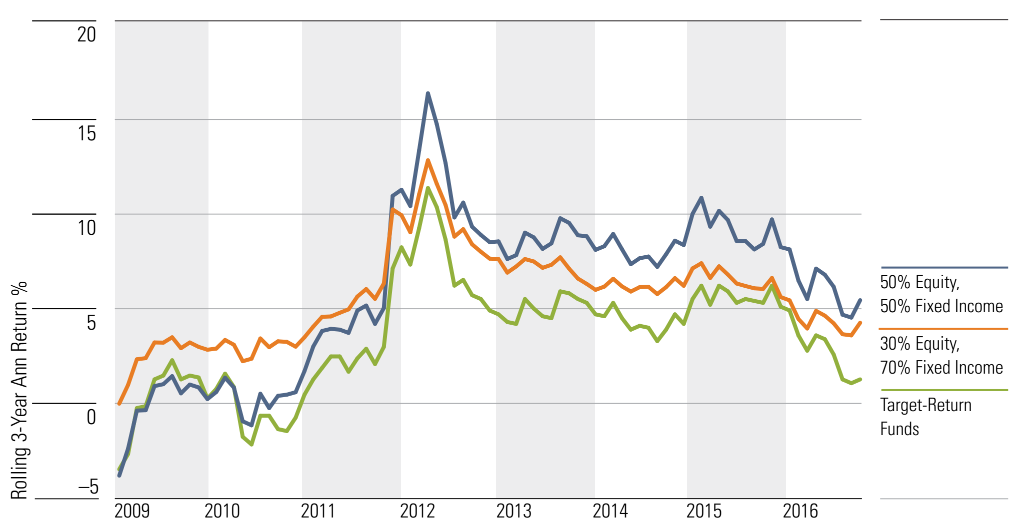
Exhibit 2 Target-Return Funds Protect on Downside, and so Does the Blended Index
Average monthly up- and downmarket capture ratios versus the S&P 500, April 1, 2006 to March 31, 2016



Source: Morningstar Direct. Data as of 7/31/2016.

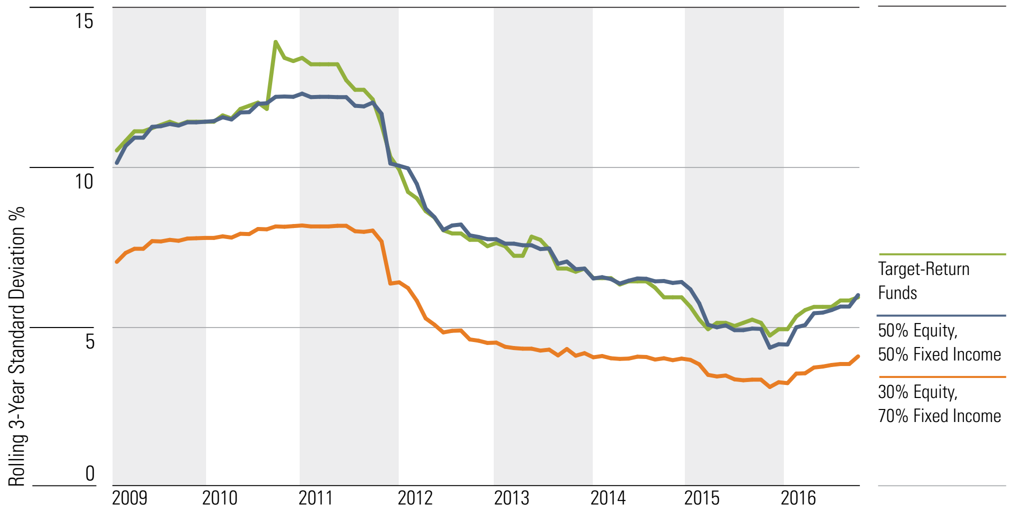
Those up- and downmarket capture patterns translate to the rolling three-year returns seen in Exhibit 3, where the typical target-return fund consistently lags both benchmarks. But as Exhibit 4 shows, it has done so with rolling three-year volatility, as measured by standard deviation, that looks more similar to a 50% equity, 50% fixed-income index.

Exhibit 3 Target-Return Funds Consistently Lag Their Blended Indexes
Rolling three-year annualized returns, April 1, 2006 to March 31, 2016



Source: Morningstar, Inc.

Exhibit 4 Target-Return Funds Have Standard Deviations Similar to a 50% Equity, 50% Fixed-Income Index
Rolling three-year annualized standard deviation, April 1, 2006 to March 31, 2016

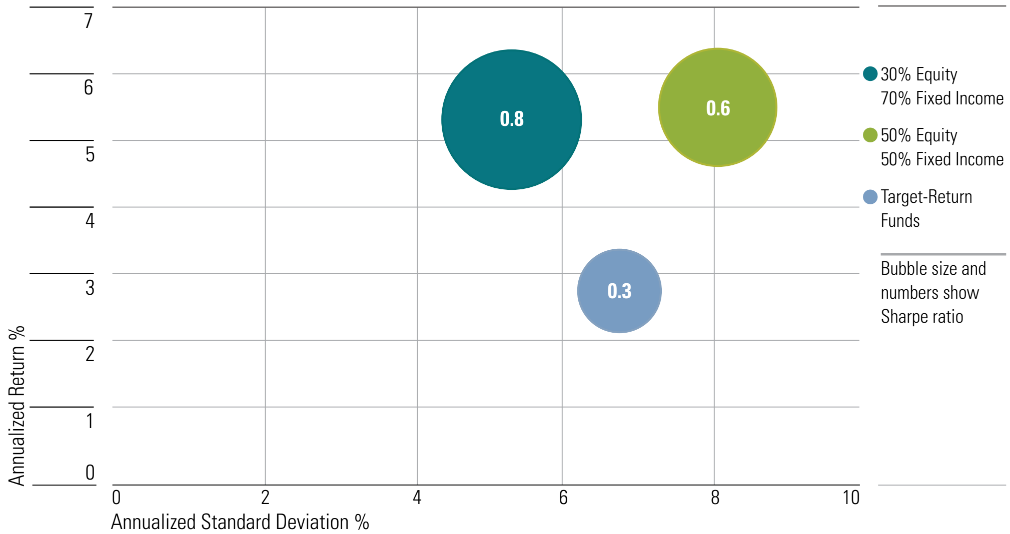


Source: Morningstar, Inc.

Exhibit 5 charts target-return funds' overall risk and return statistics over the 10 years from April 1, 2006, to March 31, 2016. During that time, the typical target-return fund had an annualized gain of 2.7%, while the 30/70 index returned 5.4% and the 50/50 index grew 5.6%. That 2.7-percentage-point return differential between the average target-return fund and the 30/70 index was still greater than the 1.77% average prospectus net expense ratio of each target-return fund's oldest share class.

Target-return funds' higher fees explain much of the performance shortfall but not the difference in volatility. In the past decade, target-return funds have an average annualized standard deviation of 7.0% compared with the 30/70 index's standard deviation of 5.5%. The funds were less volatile than the 50/50 index's 8.3% standard deviation, but that wasn't enough to make the funds come out ahead on a risk-adjusted basis, as measured by Sharpe ratios.

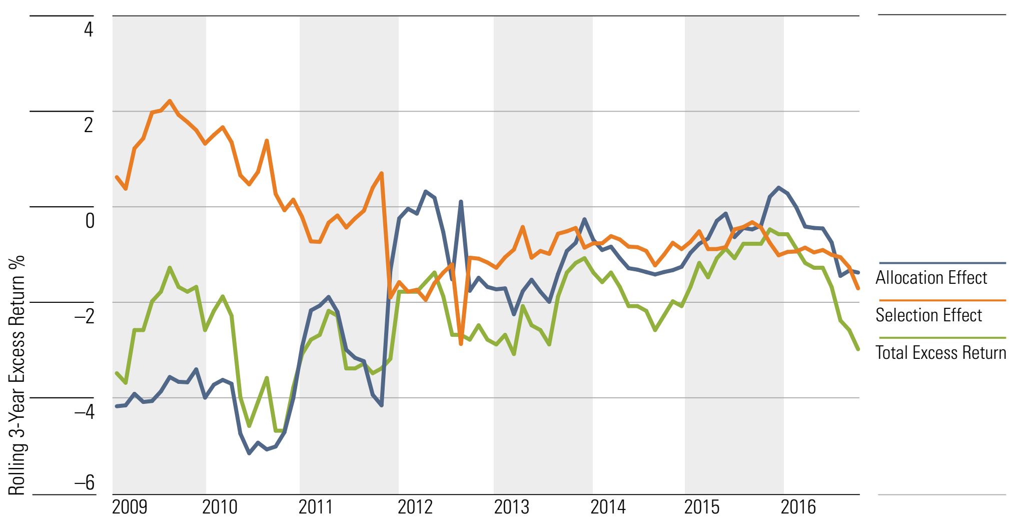
Exhibit 5 Target-Return Funds Have Higher Standard Deviations, Lower Returns Than Blended Index
10-year annualized returns, standard deviations, and Sharpe ratios, April 1, 2006 to March 31, 2016



Source: Morningstar, Inc.

Attribution analysis of the rolling three-year periods over the decade through March 2016 reveals that a combination of poor asset allocation and security selection explains the shortfall to the 30/70 index. Though target-return funds routinely allocate assets among a bevy of different asset classes and strategies, those moves have not bolstered returns, as evidenced by the consistently negative allocation effect shown in Exhibit 6. Security selection appears to have aided performance for a time but has tailed off in recent years.

Exhibit 6 Target-Return Funds Rarely Add Value Via Allocation Decisions, Sometimes Through Security Selection
Rolling three-year attribution versus 30% equity, 70% fixed-income composite index, April 1, 2006 to March 31, 2016



Source: Morningstar, Inc.

Recommended Target-Return Funds

Though target-return funds haven't delivered as a group, some funds have merit. Those funds are run by experienced teams with proven long-term and consistent records of beating their peers and indexes. To wit, the three funds listed in Exhibit 7 have earned medals under our Morningstar Analyst Rating, meaning we believe they are well poised to deliver strong risk-adjusted results compared with their peer groups and relevant indexes over a full market cycle.

Exhibit 7 Recommended Target-Return Funds

	Morningstar Analyst Rating	Morningstar Rating Overall	5-Year Return Ann	5-Year Std Dev Ann	Morningstar Category
GMO Benchmark-Free Allocation	Bronze	★★★★	4.08	6.11	World Allocation
John Hancock Global Absolute Return Strategies	Bronze	★★★	2.25	3.63	Multialternative
William Blair Macro Allocation	Bronze	★★★	4.13	7.53	Multialternative

Source: Morningstar, Inc. Data as of 1/31/17.

GMO Benchmark-Free Allocation GBMFX

We downgraded this fund’s Analyst Rating to Bronze from Silver in June 2016 owing to the departure of Sam Wilderman and some other organizational changes at GMO. Still, we have faith in the leadership of Ben Inker and the larger asset-allocation capabilities of the firm. This is one of about a dozen funds not within the multialternative category that falls within the target-return group. It qualifies for the group because it has an inflation-plus-5% annual return target, with a 5% to 10% annualized standard deviation goal. Since its July 2003 inception through January 2017, its annualized 8.5% gain readily met the return goal—the CPI All Urban increased 2.1% during that period. It did so with a standard deviation of 7.3%.

Inker, now the sole lead manager after the departure of Wilderman, maneuvers GMO Benchmark-Free Allocation across almost two dozen asset classes, changing allocations based on an overarching firmwide view that valuations and profit margins eventually revert to their long-run averages. Over the past decade, the team has allocated roughly half the fund's assets to equities, with half of that portion invested in non-U.S. stocks. The fund also compares well with a 50% MSCI ACWI/50% Bloomberg Barclays U.S. Aggregate Bond composite index.

John Hancock Global Absolute Return Strategies JHAIX

Bronze-rated John Hancock Global Absolute Return Strategies targets a return of cash plus 5%. Since its December 2011 inception through January 2017, the fund had an annualized return of 3.07% and a standard deviation of 3.9%. Adding back its prospectus net expense ratio of 1.32% gets the fund to within 60 basis points of meeting its return target (most objectives are typically on a gross-of-fees basis). It's had a globally diversified, average net equity exposure of about 20% since inception. A 20% MSCI ACWI/80% Bloomberg Barclays U.S. Aggregate Bond composite index gained 4.3% during the same time period, with a standard deviation of 3.3%. The fund was on a stronger trajectory prior to 2015's low-return environment. There's reason to believe that this global macro strategy's well-developed and risk-aware process can get it back on a stronger performance track in the future. Lead portfolio manager Guy Stern tactically invests in global stock, bond, and currency markets and draws from the best ideas of a more than 50-person global absolute return analyst team.

William Blair Macro Allocation WMCIX

We initiated coverage of William Blair Macro Allocation in 2017 with a Bronze rating. Led by Brian Singer, an experienced global macro manager with previous stints at UBS and his own firm before joining William Blair in 2011, the fund targets returns of 5% to 7% above inflation (before fees). He and his investment team look for over- or underpriced asset classes, such as Japanese equities, the British pound sterling, or high-yield bonds, by comparing their current prices against their fundamental values. Equities and fixed-income fundamental values are calculated using a discounted cash flow model, and currency values are calculated using common currency valuation metrics such as purchasing price parity. The managers then employ macro and geopolitical risk frameworks in an effort to explain why asset prices differ from their fundamental values. These data points are entered into a proprietary model that generates suggested asset allocations, but the mangers have significant discretion to elevate or temper the buy and sell signals from the model as they construct the portfolio.

The fund recently reached its five-year record, and so far performance has been solid. During the trailing five years through December 2016, the fund returned 5.20% annualized, beating 90% of its multialternative category peers and coming within its target return range. Singer and his team are not afraid to make bold bets, and investors should be prepared for periods of both outperformance and underperformance.

The Year in Alternative Funds: 2016
A bumpy road with some bright spots.

By Josh Charlson, CFA

Alternative strategy mutual funds faced a second-straight challenging year in terms of both asset growth and performance. But that doesn't mean there weren't bright spots: There were some standout performers, in addition to new Morningstar Categories for alternatives, new Morningstar Medalists, and even a new Morningstar Style Box for alternative funds. Still, it's undeniable that some of the luster has dulled from the once-booming liquid alts category. Below are some of the highlights and lowlights from 2016's Year in Alternatives.

Alts Flows Hit the Brakes

We can observe slowing growth among alternative funds in several ways, such as the ratio of new fund launches to liquidations. Whereas several years ago the industry was in a decided growth mode, more recently new launches have come at a more moderate rate while liquidations have ticked up. Through November 2016, there were 30 new alts funds and 56 liquidations. The higher liquidation rate can be ascribed in part to the boom in launches from 2010-13; for those funds that hit three-year marks and still failed to achieve much in the way of assets, many firms decided it was time to pull the plug.

Another measure of asset growth is net flows, or the amount of money coming into or leaving funds, net of capital growth (or loss) effects. Every alternatives category but managed futures was in net outflows through November 2016 (see Exhibit 1). However, it's worth noting that alternatives were no outlier in this regard, as equities have been in net outflows for the last several years. What's relevant for alternatives funds, however, is that they had been one of the few broad categories on a consistently positive growth trajectory for the previous half decade.

Assets were concentrated in the largest funds during alternatives' growth phase, and that trend has held during this more recent period of retrenchment. Looking across five of the largest alternatives categories, most of the outflows have come from the five largest funds in the category. This suggests that assets in popular funds or those that were sold hard may be fickle. However, positive growth has continued in the longer tail of funds with smaller asset bases.

Exhibit 8 Liquid Alternatives Outflows Concentrated In Largest Funds

Morningstar Category	Top 5 Funds' Category Market Share % 12/15	Top 5 Funds 2016 Net Flows	Category 2016 Net Flows
Long-Short Equity	53	–4,572,329,456	–4,482,136,653
Long-Short Credit	93	–2,831,715,533	–2,882,032,934
Managed Futures	70	7,721,622,229	9,645,082,111
Market Neutral	59	–2,929,211,750	–2,261,259,840
Multialternative	42	–2,484,069,174	560,491,182

Source: Morningstar, Inc. Data as of 11/30/2016.

Underlying Performance Doldrums

Several factors are likely at play in the sluggish growth trends. Perhaps foremost is the poor performance of alternative strategies relative to equities as the long bull market continues. Simply put, the hedged and noncorrelated strategies that populate the alternatives universe are not designed to keep up with the gaudy returns that we've seen from equity markets. Even when investors have bought alternatives for diversification, behaviorally it becomes very difficult to hold on to defensive funds when other funds are up considerably. Even from an absolute return perspective, market conditions have been poor for many alternative strategies. Many global macro strategies, for example, thrive on higher volatility and dispersion across asset classes, while managed-futures funds rely on consistent trends in markets. While there were momentary bursts of such conditions in 2016, for instance after the Brexit vote, volatility was generally low (the VIX index, a measure of market volatility, lost around 23% in 2016). Meanwhile a number of markets saw several price reversals, making it hard for managed-futures models to latch on to trends.

Looking across alternative fund category average returns for 2016, what's perhaps most noticeable is the overall mundanity of returns (see Exhibit 2). Putting aside bear-market funds (which run inverse to the stock market and are frequently leveraged), most alts categories produced returns in the low to midsingle digits, while managed-futures funds on average lost about 3%. For some categories that eliminate almost all market exposure, such as market neutral and long-short credit, such modest, almost bondlike returns are within expectations. More-directional categories, like multialternative and long-short equity, are underachieving. Given the robust returns of domestic-equity markets, the paltry 2.3% return of the long-short equity category is particularly disappointing; contributing factors include underexposure to risk (beta), unexpectedly poor performance of short books, and weak security selection in the long books.

Exhibit 9 Liquid Alternatives Category Returns for 2016

Morningstar Category	Return %
Bear Market	–21.11
Long-Short Equity	2.34
Managed Futures	–2.75
Market Neutral	2.23
Multialternative	1.38
Multicurrency	3.47
Long-Short Credit	4.54
Option-Writing	5.45
Market Indexes	
Bloomberg Barclays U.S. Aggregate Bond	2.65
MSCI Emerging Markets	11.19
Russell 2000	21.31
S&P 500	11.96

Source: Morningstar, Inc. Data as of 11/30/2016.

A More Granular Look

When it comes to alternative fund categories, however, the averages can be deceiving, owing to the high degree of dispersion within many of the fund groupings. In the long-short equity category, for example, returns ranged from 25% at the top end to negative 15% at the bottom. The multialternative category saw a top return of 18% and a bottom of negative 36% (though that fund was an outlier). Even the ostensibly sedate market-neutral category saw returns as high as 13% and as low as negative 11.5%.

Within those wide ranges of outcomes, some Morningstar Medalists stood out. **Boston Partners Long/Short Equity** BPLSX, a former Morningstar Alternatives Fund Manager of the Year winner, produced an eye-popping 22% return, despite maintaining about 40% short exposure. Though closed to new investors, the manager and strategy represent the best of what liquid alternatives can achieve, though few firms have the discipline and stringency to limit asset growth in order to preserve performance. In 2016, Morningstar initiated coverage on a newer, open Boston Partners strategy, **Global Long/Short** BGLSX, which has a Morningstar Analyst Rating of Bronze. This is a more diversified strategy than Long/Short Equity, akin to the Silver-rated, U.S.-focused **Boston Partners Long/Short Research** BPIRX. Long-short equity funds that take on more beta, either strategically or tactically, did well in 2016, as was the case for Bronze-rated **Diamond Hill Long-Short** DIAMX (10.26%), which is driven by its topnotch value-based research process. And with the ascendance of value over growth in 2016, value-oriented long-short funds also outperformed, as seen in the 8% return of **Gotham Absolute Return** GARIX, which rebounded from an awful 2015.

It was an unusual year for managed-futures funds; as noted previously, longer-term trends were in short supply, so funds that did well and produced positive returns tended to be those with portfolios more diversified to include mean-reversion models, greater weighting on short-term periods, or even some degree of discretionary global macro. Indeed, the top-returning fund in the category uses a counter-trend model, which prospers in choppy markets. Meanwhile, pure trend-followers suffered, and the category's standard-bearer, Silver-rated **AQR Managed Futures** AQMIX, lost around 8.4%. But even amid the gloom, managed futures was the only alternatives category to be in net positive flows, perhaps a sign that advisors have come to recognize managed-futures funds as one of the best diversifying options in a portfolio. Morningstar also added a new managed-futures medalist to coverage, Bronze-rated **Abbey Capital Futures Strategy** ABYIX, a multimanager portfolio run by Dublin-based Abbey Capital that was introduced to the U.S. market without any onerous hidden-swap or performance fees.

As we noted in our landscape report on the multialternative category earlier this year, the category can be broadly broken down by multistrategy, global macro, and hedge fund replication strategies. Although there are significant differences in the aims of these substrategies and how they are constructed, there is also a fair degree of overlap. Thus, certain common factors across hedge fund and global macro strategies likely contributed to weaker performance, including taking on too little equity risk in general, misjudging markets ahead of the Brexit vote and after the U.S. election, and difficulties in event-driven bets, among others. The best-performing medalist fund in the category was Bronze-rated **Litman Gregory Masters Alternative Strategies** MASFX with a 6.9% return for the year. This multistrategy fund takes a strategic, long-term approach and benefited in 2016 from its allocations to subadvisors with more-credit-oriented portfolios, such as DoubleLine and Loomis Sayles.

Bringing in the New

Even in a sluggish year for alternatives funds, Morningstar kept its foot on the pedal when it came to coverage. Morningstar launched two new alternatives categories, long-short credit and option-writing, reflecting the growth in new products in those areas over the past few years and also enabling us to sharpen the lines around the non-traditional-bond and long-short equity categories from which most of the funds emanated. Miriam Sjoblom wrote about some of the challenges facing long-short credit managers in the mutual fund space earlier this year.

Morningstar analysts also continued to seek out new funds that may be of interest to investors or demonstrate merit. We added 10 new alternatives funds to coverage this year, four of which were medalists: Abbey Capital Futures Strategy (Bronze), **AC Alternatives Market Neutral Value** ACVVX (Bronze), Boston Partners Global Long/Short (Bronze), and **JPMorgan Hedged Equity** JHEQX (Bronze). We expect to identify a handful of additional best-ideas funds for prospective coverage in 2017.

Finally, Morningstar rolled out a new framework for evaluating alternative mutual funds, the Morningstar Style Box for alternative funds. Jason Kephart described the methodology for the alternatives style box and some potential uses for it. We hope that the alts style box will be a step forward in helping advisors and investors to better key in on funds that exhibit the most relevant traits for an alternatives allocation. In 2017, look for Morningstar to feature the alternatives style box in more articles and research, emphasizing uses of the style box in portfolio construction, category deep dives, and more-focused fund comparisons.

The Marketfield Saga
Why this prominent fund's struggles don't doom the category.

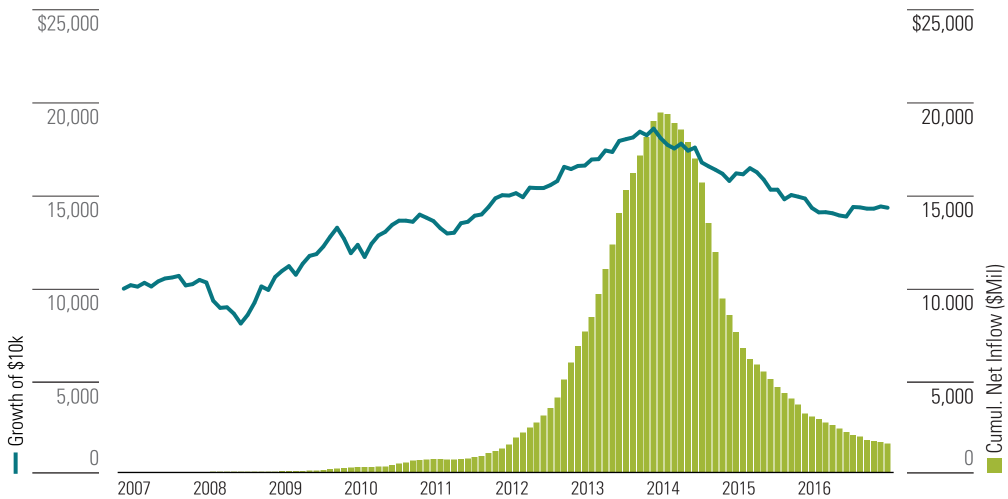
By Josh Charlson, CFA

A little more than two years ago, I wrote an article called "A Red Giant Engulfs the Long-Short Category." The red giant in question was the MainStay Marketfield fund, whose "supernova-like asset growth" had resulted in $13.4 billion in new assets in 2013 and a peak of more than $20 billion in assets under management, up from a mere $35 million in assets at the end of 2008.

Over the past two and a half years, things have changed radically for the erstwhile liquid alternatives poster child. To put it mildly, the red giant has run into a serious gravitational force.

Performance first hit some rough spots in early 2014 (noted in my article at the time) and has kept running south since then. Marketfield's trailing three-year return through Dec. 31, 2016, of negative 8.26% annualized (A shares) ranks in the bottom of the long-short equity Morningstar Category. Assets have gushed out at an astonishing rate, with the fund most recently checking in with $613 million in AUM, a fraction of its peak size (see Exhibit 1). In April 2016, Marketfield Asset Management reacquired the fund from New York Life (the parent to MainStay Funds), added CEO Michael Shaoul as a named portfolio manager alongside since-inception manager Michael Aronstein, and set about the work of restoring the fund's performance and reputation.

Exhibit 10 Marketfield Fund Assets Peaked Prior to Performance Dive



Source: Morningstar, Inc.

Clearly, serious investing mistakes were made at Marketfield. Equally apparent, MainStay made some egregious missteps in the marketing of the fund.

Less clear to me is the claim that, as many in the media would have it, the problems at Marketfield stand in miniature for the problems experienced in the liquid alts industry at large. That's a convenient narrative for those seeking attention-grabbing headlines, but it's not a helpful diagnosis of what ails either Marketfield or liquid alternative funds.

A Brief History of a Rise and Fall

Marketfield MFLDX, while classified as a long-short equity fund by Morningstar, also shares characteristics of global macro funds. The fund allocates long and short globally based on themes generated through the macroeconomic research and views of Aronstein and his team, largely implemented via individual securities (and occasionally baskets of securities or exchange-traded funds).

Marketfield established its reputation in the 2008-09 period, when the fund lost only 13% in 2008 (Aronstein shorted many financials) but pivoted adroitly to earn 31% in 2009, thus achieving the rare feat of beating the S&P 500 in both years. Aronstein and company continued to hit the right notes in 2010 and 2011, keeping pace with the index and crushing long-short equity peers. Even after that stretch of success, however, the fund was still relatively small, shy of $1 billion at the end of 2011, with growth coming mainly via word of mouth, as the firm made little effort to market the fund.

It was only after MainStay acquired the fund in 2012, taking over distribution duties while Marketfield Asset Management remained as subadvisor, that the fund's asset growth really took off. There was a great performance track record to sell, and clearly advisors sold it—in spades. MainStay, looking to get a foothold in the fast-expanding liquid alternatives space, caught hold of a rocket ship. There's no direct evidence that the massive inflows had a role in the fund's later underperformance, as Aronstein has generally used large, liquid stocks and indexes to implement his ideas. It's true that the fund shifted to a greater international focus, though Aronstein has said this was a result of the opportunity set rather than a need to deploy capital. Still, it's hard to imagine that the inflows and acclaim didn't at least have an indirect effect, whether it was the pressure to put money to work, match past success, or simply meet the burdens on time from advisors, investors, and the press.

But what were they selling, exactly? It seems that many investors were seduced by a record that suggested a fund that could do well in any kind of market, a sort of uber-hedge fund in a liquid alternatives wrapper. Even as Aronstein tried to tamp down expectations, investors kept pouring in, and as is so often the case with the habits of mutual fund buyers, they got in only to miss out on most of the gains the fund had accrued, but were in time for a stretch of underperformance that started in 2014. Over the five years from July 1, 2011, through June 30, 2016, the fund's annualized total return was barely positive at 0.36%, while its investor return was negative 2.37% annualized (based on quarterly data because of data limitations). In contrast, from its August 2007 inception until July 2011, the fund returned 8.5% annualized compared with negative 0.27% annualized for the S&P 500 during that period.

Morningstar analysts also weighed in favorably on Marketfield. We gave the fund a Morningstar Analyst Rating of Bronze when we first initiated coverage and maintained that rating until November 2014, still relatively early in the fund's downturn. Our positive rating was never tied purely to performance, however, but to what we saw as a proven, data-driven macroeconomic process that emphasized diversification across its bets. Even from our first analyses of the fund, though, we called out the risks of a strategy based on market-timing and largely driven by the views of a single manager. When we downgraded the fund, our concerns focused on the fact that Aronstein's bets had become much more highly correlated, whether from a perceived lack of opportunity or an unconscious narrowness of focus in his view of markets. Even though we were relatively early in downgrading the fund, in retrospect it appears that we could have been even more diligent in identifying the actualization of risks that we had noted from a more hypothetical perspective. In a larger sense, the shifts in Morningstar's assessment of Marketfield reflect the difficulties of evaluating macro-oriented strategies, not only because of the challenges of market-timing and concentration, but because the allocations may change so swiftly that a fund's current portfolio may look completely different 12 months later.

Yet to try to turn Marketfield's struggles into an indictment of alternative funds as a whole is to miss the point. Marketfield's woes, at least from an investment perspective, are more indicative of the problems of a certain brand of active management. Yes, Aronstein uses shorting in the fund, but not to hedge so much as to generate alpha by taking active stances against companies or industries. He has a proclivity for making concentrated thematic bets, and it was his degree of conviction and the overlapping of positions dependent on a resurgence in global inflation that got the fund wrong-footed. This is a pattern—a stretch of great performance followed by a high-conviction bet gone seriously awry that torpedoes both performance and assets—that we've seen historically from active fund managers like Legg Mason's Bill Miller, Fairholme's Bruce Berkowitz, and more recently the skippers of Sequoia Fund. As John Rekenthaler has argued, these types of strategies are ever more rare in a mutual fund industry increasingly leaning passive and risk-aware.

It's true that liquid alternative mutual funds have disappointed, but they constitute too broad and diverse a group to ascribe a single cause to their ailments. To the extent such funds have struggled, however, in most cases it's not due to excessive risk-taking or large, misaligned bets (though certainly funds other than Marketfield have been guilty of this). Rather, many managers have been overly hedged, believing that equity markets were overvalued and bond markets were due for an interest-rate rise, while high fees have cut into their modest expected-return positioning.

The one area where painting with the liquid alts brush rings true is in the marketing and sales approach to Marketfield. We don't know exactly what MainStay's sales pitch was for the fund, but it seems safe to assume that many investors were not fully cognizant of the fund's risks and probably had little idea of the fund's exact investment approach. When investors are being sold on a concept (whether it's "liquid alts," "smart beta," or any other trend of the moment) rather than a specific investment, bad things are likely to happen. Alternatives have their place in investor portfolios, but it's incumbent on fund companies to responsibly educate advisors and investors on how to use them and what their risks are.

Options on the Table for Investors

For investors who still have money in the fund, the key questions are whether to stay put and what they can expect going forward. Our Analyst Rating of Neutral suggests that the fund is likely to earn only category-like returns over the long term. But those returns are likely to come in very lumpy fashion. Investors should be prepared to ride out long stretches when the fund's high-conviction bets are out of favor. Considering the rough period the fund has endured the past three years, now might not be the wisest time to sell shares. (Indeed, the fund was up 4.73% for the year to date through Feb. 17, 2017, in the top quintile of the long-short equity category, as the fund's reflationary theme finally seemed to be finding favor in the market.) Eventually the fund should find its footing, and after a period in which Aronstein seemed to have little in the way of new investment ideas, more recently he has found several encouraging themes, such as shorting asset-management firms that he believes will be impacted by pressures on profit margins. But investors who are uncomfortable with the levels of uncertainty and concentration here might well consider seeking out more-traditional and predictable offerings.

The Worst Practice in Liquid Alternatives

By Jason Kephart

The vast majority of liquid alternatives funds do a fine job of reporting accurate portfolio holdings and fees to investors. There are a handful, however, that take advantage of the SEC's current lax reporting rules on derivatives to camouflage their underlying strategies and the cost of those strategies. We've previously highlighted the poor disclosure around fees and portfolio holdings in some managed-futures funds, which is actually improving, but the unfriendly shareholder practice is starting to spread to multialternative strategies as well. To be fair, we're aware of only a small number of funds that are opaque about fees, but giving them a pass could possibly lead to more of this behavior, and that would be a terrible outcome for investors.

The practice pertains to funds that use total-return swaps to access the net-of-fee returns of commodity trading advisors running managed-futures hedge funds. Because they are using a total-return swap, instead of hiring the managers as direct subadvisors or investing directly in the hedge fund, the funds aren't required to include the cost of the swap or the subadvisor's management and performance fees in the prospectus net expense ratio or in the annual report net expense ratio. The latter fee is a particular concern, as the Investment Company Act of 1940 prohibits mutual funds from charging a performance fee based on capital appreciation in addition to a management fee. That's not to be confused with performance-based fees, sometimes called fulcrum fees; these are allowed because a fund's management fee can rise or fall based on performance versus a benchmark, as is the case with **Fidelity Contrafund** FCNTX.

There appears to be no particular benefit to the end investor from purchasing a fund that uses this structure other than access to a hedge fund or several hedge funds with an additional layer of fees tacked on by the mutual fund company. For the hedge fund, the advantage is clearly being able to tap into the fast-growing liquid alternatives market without giving up performance fees or having to go through the inconvenience of setting up a new subadvisory account. When the additional fees beyond the mutual fund's disclosed costs are added up, the increase can be dramatic. For example, before switching to a total-return-swap structure in 2012 or 2013, **Equinox MutualHedge Futures Strategy** MHFAX, **LoCorr Managed Futures Strategy** LFMAX, and **Altegris Managed Futures Strategy** MFTAX had annual report net expense ratios of more than 3.75%. After switching, each fell to around 2.00%. On the surface, this appears to result in a cost savings.

Investors were not getting a better deal, though. The fees just moved from the all-in annual report expense ratio to a footnote in the small print of the prospectus. In its most recent prospectus filed in January 2016, the Equinox fund, for example, notes additional fees, including a total-return-swap cost of 0.75%, underlying management fees of 0.87%, and a performance fee of 20.15%. No information is included about how the performance fee is calculated—such as whether it's based on a high-water mark or how much the trading profits actually equaled. Add just the swap fee and the extra management fee to Equinox's 1.45% management fee, and you get costs of more than 3.00% before the performance fee is included. It's a similar story at other Equinox, Altegris, and LoCorr funds.

There has been positive movement on this front. LoCorr Managed Futures restructured in 2016 to remove its total-return swap and hire the subadvisors directly. This resulted in a massive reduction of the actual ownership costs, down to 1.81% from more than 3.00% in the case of the institutional share class. The lower fees and the increase in transparency led us to upgrade our Morningstar Analyst Rating to Neutral from Negative. The firm offers another managed-futures fund, **LoCorr Market Trend** LOTAX, which does not use a total-return swap. LoCorr still earns a Negative Parent rating, however, in part for its use of total return swaps in **LoCorr Long/Short Commodity Strategies** LCSAX and **LoCorr Multi-Strategy** LMUAX, as we feel the structure is not in shareholders' best interest.

In some cases, though, liquid alternatives funds are actually ratcheting up their opaqueness. **GMG Defensive Beta** MPDAX, which recently moved from the large-blend Morningstar Category to the multialternative category, is essentially a black box. Its holdings list a 22% allocation to GMG Fund Limited, which according to its institutional marketing materials allows it access to eight subadvisors running managed-futures or global macro strategies. The fund's prospectus doesn't include information about how those subadvisors are compensated nor does it name them. The fund, which launched in 2009, did not have a fact sheet available on its advisor's website as of February 2017.

In an August 2015 letter to the SEC regarding the proposed rule on investment company reporting modernization, Morningstar made the following comment regarding the swaps: "In recent years, funds offering 'liquid alternative' strategies have more frequently held swaps linked to the return of a commodity pool, or a private index ... if there are costs associated with the management of the CFC or expenses embedded in the return being received (in the case of swaps on the return of commodity pools), these expenses should be footnoted in the financial statements and reported either in calculations of total operating expenses or as acquired fund expenses in other filings."

Including the underlying swap, management, and performance fees in total operating expenses or as acquired fund fees would give investors a clearer picture of the actual costs they are paying for these strategies. The SEC's recently approved rules on modernizing reporting by mutual funds (they won't go into effect until at least 2018) may force more of these fees into the light. But we would hope that many fund companies won't need specific direction from the SEC to make moves to improve transparency and work in shareholders' best interests.

Fund Profile
Credit Suisse Managed Futures Strategy

By Jason Kephart

Advisor
Credit Suisse Asset Management

Advisor Location
New York, New York

Assets Under Management
$175 million

Inception Date
Sept. 28, 2012

Investment Type
Mutual fund

Morningstar Category
Managed futures

Purpose

This managed-futures fund focuses solely on trend-following. Trend-following strategies have proved to be good sources of diversification for a traditional portfolio of stocks and bonds because of their ability to short asset classes that are trending lower.

People

This strategy was designed by the quantitative investment strategies group within Credit Suisse's Alternative Funds Solutions group. The 11-person quantitative team was split into a distinct entity within the alternative strategies group in 2007 and is primarily focused on building liquid alternatives strategies and alternative strategy indexes. This managed-futures strategy was originally designed as part of a multistrategy index. Yung-Shin Kung, head and CIO of the quantitative group as well as a voting member of Alternative Funds Solutions' investment committee, serves as the lead manager on this mutual fund. Kung joined Credit Suisse in 2009. Prior to joining, he was director in the financial products group at Merrill Lynch. He is joined by comanager Sheel Dhande, who joined the firm in 2008.

Process

This trend-following strategy trades futures contracts to take advantage of trends in global equity, fixed-income, currency, and commodities markets. Management targets a portfolio-level volatility of 10%, measured by annualized standard deviation, and each asset class is weighted so that it contributes an equal amount of volatility to that target. To determine whether to go long or short in a market, like U.S. equities, a futures contract's moving average is trending up or down over 16 different time periods ranging from as short as three months to more than a year. The more agreement there is across the signals, the larger allocation the long or short position will have. If the signals are mixed, such as eight signals trending up and eight signals trending down, then the fund will have smaller or no positions.

Portfolio

The fund trades 34 separate futures contracts across equities, fixed-income, currencies, and commodities. In each asset class, the fund looks for the most-liquid contracts in major geographic regions. In equities, for example, it only trades S&P 500 futures contracts to gain exposure to trends in the U.S. stock market. It also trades equity futures contracts tied to Asia (Hang Seng Index), Europe (Euro Stoxx 50 Index), Japan (Nikkei 225 Index), and the United Kingdom (FTSE 100 Index). It has similar geographic exposure in fixed-income. In currencies, it trades the Australian dollar, Canadian dollar, British pound, euro, and Japanese yen against the U.S. dollar. In commodities, the fund will trade subindexes to get exposure to specific contracts within agriculture, precious metals, energy, and industrial metals.

Price

This fund is one of the cheaper managed-futures funds available. All three of its share classes have Morningstar Fee Levels of Below Average, which indicates they are cheaper than at least 60% of similarly distributed peers. The fund's A shares have an expense ratio of 1.55%, which is cheaper than 70% of peers, and the I shares, which have a minimum investment of $250,000, have an expense ratio of 1.30%, cheaper than 60% of peers.

Credit Suisse Managed Futs Strat I (USD)

Overall Morningstar Rating™	Standard Index	Category Index	Morningstar Cat
★★★★★ 102 US Fund Managed Futures	Credit Suisse Mgd Futures Liquid TR USD	Credit Suisse Mgd Futures Liquid TR USD	US Fund Managed Futures

Performance 02-28-2017

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2015	11.04	-7.48	3.18	-2.55	3.30
2016	4.55	1.33	-2.11	0.05	3.77
2017	—	—	—	—	2.21

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-4.30	7.67	—	—	6.04
Std 12-31-2016	3.77	—	—	—	6.83
Total Return	-4.30	7.67	—	—	6.04
+/- Std Index	-0.01	-0.63	—	—	—
+/- Cat Index	-0.01	-0.63	—	—	—
% Rank Cat	25	11	—	—	
No. in Cat	140	102	—	—	

	Subsidized	Unsubsidized
7-day Yield	—	—
30-day SEC 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 877-870-2874 or visit www.credit-suisse.com/us.

Fees and Expenses

Sales Charges

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

Fund Expenses

Management Fees %	1.04
12b1 Expense %	NA
Net Expense Ratio %	**1.30**
Gross Expense Ratio %	**1.35**

Risk and Return Profile

	3 Yr	5 Yr	10 Yr
	102 funds	*64 funds*	—
Morningstar Rating™	5★	—	—
Morningstar Risk	+Avg	—	—
Morningstar Return	+Avg	—	—

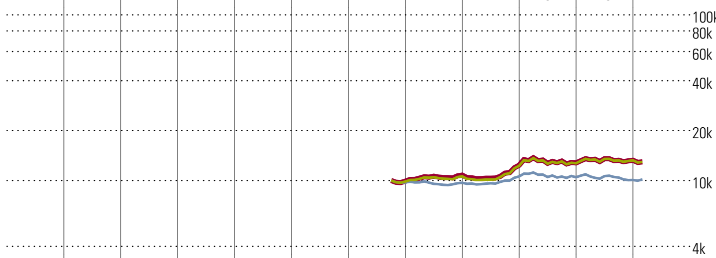
	3 Yr	5 Yr	10 Yr
Standard Deviation	10.14	—	—
Mean	7.67	—	—
Sharpe Ratio	0.76	—	—

MPT Statistics	Standard Index	Best Fit Index Morningstar Gbl Lng/Shrt Curr TR USD
Alpha	-0.48	2.25
Beta	0.99	1.38
R-Squared	99.50	61.33

12-Month Yield	—
Potential Cap Gains Exp	-0.46%

Investment Style
Equity
Stocks %

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	02-17
—	—	—	—	—	—	—	21	11	5	26	—



Growth of $10,000
Credit Suisse Managed Futs Strat I 12,956
Category Average 10,139
Standard Index 12,938

Performance Quartile (within category)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	02-17	History
—	—	—	—	—	—	9.90	10.47	11.32	10.76	10.88	10.64	NAV/Price
—	—	—	—	—	—	—	8.79	14.75	3.30	3.77	-2.21	Total Return %
—	—	—	—	—	—	—	1.31	-1.03	-0.26	-0.42	0.01	+/- Standard Index
—	—	—	—	—	—	—	1.31	-1.03	-0.26	-0.42	0.01	+/- Category Index
—	—	—	—	—	—	—	9	21	15	15	—	% Rank Cat
—	—	—	—	—	—	—	134	146	171	141	146	No. of Funds in Cat

Portfolio Analysis 10-31-2016

Asset Allocation %	Net %	Long %	Short %
Cash	53.52	113.91	60.39
US Stocks	0.00	0.00	0.00
Non-US Stocks	46.29	46.29	0.00
Bonds	-7.15	9.93	17.08
Other/Not Clsfd	7.35	7.35	0.00
Total	100.00	177.47	77.47

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	—

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

Share Chg since 09-2016	Share Amount	Holdings : 0 Total Stocks , 5 Total Fixed-Income, — Turnover Ratio	Net Assets %
☼	5,900	Hang Seng Idx Fut Nov16 Xhkf 20161	11.28
⊕	1,960	Ftse 100 Idx Fut Dec16 Ifll 201612	10.73
⊕	4,630	Euro Stoxx 50 Dec16 Xeur 20161216	10.03
⊕	1,020 mil	10yr Mini Jgb Fut Dec16 Xses 20161	-9.53
☼	9 mil	Us 10yr Note (Cbt)dec16 Xcbt 20161	-7.55
	902,915	Cs Cayman Liquid Managed Futur Mut	7.35
⊖	5,300	S+p500 Emini Fut Dec16 Xcme 201612	7.27
☼	65,000	Nikkei 225 (Ose) Dec16 Xose 201612	6.98
⊖	106,250	Jpn Yen Curr Fut Dec16 Xcme 201612	6.56
⊖	2 mil	Long Gilt Future Dec16 Ifll 201612	1.98
⊖	1 mil	Euro-Bund Future Dec16 Xeur 201612	1.38

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:	Credit Suisse (New York, NY)	Base Currency:	USD	Incept:	09-28-2012
Manager:	Multiple	Ticker:	CSAIX	Type:	MF
Tenure:	4.5 Years	Minimum Initial Purchase:	$250,000	Total Assets:	$199.95 mil
Objective:	Growth and Income	Purchase Constraints:	—		

Fund Profile
LJM Preservation & Growth

By Heather Larsen

Advisor
LJM Fund Management

Advisor Location
Chicago, Illinois

Assets Under Management
$415.6 million

Inception Date
Jan. 9, 2013

Investment Type
Mutual fund

Morningstar Category
Option-writing

Purpose
This fund looks to capture the spread between implied and realized volatility by writing options on S&P 500 futures contracts. Investors seeking diversification from traditional asset classes may find this fund appealing because of its extremely low correlation to equities and fixed income.

People
Lead manager Anthony Caine founded LJM Partners in 1998 and subsequently launched the firm's first hedge fund, which uses the same basic options-trading process as the mutual fund. Prior to founding LJM, Caine traded options for his own personal account while working in the software industry. Caine has almost 20 years of experience running this options strategy in publicly available funds. Co-portfolio manager Anish Parvataneni joined LJM Partners in 2010 as a lead trader and has 15 years of experience in the investment management industry. Prior to joining LJM, Parvataneni worked as a trader at Citadel and Jump Trading. Caine and Parvataneni are supported by three other members of the portfolio management team and two external brokers who exclusively execute the firm's strategies on the floor of the Chicago Mercantile Exchange. Arjuna Ariathurai provides additional support as the chief risk officer. He joined the LJM team in 2012.

Process
LJM Preservation & Growth looks to generate annualized returns between 8% and 12% with lower volatility than its benchmark, the S&P 500. The firm uses the same basic options strategy in the mutual fund as it does in its three hedge funds. The strategy seeks to capture the difference between implied market volatility, which is typically indicated by the level of the CBOE Volatility Index (VIX), and actual market volatility, which historically tends to be less than the VIX would suggest. It does so by selling out-of-the-money call and put options on S&P 500 futures contracts, which gives the fund a net short position against volatility. The fund collects a premium for selling the options, and if the options settle out of the money, the fund makes a profit. If market volatility is greater than implied, the strategy could suffer steep losses in a short amount of time. To protect against that risk, management keeps 20% to 50% of the fund's assets in cash and also buys an out-of-the-money put with a longer time to expiration as protection.

Portfolio
To establish its net short volatility position, the fund writes out-of-the money call and put options on S&P 500 futures contracts that expire between 45 and 60 days. Management believes that time period offers the best risk/reward trade-off for selling options. For protection against volatility spikes that would cause that strategy to suffer heavy losses, management also buys out-of-the-money put

options about 90 days out, which would benefit from higher volatility. To pay for that long put position, management sells another further out-of-the-money put. The portfolio is rebalanced as often as daily, depending on market conditions. The overall strategy keeps the correlation to traditional assets extremely low. The trailing three-year correlation to the S&P 500 through December 2016 was 0.06, while the correlation to the Bloomberg Barclays U.S. Aggregate Bond Index was negative 0.08.

Price

This fund has a significant fee hurdle to overcome. The majority of assets are invested in the institutionally distributed share class, which charges a prospectus net expense ratio of 2.22%. LJM also offers A and C share classes, which charge 2.47% and 3.22%, respectively. All three share classes earn Morningstar Fee Levels of High.

LJM Preservation and Growth I (USD)

Overall Morningstar Rating™	Standard Index	Category Index	Morningstar Cat
★★★★★ 73 US Fund Option Writing	S&P 500 TR USD	CBOE S&P 500 BuyWrite BXM	US Fund Option Writing

Performance 02-28-2017

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2015	7.46	2.88	0.58	0.66	11.93
2016	3.47	1.82	6.11	1.55	13.51
2017	—	—	—	—	0.67

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	11.40	8.86	—	—	4.50
Std 12-31-2016	13.51	—	—	—	4.51
Total Return	11.40	8.86	—	—	4.50
+/- Std Index	-13.57	-1.78	—	—	—
+/- Cat Index	-2.59	2.38	—	—	—
% Rank Cat	49	1	—	—	
No. in Cat	113	73	—	—	

	Subsidized	Unsubsidized
7-day Yield	—	—
30-day SEC 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 855-556-3863 or visit www.ljmfunds.com.

Fees and Expenses

Sales Charges

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

Fund Expenses

Management Fees %	1.95
12b1 Expense %	NA
Net Expense Ratio %	**2.24**
Gross Expense Ratio %	**2.34**

Risk and Return Profile

	3 Yr 73 funds	5 Yr 24 funds	10 Yr 6 funds
Morningstar Rating™	5★	—	—
Morningstar Risk	High	—	—
Morningstar Return	High	—	—

	3 Yr	5 Yr	10 Yr
Standard Deviation	9.31	—	—
Mean	8.86	—	—
Sharpe Ratio	0.94	—	—

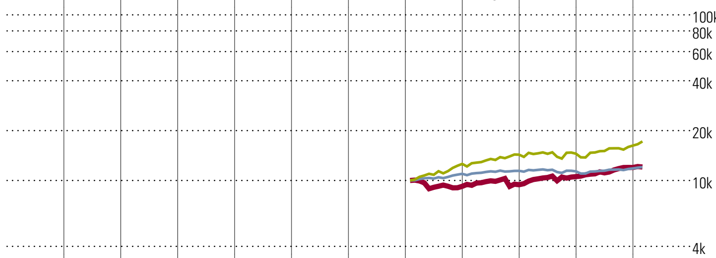
MPT Statistics	Standard Index	Best Fit Index S&P 500 VIX Short Term Futures TR USD
Alpha	8.36	5.54
Beta	0.04	-0.06
R-Squared	0.21	16.22

12-Month Yield	—
Potential Cap Gains Exp	-0.06%

Investment Style
Equity
Stocks %

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	02-17
—	—	—	—	—	—	—	14	15	2	1	—

Growth of $10,000



LJM Preservation and Growth I
12,057
Category Average
12,049
Standard Index
17,208

Performance Quartile (within category)

History

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	02-17	History
—	—	—	—	—	—	—	9.17	9.38	10.10	10.45	10.52	NAV/Price
—	—	—	—	—	—	—	—	2.29	11.93	13.51	0.67	Total Return %
—	—	—	—	—	—	—	—	-11.40	10.54	1.55	-5.27	+/- Standard Index
—	—	—	—	—	—	—	—	-3.35	6.68	6.45	-2.97	+/- Category Index
—	—	—	—	—	—	—	—	—	—	2	—	% Rank Cat
—	—	—	—	—	—	—	—	—	—	113	140	No. of Funds in Cat

Portfolio Analysis 10-31-2016

Asset Allocation %	Net %	Long %	Short %
Cash	100.23	100.62	0.39
US Stocks	0.00	0.00	0.00
Non-US Stocks	-0.23	1.09	1.32
Bonds	0.00	0.00	0.00
Other/Not Clsfd	0.00	0.00	0.00
Total	100.00	101.71	1.71

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	—

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

Share Chg since 07-2016	Share Amount	Holdings : 0 Total Stocks , 0 Total Fixed-Income, 0% Turnover Ratio	Net Assets %
☼	235	S&P 500 Futr Optn Dec16p Spz6p 207	0.53
☼	235	S&P 500 Futr Optn Dec16p Spz6p 202	0.35
☼	584	S&P 500 Futr Optn Dec16p Spz6p 184	-0.20
☼	356	S&P 500 Futr Optn Dec16p Spz6p 188	-0.16
☼	386	S&P 500 Futr Optn Dec16p Spz6p 186	-0.15
☼	560	S&P 500 Futr Optn Dec16c Spz6c 223	-0.13
☼	235	S&P 500 Futr Optn Dec16c Spz6c 220	0.13
☼	360	S&P 500 Futr Optn Dec16p Spz6p 182	-0.11
☼	860	S&P 500 Futr Optn Dec16c Spz6c 225	-0.10
☼	402	S&P 500 Futr Optn Dec16p Spz6p 180	-0.10
☼	235	S&P 500 Futr Optn Dec16c Spz6c 221	0.09
☼	142	S&P 500 Futr Optn Dec16p Spz6p 190	-0.08
☼	385	S&P 500 Futr Optn Dec16c Spz6c 224	-0.07
☼	260	S&P 500 Futr Optn Dec16p Spz6p 176	-0.05
☼	522	S&P Futr Optn Dec16c 2260 Index	-0.05

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:	LJM Funds	Base Currency:	USD	Purchase Constraints:	—
Manager:	Multiple	Ticker:	LJMIX	Incept:	01-09-2013
Tenure:	4.2 Years	Minimum Initial Purchase:	$100,000	Type:	MF
Objective:	Growth and Income	Min Auto Investment Plan:	$100,000	Total Assets:	$428.44 mil

Fund Profile
Oppenheimer Fundamental Alternatives

By Josh Charlson, CFA

Advisor
OFI Global Asset Management

Advisor Location
New York, New York

Subadvisor
OppenheimerFunds

Assets Under Management
$1.3 billion

Inception Date
Jan. 3, 1989

Investment Type
Mutual fund

Morningstar Category
Multialternative

Purpose
This is a multistrategy fund that takes a discretionary, macro-driven approach. It aims to produce low volatility and relatively low correlations to stocks and bonds and outperform the HFRX Global Hedge Fund Index. Investors can think of it as a diversifier in their portfolio, and possibly as a core element of an alternatives allocation.

People
Michelle Borrè took over management of this fund in November 2011. She had previously worked as an analyst on this fund from 2003 to 2009, and she has also served as portfolio manager of **Oppenheimer Capital Income** OPPEX since 2009. Borrè is backed by five analysts focused on this strategy: Daryl Armstrong, Robert Herz, Jay Merchant, Timothy Mulvihill, and Brian Giesen. The analysts tend to cover multiple and sometimes overlapping sectors and asset classes. Both Herz and Mulvihill, for instance, cover global macro and credit, while Herz also covers financials. A separate risk management team, headed by Geoff Craddock, provides additional oversight. Borrè will at times call on other asset-class teams at Oppenheimer for investment ideas or to manage sleeves of the fund, as is the case with the fund's bank-loan allocation, which is run by a team out of Denver.

Process
Management views this fund as a multistrategy vehicle that can act as a diversifier in investors' portfolios. There is no specific return target; rather, management looks to achieve low volatility and low correlation to traditional asset classes. However, the fund does aim to outperform the HFRX Global Hedge Fund Index, a broad-based tracker of hedge fund strategies. The fund has undergone significant strategy changes over time. The current approach can be traced back to April 2012, the point at which manager Borrè fully implemented the portfolio, after taking charge of the fund in November 2011. Previously, the fund had been higher-beta, and its alternative characteristics chiefly derived from long-short equity exposure. Currently, Borrè and her team of five analysts oversee three separate sleeves: long-short equity, long-short credit, and global macro (which may include commodities, currencies, and rates). But the managers begin with a top-down view, developing 10 or so broad macroeconomic themes through which they will filter their trade ideas. In doing so, they take a two- to three-year outlook, searching for market or sector imbalances that they think are unsustainable, and where prices are reasonable. Trade ideas are presented by analysts at weekly meetings, during which the analyst must discuss potential risk and return, the fundamental rationale, and bull and bear cases for the idea. Allocation across the three buckets is driven by asset-class valuations as well as the perceived opportunity set. An independent risk team backs up Borrè's team with regular

risk tests on the portfolio. The highly discretionary nature of the investment process along with the relatively concentrated thematic approach does introduce some idiosyncratic risks to the strategy.

Portfolio

As of Dec. 31, 2016, the fund allocated net 27.1% to long-short equity (54.5% long and 27.4% short), 24.5% to long-short credit (34.8% long and 10.3% short), and negative 12.2% to global macro (10% long and 22.2% short). Those allocations will not typically change dramatically in the short term, but they can shift over time. The fund's beta has decreased since 2014 as the stock market has become more expensive, with Borrè reducing the fund's long equity exposure over that period. The fund's short position in global macro results largely from shorts on currencies, such as the Chinese yuan and the euro, as well as shorts on sovereign debt, including peripheral European markets, such as Spain and Italy. Some of the key themes driving the fund's positioning include a slowdown in China's growth, European fragmentation, the effects of global central bank policy, and healthcare reform and advances. Management may look to express a given theme through multiple asset classes and instruments. When it comes to shorting, Borrè prefers to use individual stock shorts in the equity sleeve but tends to rely on derivatives such as credit default swaps in the credit sleeve. For several years, the fund has a run a kind of pair trade in credit, going long bank loans and short high-yield credits. The bank-loan sleeve is run by a separate Oppenheimer team based in Denver.

Price

The fund's fees are reasonable. The two largest share classes are the A and Y shares, which levy annual report expense ratios of 1.31% and 1.13%, respectively. Both share classes earn Morningstar Fee Levels of Low compared with similarly distributed alternative funds. Of the remaining share classes, two have Below Average feel levels, and two are Above Average.

Oppenheimer Fundamental Alternatives A (USD)

Overall Morningstar Rating™	Standard Index	Category Index	Morningstar Cat
★★★★ 238 US Fund Multialternative	Morningstar Mod Tgt Risk TR USD	Morningstar Mod Tgt Risk TR USD	US Fund Multialternative

Performance 02-28-2017

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2015	2.25	-0.11	-0.45	0.27	1.95
2016	-0.86	2.12	-0.56	0.59	1.27
2017	—	—	—	—	1.19

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-2.46	0.26	2.82	2.05	8.02
Std 12-31-2016	-4.55	—	2.87	1.93	8.02
Total Return	3.49	2.26	4.04	2.65	8.25
+/- Std Index	-12.20	-2.22	-2.68	-2.86	—
+/- Cat Index	-12.20	-2.22	-2.68	-2.86	—
% Rank Cat	59	25	16	22	
No. in Cat	414	238	142	38	

	Subsidized	Unsubsidized
7-day Yield	—	—
30-day SEC 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 800-225-5677 or visit www.oppenheimerfunds.com.

Fees and Expenses

Sales Charges

Front-End Load %	**5.75**
Deferred Load %	**NA**

Fund Expenses

Management Fees %	0.86
12b1 Expense %	0.25
Net Expense Ratio %	**1.34**
Gross Expense Ratio %	**2.06**

Risk and Return Profile

	3 Yr 238 funds	5 Yr 142 funds	10 Yr 38 funds
Morningstar Rating™	4★	4★	4★
Morningstar Risk	Low	-Avg	Avg
Morningstar Return	+Avg	+Avg	+Avg

	3 Yr	5 Yr	10 Yr
Standard Deviation	3.04	2.98	7.36
Mean	2.26	4.04	2.65
Sharpe Ratio	0.70	1.30	0.31

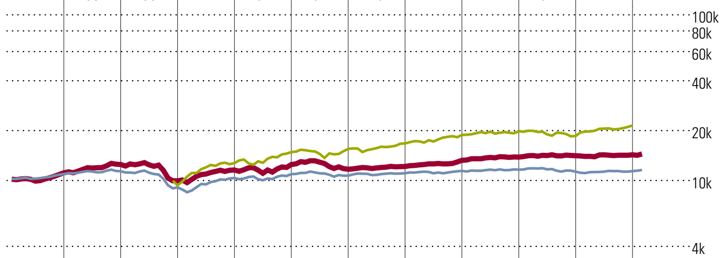
MPT Statistics	Standard Index	Best Fit Index Morningstar US Large Growth TR USD
Alpha	1.34	0.73
Beta	0.18	0.14
R-Squared	13.84	31.84

12-Month Yield	—
Potential Cap Gains Exp	4.69%

Investment Style
Equity
Stocks %

72	69	55	44	54	32	40	44	42	37	44	47

Growth of $10,000



Oppenheimer Fundamental Alternatives A 14,456
Category Average 11,575
Standard Index 21,467

Performance Quartile (within category)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	02-17	History
30.01	28.01	21.46	24.94	26.39	22.58	23.46	25.57	26.26	26.63	26.90	27.22	NAV/Price
11.24	12.25	-20.28	16.22	7.87	-6.34	3.90	8.99	4.55	1.95	1.27	1.19	Total Return %
-1.72	3.62	1.91	-5.56	-4.46	-6.94	-8.15	-5.31	-0.34	3.74	-7.30	-2.48	+/- Standard Index
-1.72	3.62	1.91	-5.56	-4.46	-6.94	-8.15	-5.31	-0.34	3.74	-7.30	-2.48	+/- Category Index
—	—	—	—	—	—	—	—	16	6	55	—	% Rank Cat
—	—	—	—	—	—	—	—	373	461	419	442	No. of Funds in Cat

Portfolio Analysis 01-31-2017

Asset Allocation %	Net %	Long %	Short %
Cash	28.11	28.14	0.03
US Stocks	34.59	54.69	20.11
Non-US Stocks	-0.76	5.88	6.64
Bonds	22.15	22.21	0.06
Other/Not Clsfd	15.91	16.90	0.99
Total	100.00	127.83	27.83

Equity Style

Value Blend Growth
Large Mid Small

Portfolio Statistics	Port Avg	Rel Index	Rel Cat
P/E Ratio TTM	20.7	1.08	0.98
P/C Ratio TTM	12.1	1.19	1.17
P/B Ratio TTM	2.6	1.18	1.11
Geo Avg Mkt Cap $mil	51115	1.77	2.08

Fixed-Income Style

Ltd Mod Ext
High Med Low

Avg Eff Maturity	—
Avg Eff Duration	0.42
Avg Wtd Coupon	—
Avg Wtd Price	98.44

Credit Quality Breakdown 12-31-2016	Bond %
AAA	2.62
AA	3.26
A	6.85
BBB	13.53
BB	9.79
B	6.58
Below B	1.00
NR	56.37

Regional Exposure	Stocks %	Rel Std Index
Americas	94.0	1.35
Greater Europe	6.0	0.43
Greater Asia	0.0	0.00

Share Chg since 12-2016	Share Amount	Holdings : 102 Total Stocks , 69 Total Fixed-Income, 131% Turnover Ratio	Net Assets %
	320,310	SPDR® Gold Shares	2.96
	41,150	Alphabet Inc A	2.70
	25 mil	Lukoil Intl Fin Bv 144A 6.125%	2.24
	168,160	M&T Bank Corp	2.19
	199,670	Chubb Ltd	2.10
	155,620	UnitedHealth Group Inc	2.02
	422,050	Republic Services Inc Class A	1.94
	191,986	Apple Inc	1.86
	360,170	Xilinx Inc	1.68
	127,184	Boeing Co	-1.66
	291,781	Altria Group Inc	1.66
	682,670	General Electric Co	1.62
	263,510	Allstate Corp	1.58
	552,400	Weingarten Realty Investors	-1.57
⊕	438,431	Johnson Controls International PLC	1.54

Sector Weightings	Stocks %	Rel Std Index
Cyclical	**27.8**	**0.67**
Basic Materials	3.5	0.63
Consumer Cyclical	7.8	0.69
Financial Services	12.5	0.67
Real Estate	4.0	0.67
Sensitive	**45.4**	**1.24**
Communication Services	5.9	1.56
Energy	10.0	1.57
Industrials	16.8	1.47
Technology	12.8	0.85
Defensive	**26.8**	**1.21**
Consumer Defensive	6.0	0.72
Healthcare	16.3	1.60
Utilities	4.6	1.25

Operations

Family:	OppenheimerFunds	Ticker:	QVOPX	Incept:	01-03-1989
Manager:	Michelle Borré	Minimum Initial Purchase:	$1,000	Type:	MF
Tenure:	5.3 Years	Min Auto Investment Plan:	$500	Total Assets:	$1,319.81 mil
Objective:	Asset Allocation	Minimum IRA Purchase:	$500		
Base Currency:	USD	Purchase Constraints:	—		

Fund Profile
Virtus Multi-Strategy Target Return

By Josh Charlson, CFA

Advisor
Virtus Investment Partners

Subadvisor
Aviva Investors Americas

Advisor Location
Hartford, Connecticut

Assets Under Management
$127.9 million

Inception Date
July 20, 2015

Investment Type
Mutual fund

Morningstar Category
Multialternative

Purpose
This fund falls within the global-macro subset of multialternative funds, and it can also be classified as an absolute return or target-return fund. It aims to generate a 5% return above cash over rolling three-year periods while producing volatility less than half that of global equities. Investors could view the fund as a stabilizer and diversifier within a broad portfolio.

People
Although he is not a named portfolio manager on the fund, Euan Munro is a key figure. He left Standard Life for Aviva Investors to create this fund and is its key architect. In his capacity as CEO of Aviva, he oversees the firm's multiasset portfolios, including this strategy. The fund has four named portfolio managers: Ian Pizer, a senior portfolio manager and head of investment strategy, previously worked with Munro at Standard Life and joined Aviva in 2014; Peter Fitzgerald is head of multiasset investing at Aviva and has been with the firm since 2011; and Daniel James oversees rates and multistrategy fixed income, while Brendan Walsh joined the firm from Standard Life in 2010 and has a quantitative background. They are supported by a robust team of analysts, including a four-person risk analysis team and an eight-person investment strategy team. They also receive input from regional asset-class specialist teams around the globe.

Process
As an absolute return fund, this vehicle aims to produce positive returns with a cash-plus 5% return target over rolling three-year periods; it also aims to produce volatility of less than half global equities over that period. Using a global-macro approach that is similar to the one employed by Munro at Standard Life, management aims to reach those goals by investing long and short across global asset classes, with a wide and flexible mandate. The process begins with the formulation of a house view via a quarterly meeting of the firm's strategic investment group. This produces the major macro themes through which most trade ideas for the fund will be generated. On a monthly basis, the same group meets to field trade ideas, which may come from teams around the world, as well as from the Aviva Investors Multi-Strategy team itself. All trade ideas must be submitted via written template and indicate return and risk potential, as well as potential behavior in different markets. Ideas are debated by the entire team, after which it is determined whether the idea can go on the permitted investments list. To make into the actual portfolio, however, the fund's portfolio management and risk teams must approve the idea.

Portfolio

The portfolio typically consists of 25-35 distinct trades; in late 2016, the fund was at the upper end of that spectrum. In addition to the broad macroeconomic themes that guide trade ideas, management also buckets ideas into three return types: market returns (long-term market opportunities where Aviva's house view differs from the market's); opportunistic returns (shorter-term opportunities based on market mispricings); and risk-reducing returns (these tend to be hedges or other trades intended do well during periods of market stress). For example, some of the key themes present in the portfolio in late 2016 included China's continued prioritization of growth, the rise of reflation over deflation, the global search for yield, and the effects of global monetary policy. A given theme may play out across various asset classes and instruments; for instance, the China growth theme was expressed through a long emerging-markets small-cap equities play (via exchange-traded funds) as well as a long U.S. dollar versus a short Chinese offshore yuan (currency forwards) bet. The fund's beta to global equities has remained below 0.1 during its tenure so far. Management aims to keep the U.S. portfolio as close as possible to the European SICAV version (which is much larger with several billion in assets under management), but regulatory differences force certain differences, particularly when it comes to commodities and precious metals.

Price

This fund charges prospectus net expense ratios of 1.47% for its I shares, 1.70% for its A shares (which come with a 5.75% load), and 2.45% for its C shares. The fund has a fee waiver of 57 basis points in place to achieve those expense ratios. The vast majority of assets are in the I shares, which have a Morningstar Fee Level of Below Average relative to the institutional share classes of other alternative funds. The A and C shares rank as Average.

Virtus Multi-Strategy Target Return I (USD)

Standard Index	Category Index	Morningstar Cat
Morningstar Mod Tgt Risk TR USD	Morningstar Mod Tgt Risk TR USD	US Fund Multialternative

Performance 02-28-2017

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2015	—	—	—	0.20	—
2016	-2.13	-0.10	-0.31	3.53	0.91
2017	—	—	—	—	-1.52

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-0.01	—	—	—	-0.82
Std 12-31-2016	0.91	—	—	—	0.14
Total Return	-0.01	—	—	—	-0.82
+/- Std Index	-15.70	—	—	—	—
+/- Cat Index	-15.70	—	—	—	—
% Rank Cat	85	—	—	—	
No. in Cat	414	—	—	—	

	Subsidized	Unsubsidized
7-day Yield	—	—
30-day SEC 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 800-243-1574.

Fees and Expenses

Sales Charges

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

Fund Expenses

Management Fees %	1.30
12b1 Expense %	NA
Net Expense Ratio %	**1.49**
Gross Expense Ratio %	**2.10**

Risk and Return Profile

	3 Yr	5 Yr	10 Yr
	238 funds	*142 funds*	*38 funds*
Morningstar Rating™	—	—	—
Morningstar Risk	—	—	—
Morningstar Return	—	—	—

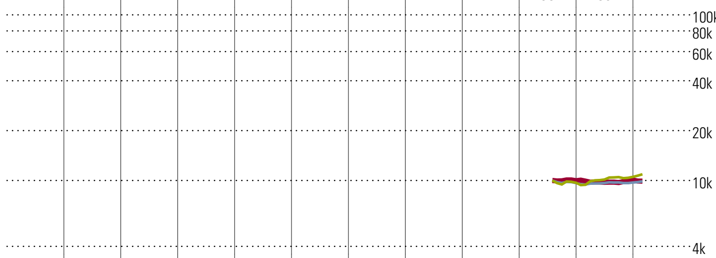
	3 Yr	5 Yr	10 Yr
Standard Deviation	—	—	—
Mean	—	—	—
Sharpe Ratio	—	—	—

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

12-Month Yield	—
Potential Cap Gains Exp	-1.31%

Investment Style
Fixed-Income
Bond %

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	02-17
—	—	—	—	—	—	—	—	—	35	80	—



Growth of $10,000

- Virtus Multi-Strategy Target Return I 9,908
- Category Average 9,878
- Standard Index 10,901

Performance Quartile (within category)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	02-17	**History**
—	—	—	—	—	—	—	—	—	9.87	9.90	9.75	NAV/Price
—	—	—	—	—	—	—	—	—	—	0.91	-1.52	Total Return %
—	—	—	—	—	—	—	—	—	—	-7.66	-5.19	+/- Standard Index
—	—	—	—	—	—	—	—	—	—	-7.66	-5.19	+/- Category Index
—	—	—	—	—	—	—	—	—	—	57	—	% Rank Cat
—	—	—	—	—	—	—	—	—	—	419	442	No. of Funds in Cat

Portfolio Analysis 10-31-2016

Asset Allocation %	Net %	Long %	Short %
Cash	-13.65	225.03	238.68
US Stocks	22.71	22.71	0.00
Non-US Stocks	93.66	97.19	3.53
Bonds	18.52	1,461.64	1,443.12
Other/Not Clsfd	-21.24	27.07	48.32
Total	100.00	1,833.65	1,733.65

Equity Style
Value Blend Growth
Large Mid Small

Portfolio Statistics	Port Avg	Rel Index	Rel Cat
P/E Ratio TTM	16.6	0.87	0.79
P/C Ratio TTM	9.4	0.93	0.91
P/B Ratio TTM	1.7	0.79	0.74
Geo Avg Mkt Cap $mil	20830	0.72	0.85

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	—

Regional Exposure	Stocks %	Rel Std Index
Americas	24.9	0.36
Greater Europe	58.0	4.14
Greater Asia	17.1	1.03

Share Chg since 07-2016	Share Amount	Holdings : 1,461 Total Stocks , 250 Total Fixed-Income, 129% Turnover Ratio	Net Assets %
	88 mil	Receive Fixed Rate/Pay 3m Libor Ir	-353.89
	88 mil	Receive Fixed Rate/Pay 3m Libor Ir	353.38
	38 mil	Receive 3m Libor, Pay Fixed Rate I	-150.81
	38 mil	Receive 3m Libor, Pay Fixed Rate I	150.80
☼	42 mil	Receive Fixed Rate, Pay 3m Bbr Irs	-129.19
☼	42 mil	Receive Fixed Rate, Pay 3m Bbr Irs	128.77
☼	35,000 mil	Receive Fixed Rate, Pay 3m Cd_ksda	-123.01
☼	35,000 mil	Receive Fixed Rate, Pay 3m Cd_ksda	122.82
☼	24 mil	Itraxx Eur Series Cdx 1.00 12/20/2	-106.94
☼	24 mil	Itraxx Eur Series Cdx 1.00 12/20/2	106.79
☼	24 mil	Itraxx Eur Series Cdx 1.00 12/20/2	105.50
☼	24 mil	Itraxx Eur Series Cdx 1.00 12/20/2	-104.08
☼	119	Euro-Bond Future Dec16	-85.19
☼	144	Us 10yr Ultra Fut Dec 2016	-81.95
⊖	19 mil	US Treasury Note	80.42

Sector Weightings	Stocks %	Rel Std Index
Cyclical	**31.5**	**0.76**
Basic Materials	9.0	1.63
Consumer Cyclical	10.3	0.91
Financial Services	10.0	0.54
Real Estate	2.2	0.38
Sensitive	**39.4**	**1.08**
Communication Services	2.4	0.64
Energy	20.1	3.16
Industrials	10.2	0.89
Technology	6.7	0.44
Defensive	**29.2**	**1.32**
Consumer Defensive	17.9	2.16
Healthcare	9.0	0.89
Utilities	2.2	0.61

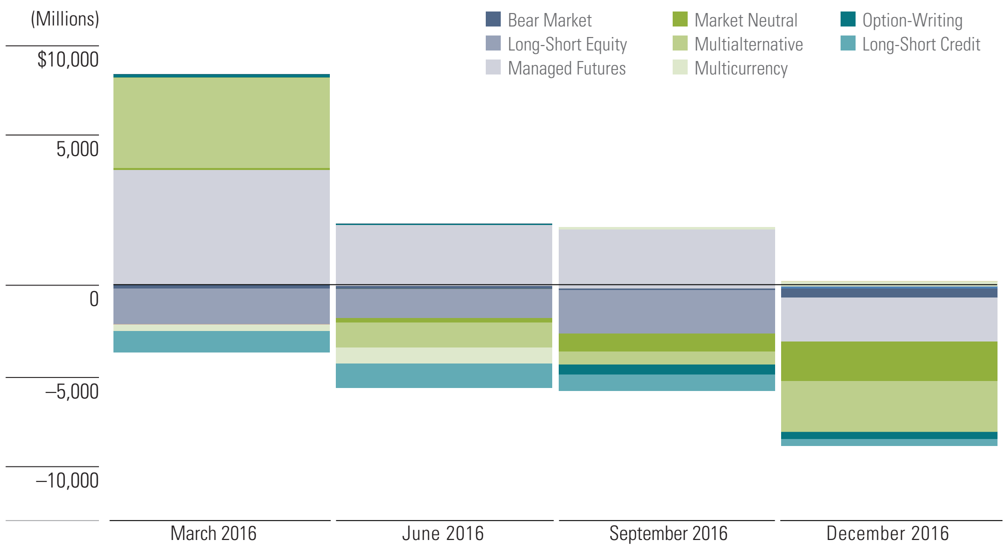
Operations

Family:	Virtus	Base Currency:	USD	Incept:	07-20-2015
Manager:	Multiple	Ticker:	VMSIX	Type:	MF
Tenure:	1.7 Years	Minimum Initial Purchase:	$100,000	Total Assets:	$121.89 mil
Objective:	Growth and Income	Purchase Constraints:	—		

Quarterly Data Review: Q4 2016
Flows and Assets Under Management
Alternative Mutual Funds

By Josh Charlson

Exhibit 1 Quarterly Alternative Mutual Fund Flows

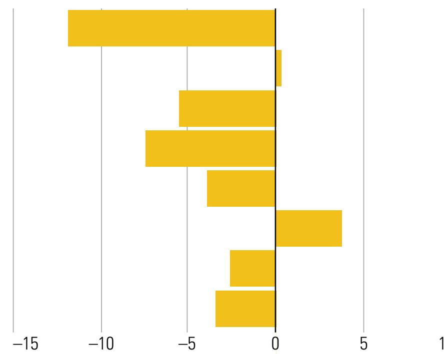


Source: Morningstar, Inc. Effective Date: 01/01/2016-12/31/2016.

During the fourth quarter of 2016, alternative mutual funds' net outflows amounted to $6.2 billion, continuing the trend from the previous quarter's outflows of roughly $1.7 billion. Long-short equity and multicurrency were the only two Morningstar Categories to experience inflows in the fourth quarter with $97 million and $220 million, respectively. Multicurrency funds continued a trend of inflows from the third quarter, while long-short equity funds experienced its only quarter of inflows in 2016. Bear-market ($373 million), market-neutral ($1.6 billion), multialternative ($2.1 billion), option-writing ($304 million), and long-short credit ($276 million) funds all faced outflows for the second consecutive quarter, while managed futures ($1.8 billion) experienced its only quarter of outflows in 2016.

Exhibit 2 Quarterly Alternative Mutual Fund Organic Growth

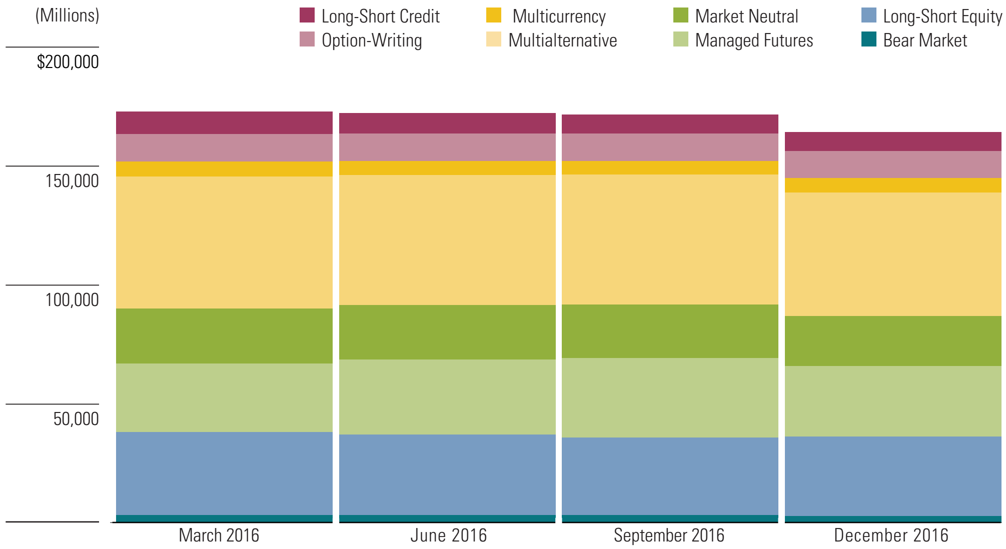
Morningstar Category	%
Bear Market	-11.84
Long-Short Equity	0.30
Managed Futures	-5.53
Market Neutral	-7.44
Multialternative	-3.92
Multicurrency	3.75
Option-Writing	-2.62
Long-Short Credit	-3.46



Source: Morningstar, Inc. Data as of 12/31/16.

In the fourth quarter of 2016, the category with the strongest organic growth (that is, growth reflective of net inflows and excluding market appreciation) was the multicurrency category, which grew 3.75%. The only other category to experience positive organic growth was long-short equity (0.30%). The six other categories experienced negative organic growth rates, including bear market (negative 11.84%), managed futures (negative 5.53%) market neutral (negative 7.44%), multialternative (negative 3.92%), option-writing (negative 2.62%), and long-short credit (negative 3.46%).

Exhibit 3 Quarterly Alternative Mutual Fund Assets Under Management

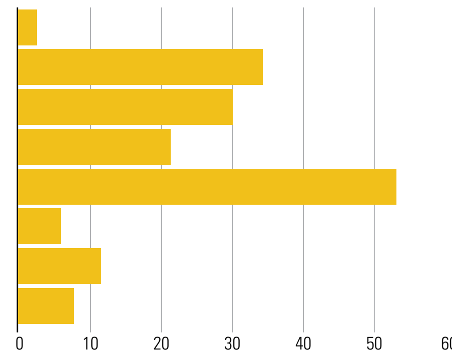


Source: Morningstar, Inc. Data as of 12/31/16.

Assets under management for all alternative mutual funds decreased by 4.40% quarter over quarter, totaling $164 billion at the end of December 2016. Six of the eight alternative mutual fund categories decreased in assets in the fourth quarter. Bear market and managed futures experienced the largest percentage losses in assets quarter over quarter, losing 14.90% and 11.70%, respectively. Market-neutral, multialternative, option-writing, and long-short credit funds all also showed losses this quarter. Long-short equity and multicurrency fared well over the quarterly time frame, increasing assets 2.75% and 2.19%, respectively.

Exhibit 4 Quarter-End Alternative Mutual Fund Assets by Morningstar Category

Morningstar Category	$ Billion
Bear Market	2.68
Long-Short Equity	33.63
Managed Futures	29.53
Market Neutral	21.01
Multialternative	52.01
Multicurrency	5.99
Option-Writing	11.46
Long-Short Credit	7.78

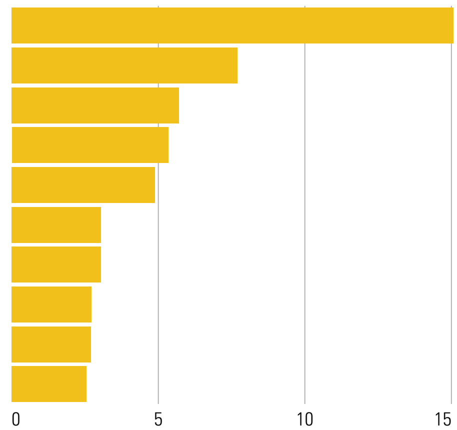


Source: Morningstar, Inc. Data as of 12/31/16.

By the end of fourth-quarter 2016, the multialternative category captured 32% of alternative fund assets, with $52 billion. The second-largest category was long-short equity, accounting for about 20% of the total. Managed futures and market neutral rounded out the top four with $29.5 billion and $21 billion, respectively. Option-writing accounted for about 7% of alternative fund assets, with $11.45 billion, while long-short credit and multicurrency held $7.78 billion and $5.99 billion in fund assets, respectively. The bear-market category was the smallest at $2.68 billion.

Exhibit 5 Largest Mutual Fund Firms by Alternative Assets Under Management

Fund Family	% of Total	$ Billion
AQR Funds	24.73	15.07
Natixis Funds	12.63	7.70
PIMCO	9.36	5.70
John Hancock	8.76	5.34
Boston Partners	8.00	4.88
Catalyst Mutual Funds	5.00	3.05
BlackRock	5.00	3.05
Diamond Hill Funds	4.47	2.72
Blackstone	4.43	2.70
Calamos	4.19	2.55

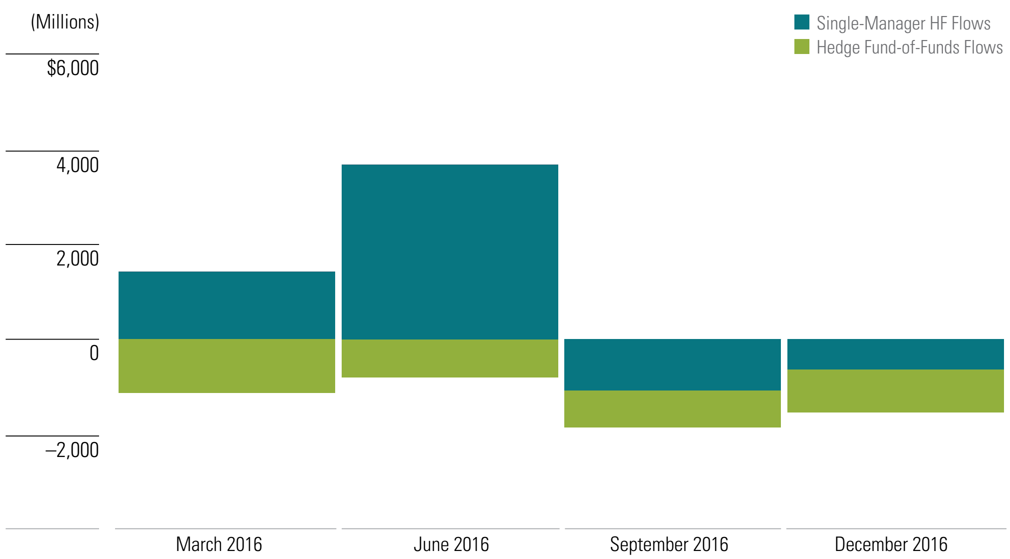


Source: Morningstar, Inc. Data as of 12/31/16.

By the end of the fourth quarter in 2016, AQR ran the most money in alternative mutual fund assets, with 24.73% of the total, thanks in particular to the dominance of AQR Managed Futures in the managed-futures category. Natixis, which has seen significant growth in assets in the products run by affiliate AlphaSimplex Group, ranked second with 12.63% of the total. Traditional fund companies PIMCO and John Hancock took the next two spots, at 9.36% and 8.76%, respectively, with their growing emphasis on alternative strategies bearing fruit. John Hancock Global Absolute Return Strategies, subadvised by Standard Life, is now one of the largest alternative mutual funds in the United States. Boston Partners, with its suite of long-short equity funds, followed with an 8% share, while relative newcomer Catalyst and BlackRock tied for the sixth spot with a 5% share each.

Flows and Assets Under Management
Hedge Funds

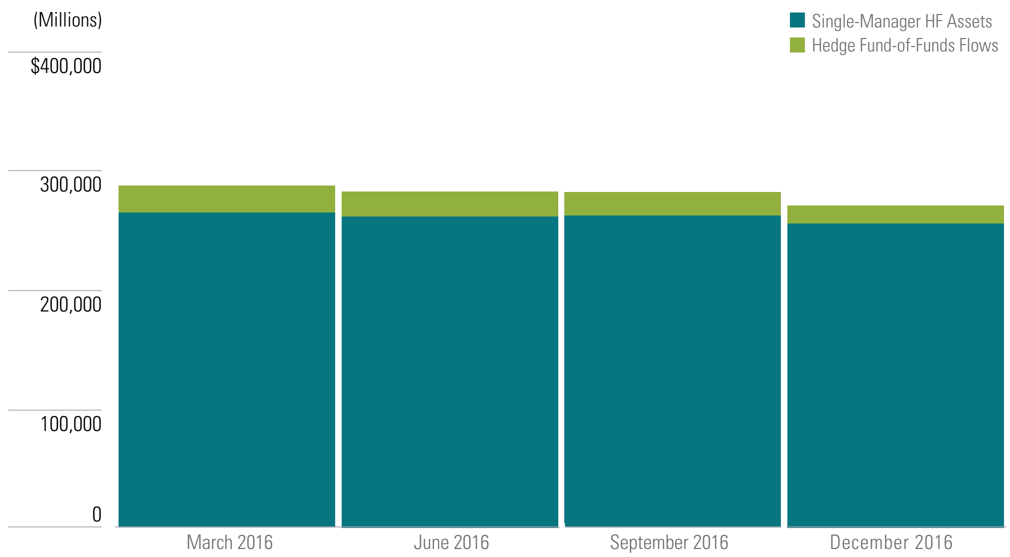
Exhibit 6 Quarterly Estimated Hedge Fund Net Flow



Source: Morningstar, Inc. Data as of 12/31/16.
Morningstar no longer publishes proprietary hedge fund indexes. Morningstar now uses the Morningstar MSCI series of indexes, including the Morningstar MSCI Composite AW, a currency-hedged asset-weighted index of 1,000 hedge funds, or the applicable category averages.

Single-manager hedge funds in Morningstar's database experienced outflows of $646 million and funds of hedge funds recorded outflows of $897 million during the fourth quarter of 2016. Multistrategy (single-manager) hedge funds experienced the highest inflows, with more than $1.9 billion. Global macro (single-manager) hedge funds attracted the second-highest inflows at $588 million, the category's third-straight quarter of inflows. Systematic futures, global long-short equity, and long-short debt (single-manager) hedge funds demonstrated the largest outflows of $2.8 billion, $293 million, and $177 million, respectively. For hedge funds of funds, only event funds ($1.9 million) experienced inflows in the fourth quarter. Equity funds experienced the largest outflows ($379 million), followed by multistrategy funds ($350 million); both have continuously experienced outflows throughout 2016.

Exhibit 7 Quarterly Hedge Fund Total Net Assets Under Management

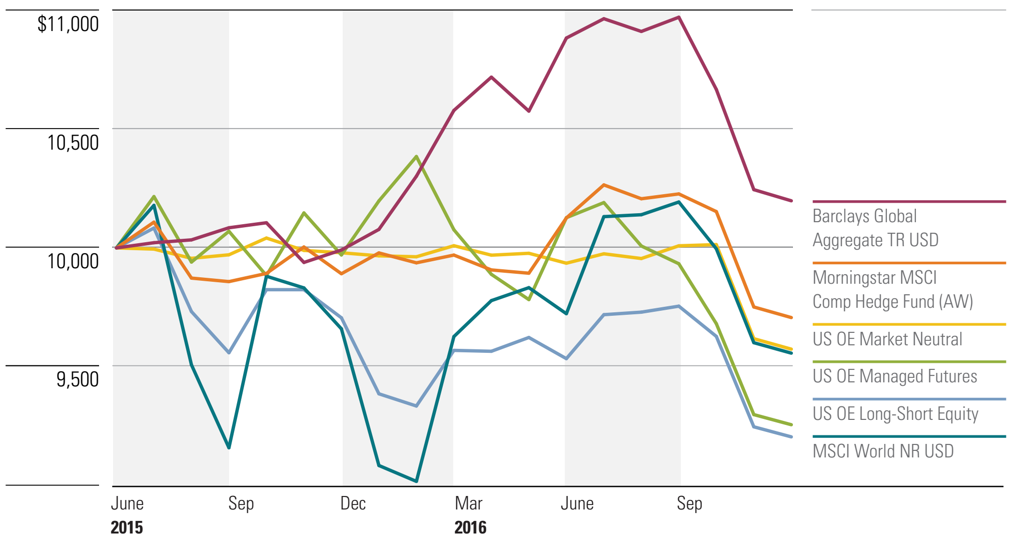


Source: Morningstar, Inc. Data as of 12/31/16.

In the fourth quarter of 2016, assets under management for single-manager hedge funds in Morningstar's database decreased by 2.64% to $255 billion. Assets have decreased by a total margin of 3.56% over the past year. Hedge funds of funds in Morningstar's database, on the other hand, managed 24% fewer assets than in the prior quarter, with $14.9 billion in assets recorded as of Dec. 31, 2016. Assets under management of hedge funds of funds decreased 33.8% since the start of the 2016. Overall, combined hedge fund assets decreased by 0.04% in the fourth quarter and have declined 0.06% during 2016.

Alternative Investment Performance

Exhibit 8 Growth of a $10,000 Alternative Investment

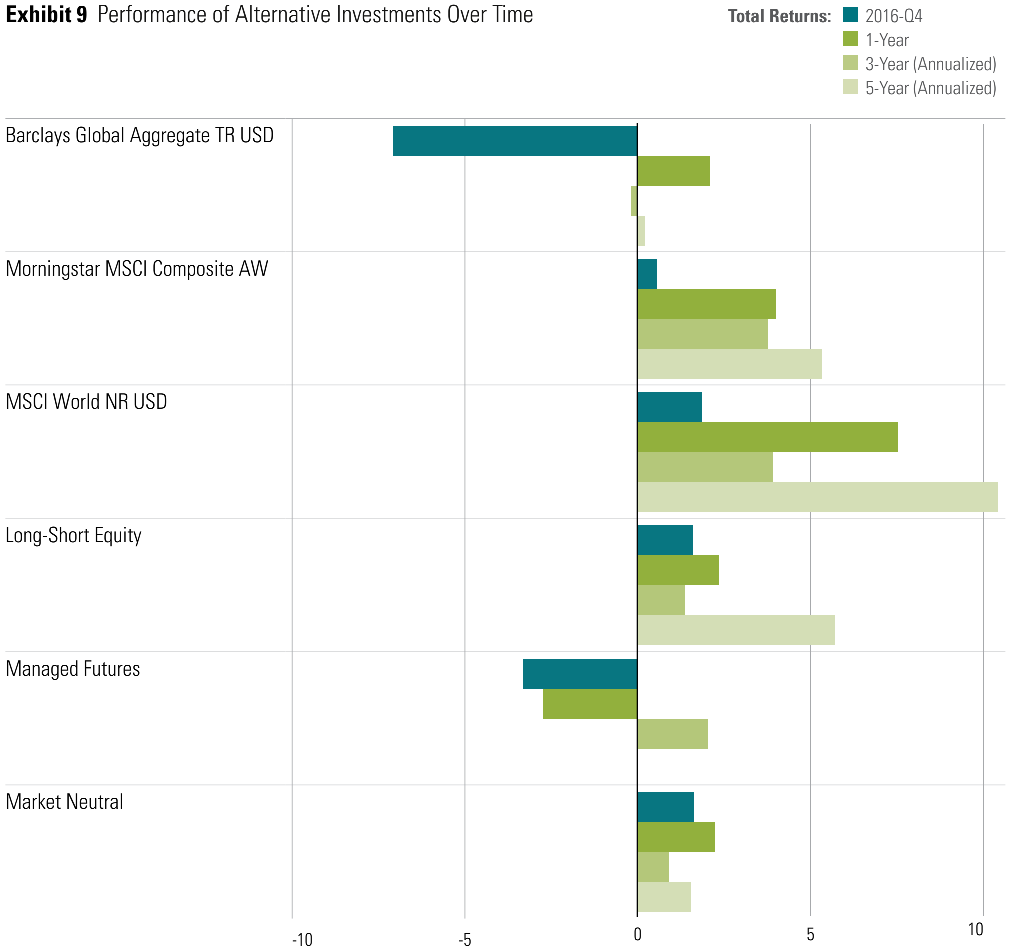


Source: Morningstar, Inc. Data as of 12/31/16.
Morningstar no longer publishes proprietary hedge fund indexes. Morningstar now uses the Morningstar MSCI series of indexes, including the Morningstar MSCI Composite AW, a currency-hedged asset-weighted index of 1,000 hedge funds, or the applicable category averages.

In the fourth quarter of 2016, the managed-futures category average and global bonds, as represented by the Bloomberg Barclays Global Aggregate Index, displayed the only negative performances, losing 3.32% and 7.07%, respectively. In contrast, global equity, as measured by the MSCI World Index, experienced the sharpest gain this quarter, rising 1.86%. The managed-futures and market-neutral category averages, along with hedge funds, as measured by the Morningstar MSCI Composite Hedge Fund Index, also experienced gains during the same time period. Over the three-year period ended Dec. 31, 2016, global equities, as measured by the MSCI World Index, had the largest annualized return at 7.51%. Hedge funds, as represented by the Morningstar MSCI Composite Hedge Fund Index, had the next highest return of 3.82% annualized, followed by the managed-futures category's 2.03% return. Market-neutral funds were slightly positive over the period.

Morningstar no longer publishes proprietary hedge fund indexes. Morningstar now uses the Morningstar MSCI series of indexes, including the Morningstar MSCI Composite AW, a currency-hedged asset-weighted index of 1,000 hedge funds, or the applicable category averages.

Exhibit 9 Performance of Alternative Investments Over Time



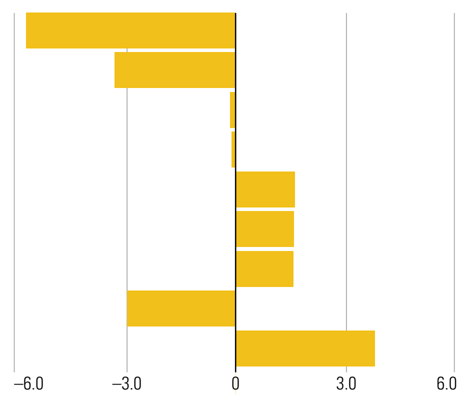
Source: Morningstar Direct. Data as of 12/31/16.

A 7.07% loss experienced by global bonds, as represented by the Bloomberg Barclays Global Aggregate Index, made alternative investments look slightly more attractive in the fourth quarter of 2016. Typically, alternatives have underperformed their more traditional counterparts. Global stocks, as represented by the MSCI World Index, still steadily outperformed all other alternative investments over the one-, three-, and five-year time frames (ended Dec. 31). Long-short equity and market-neutral funds have displayed positive single-digit returns over the one-, three-, and five-year periods. Managed futures struggled in the fourth quarter with a loss of 3.32%. Over the long run, the category has done slightly better, posting 2.03% and 0.01% returns over the last three and five years, respectively.

Fourth-Quarter 2016 Performance by Category

Exhibit 10 Total Return % Q4 2016 by Category

	%
Bear Market	-5.74
Managed Futures	-3.32
Multicurrency	-0.15
Multialternative	-0.11
Market Neutral	1.63
Option-Writing	1.60
Long-Short Equity	1.58
BBg Barclays U.S. Aggregate Bond TR USD	-2.98
S&P 500 TR USD	3.82

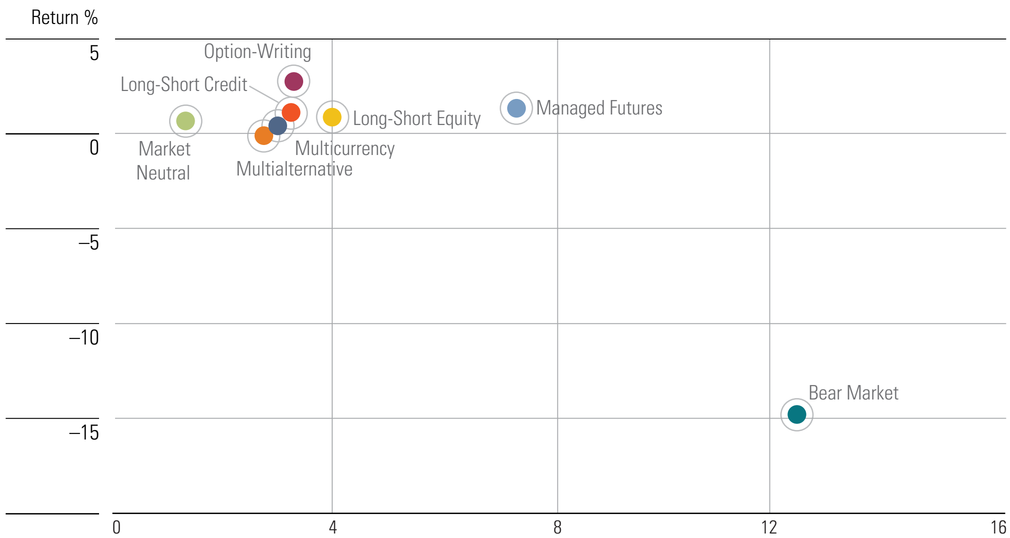


Source: Morningstar, Inc. Data as of 12/31/16.

Alternative mutual funds posted varied returns in the fourth quarter of 2016. Bear-market, managed-futures, multicurrency, and multialternative funds all garnered negative returns, losing 5.74%, 3.32%, 0.15%, and 0.11%, respectively. Market neutral, option-writing, and long-short equity gained 1.63%, 1.60%, and 1.58%, respectively. The S&P 500 outperformed all alternative categories in the fourth quarter with a gain of 3.82%. Meanwhile, the Bloomberg Barclays U.S. Aggregate Bond Index experienced a 2.98% loss.

Risk Versus Return
Alternative Mutual Funds

Exhibit 11 3-Year Standard Deviation and Return



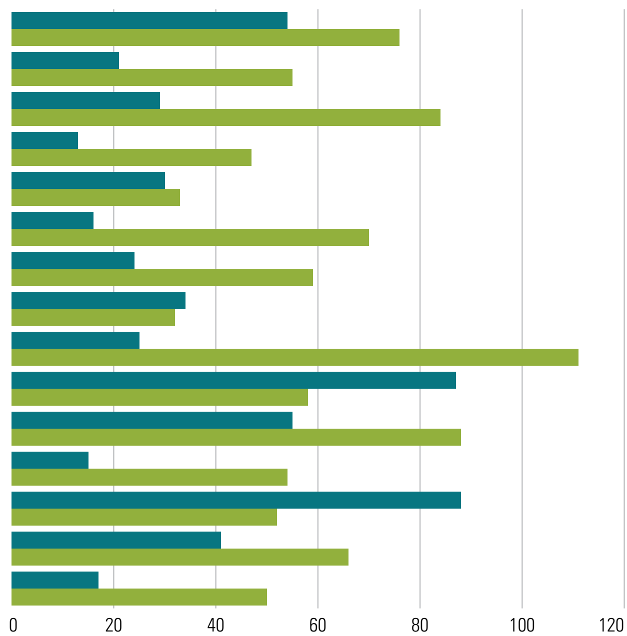
Source: Morningstar, Inc. Data as of 12/31/16.

Of the eight alternative mutual fund category averages, six displayed positive returns over the three-year period ended Dec. 31, 2016. Option-writing funds produced the highest three-year total returns with 2.75%, while bear-market and multialternative funds had the lowest returns at negative 14.90% and negative 0.12%, respectively. Option-writing funds also exhibited the best risk-adjusted return with a Sharpe ratio of 0.85, while bear-market and multialternative funds displayed the lowest (negative 1.21 and negative 0.04).

Morningstar Hedge Fund Database Overview
As of 12-31-2016

Exhibit 12 Net Fund Additions by Month

	Month	Added	Removed
2015	October	54	76
	November	21	55
	December	29	84
2016	January	13	47
	February	30	33
	March	16	70
	April	24	59
	May	34	32
	June	25	111
	July	87	58
	August	55	88
	September	15	54
	October	88	52
	November	41	66
	December	17	50

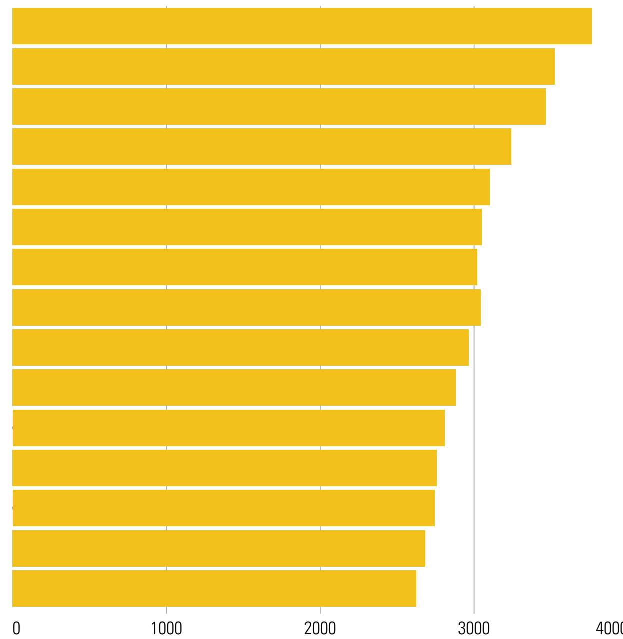


Source: Morningstar, Inc. Data as of 12/31/16.

In the fourth quarter of 2016, Morningstar's hedge fund database experienced a net removal of 22 funds. During the quarter, the database saw 146 additions and 168 fund withdrawals. 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.

Exhibit 13 Month-End Database Fund Levels

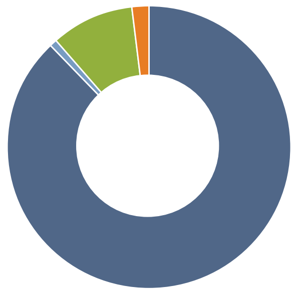
	Month	# of Funds
2015	October	3,765
	November	3,525
	December	3,467
2016	January	3,243
	February	3,103
	March	3,049
	April	3,020
	May	3,044
	June	2,966
	July	2,882
	August	2,808
	September	2,758
	October	2,743
	November	2,682
	December	2,625



Source: Morningstar, Inc. Data as of 12/31/16.

As of Dec. 31, 2016, the Morningstar hedge fund database contained 2,625 funds that actively report performance and assets-under-management data.

Exhibit 14 Hedge Funds by Region



	# of Funds
North America/Caribbean	2,356
Africa	22
Asia/Australia	259
Europe	45
South America	0
Other	0
Total	**2,682**

Source: Morningstar, Inc. Data as of 12/31/16.

Approximately 88% 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. Roughly 1.68% of funds in Morningstar's database are domiciled in Europe, including both European Union and non-EU jurisdictions, and about 10% of funds are domiciled in Asia and Australia, primarily in China. All figures are as of Dec. 31, 2016.

Exhibit 15 Hedge Funds by Location

North America / Caribbean	**2,356**
Cayman Islands	935
United States	886
Canada	202
British Virgin Islands	170
Bermuda	125
Curaçao	31
Bahamas	6
Barbados	1
Anguilla	—
Panama	—
St Kitts and Nevis	—
St. Vincent and the Grenadines	—

Africa	**22**
Mauritius	11
South Africa	11
Seychelles	—
Swaziland	—
United Arab Emirates	—

Asia/Australia	**259**
China	242
Australia	9
Hong Kong	2
Israel	2
India	1
Marshall Islands	1
Singapore	1
Vanuatu	1
Bahrain	—
Christmas Island	—
Japan	—

Europe	**45**
Luxembourg	10
Gibraltar	9
Jersey	8
Macedonia	4
Switzerland	4
France	3
United Kingdom	3
Guernsey	2
Channel Islands	1
Ireland	1
Andorra	—
Austria	—
Belgium	—
Cyprus	—
Denmark	—
Finland	—
Germany	—
Isle of Man	—
Italy	—
Liechtenstein	—
Malta	—
Netherlands	—
Norway	—
Portugal	—
Spain	—
Sweden	—

South America	**0**
Brazil	—
Chile	—

Source: Morningstar, Inc. Data as of 12/31/16.

Approximately 99% of the hedge funds in Morningstar's database are domiciled in the United States, the Cayman Islands, Asia, and Europe.

Exhibit 16 Top 10 Hedge Fund Service Providers

Type	Rank	Prime Broker	% of Database
Prime Broker	1	Goldman Sachs	9.08
	2	Morgan Stanley	8.53
	3	Credit Suisse (Bahamas) Limited	5.70
	4	UBS	5.63
	5	J.P. Morgan	5.28
	6	Deutche Bank	4.41
	7	Guosen Securities	3.91
	8	China International Capital Corp	3.80
	9	CITIC Securities	3.19
	10	NewEdge (U.K.)	2.96
Legal Counsel	1	Maples & Calder	10.47
	2	Walkers	6.93
	3	Seward & Kissel	4.71
	4	Sidley Austin LLP	4.55
	5	Ogier	4.51
	6	Schulte Roth & Zabel	3.42
	7	Dechert LLC	3.39
	8	Simmons & Simmons	2.84
	9	Harney Westwood & Riegels	2.53
	10	Akin Gump	2.14
Auditor	1	EY	21.96
	2	PricewaterhouseCoopers	20.02
	3	KPMG	18.05
	4	Deloitte	9.17
	5	Rothstein Kass	5.47
	6	RSM US LLP	2.75
	7	BDO	2.63
	8	Eisner Amper	2.14
	9	Grant Thornton	1.64
	10	Arthur Bell	1.36
Administrator	1	China Foreign Economic & Trade	6.89
	2	China Resources SZITIC Trust	5.69
	3	Ping An Trust	5.29
	4	Citco	5.22
	5	SS&C	3.84
	6	CITIC Trust	3.81
	7	HSBC	3.63
	8	Maitland Fund Services	3.10
	9	Citi	2.84
	10	BNY	2.45

Source: Morningstar, Inc. Data as of 12/31/16.

Goldman Sachs, Morgan Stanley, and Credit Suisse are the largest prime brokerage-service providers to hedge funds in Morningstar's database, serving a 23.31% share combined. The big four accounting firms are employed by approximately 69.20% of the hedge funds listed in Morningstar's database, with EY leading the pack. China Foreign Economic & Trade provides administration services to 6.89% of funds in Morningstar's database, while China Resources SZITIC Trust services about 5.69%. Maples & Calder, Walkers, and Seward & Kissel are the three largest legal-counsel providers to hedge funds in the database, with a combined market share of about 22.11%. This data is as of December 2016. M

Alternative Mutual Fund Correlations

Exhibit 17 3-Year Correlations: Alternative Mutual Fund Categories

Category	1	2	3	4	5	6	7	8
Bear Market	1.00							
Long-Short Equity	–0.96	1.00						
Managed Futures	0.10	–0.05	1.00					
Market Neutral	–0.59	0.68	0.01	1.00				
Multialternative	–0.88	0.90	0.24	0.73	1.00			
Multicurrency	–0.47	0.35	0.19	0.32	0.42	1.00		
Long-Short Credit	–0.60	0.60	0.25	0.47	0.68	0.47	1.00	
Option-Writing	–0.96	0.97	0.07	0.53	0.89	0.48	0.60	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

Source: Morningstar Direct. Data as of 12/31/16.

Exhibit 18 Correlation of Alternative Mutual Funds to U.S. Stocks and Bonds

	S&P 500 Correlation			**Bloomberg Barclays U.S. Aggregate Correlation**		
	3-Year	5-Year	10-Year	3-Year	5-Year	10-Year
Bear Market	–0.97	–0.96	–0.96	0.11	0.08	–0.08
Long-Short Equity	0.96	0.96	0.95	–0.15	–0.14	0.00
Managed Futures	–0.06	–0.02	—	0.51	0.47	—
Market Neutral	0.63	0.71	0.28	–0.17	–0.10	–0.04
Multialternative	0.88	0.87	0.92	0.20	0.24	0.19
Multicurrency	0.42	0.51	0.47	0.19	0.25	0.11
Option-Writing	0.98	0.98	0.94	–0.11	–0.09	0.00
Long-Short Credit	0.55	0.59	0.64	0.18	0.28	0.13

Source: Morningstar Direct. Data as of 12/31/16.

About Morningstar® Manager Research

Morningstar Manager Research provides independent, fundamental analysis on managed investment strategies. Analyst views are expressed in the form of Analyst Ratings, which are derived through research of five key pillars—Process, Performance, Parent, People, and Price. A global research team issues detailed analyst reports on strategies that span vehicle, asset class, and geography.

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