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Multi-Manager Funds: A Toolkit for Evaluation

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Institutional investors considering an allocation to a hedge fund are typically reasonably equipped to evaluate its suitability for their portfolios. However, traditional yardsticks are inadequate for evaluating multi-manager (MM) hedge funds. Due to the uniqueness of their organizational structure and fund terms, MM funds often exhibit unusual yet ultimately explainable behavior. The intention of this report is to equip investors with a better toolkit for analyzing the intricacies inherent in most MM funds.

We define an MM firm as one that allocates capital to investment teams based on their anticipated performance, largely irrespective of the merit of other portfolio investments. While this part of their process may not appear dissimilar from how traditional multi-strategy (MS) firms allocate capital, consider that each MM investment team is usually run by a trader who operates autonomously with full investment discretion, though typically within agreed-upon limits and guidelines. MM firms tailor their compensation, incentives, and fees to suit this distinct structure.¹

While MM hedge funds are distinguished from more traditional MS funds by a number of characteristics, often it is difficult to clearly differentiate between them. Some funds exhibit characteristics of both approaches and thus are less distinguishable from their traditional MS peers. We included a few of these funds in our analysis to reduce selection bias and with the goal of equipping readers to discern the differences themselves.

Other contributors to this report include Molly Goodman and Tom McDonald.

¹ For an in-depth discussion of discretionary global macro firms, which are one example of multi-manager hedge funds, please see our 2011 report *Global Macro: The Largest Canvas in the Industry*.

This report discusses the rise of multi-managers, their recent ability to attract investment talent, and compares the performance of MM funds with traditional MS funds. We then outline the key questions investors conducting due diligence on an MM fund should ask and, using our experience with a small set of funds, show how various MM funds compare to each other and to traditional MS funds. Our examination does not lead us to make a blanket endorsement of one type over the other. Rather, our discoveries provide insight into the significant ways the funds within the MM group differ not only from MS funds, but also from each other.

This report is by no means all-inclusive; rather, it is based on CA interactions with and analysis of what we deem to be the largest MM funds. In time, additional data points from existing and new manager relationships will inevitably reshape some of the observations we present here.²

² Investors should be mindful of the limitations of our analysis, not the least of which is its small sample size of 19 MM funds. In some cases funds did not provide the necessary data to be included in an analysis, further shrinking the universe. The criteria we identify for evaluating MM firms were somewhat arbitrarily chosen, rely heavily on aggregated data, and are subject to inconsistencies surrounding the quality of manager-supplied data. Our analysis is also entirely backward-looking, and does not spend much time on the qualitative aspects of a manager that are important for evaluation purposes.

The Rise of Multi-Managers

MM funds have grown their assets under management (AUM) at a faster rate since the 2008 financial crisis than traditional MS funds. To illustrate, we use the ten largest funds in each category as an imperfect, albeit broadly representative, proxy for asset growth—the best proxy available given the lack of comprehensive asset and performance data.

As shown in Figure 1, large MM funds attracted a disproportionate, net positive share of the asset flows in the hedge fund industry.

Of the approximately \$100 billion in assets the largest ten MM funds collectively managed as of June 30, 2013, roughly 15% is attributable to net inflows from January 2009 through that

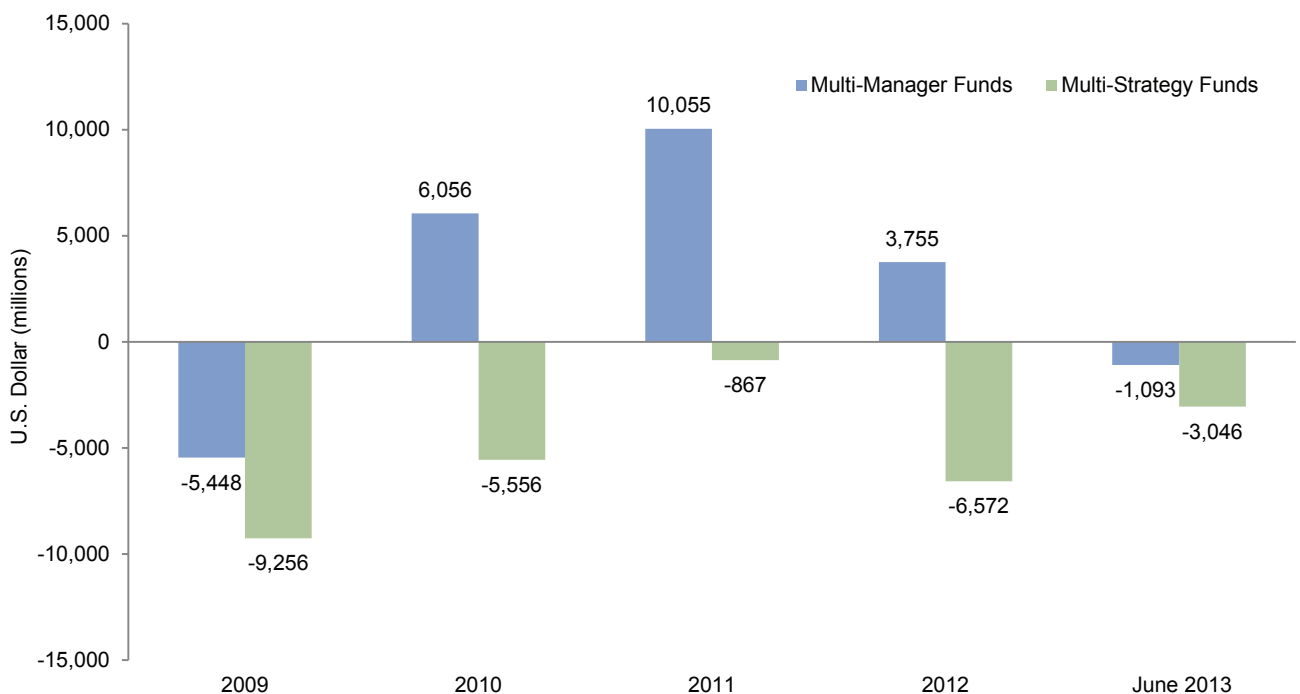
date. In comparison, over the same period net outflows reduced the assets collectively managed by the ten largest traditional MS funds by roughly 20%, bringing their collective AUM to about \$140 billion as of June 30, 2013.

Less Style Drift

Part of this divergence can be attributed to industry-wide factors that revealed a flaw in the management of some traditional MS funds—they became increasingly exposed to strategies that fell outside the managers' core areas of expertise, specifically, by investing in highly illiquid securities. Such securities exacerbated drawdowns during tumultuous periods like 2008 and hindered the managers' ability to recover their high-water marks or return capital to investors. In late 2008 traditional MS funds

Figure 1. Net Asset Flows Comparison

U.S. Dollar (millions)



Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Note: Comparison includes the ten largest funds in each category.

experienced deterioration in their Sharpe ratios, due in large part to losses originating from illiquid securities combined with an increase in their overall return volatility. In contrast, because MM firms tend to have limited appetite for strategies that cannot stand on their own, they generally avoid illiquid securities altogether. As a result, the 2008 market environment did not have as much of a negative impact on their risk-adjusted returns.

Talent Magnet

Some high-profile investing talent has moved into the MM space over the past few years, though it is unclear how representative or meaningful these talent shifts are. A few factors contributing to this shift include:

- ◆ **Proprietary desk exodus.** Talented traders have been encouraged to leave or have chosen to leave investment banks' proprietary trading desks to comply with the Volcker rule as well as other regulatory requirements arising from Dodd-Frank. Investment banks have directed their departing proprietary traders to MM firms to help support the commission dollars typically associated with their active trading practices.
- ◆ **Attractive MM fund compensation tied to individual performance.** In general, traditional MS firms compensate their employees with a disproportionately large weight assigned to senior management's subjective judgment or the performance of the overall fund. The firms that adopt this structure find it more difficult to retain talented traders when the fund underperforms, especially when the trader's book has been profitable. The larger the number of traders employed at a firm that maintains this traditional compensation structure, the higher the likelihood that the portfolio performance on which an individual trader's

compensation is based will diverge from the performance of the trader's book. MM firms, on the other hand, tend to tie trader compensation more strictly with the performance of each trader's individual book.

- ◆ **High hedge fund start-up costs.** Regulatory and investor requirements have increased as a result of the perceived risks posed by insufficient controls around leverage and compliance. For traders seeking to launch their own hedge fund firms, this shift has increased the up-front costs and inherent financial risks associated with establishing sufficient infrastructure to support the necessary legal, operations, and risk management standards. Many traders who lacked the interest or capabilities to raise funds or start a discrete hedge fund have been recruited by MM firms. With sizable infrastructure and a large back-office staff, these firms have become more attractive for talented traders seeking an opportunity to focus solely on investing.

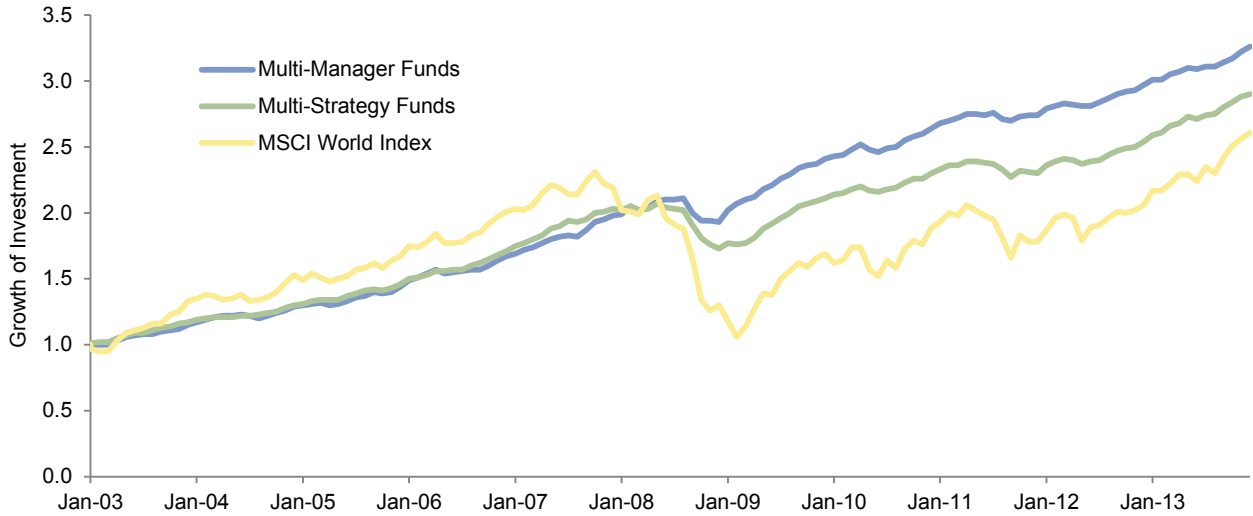
Multi-Manager Performance

Several performance-related characteristics differentiate MM funds from their traditional MS peers. MM funds' cumulative performance compares favorably to traditional MS funds over long periods of time (Figure 2). This cumulative MM outperformance for the period is in large part due to the shorter and less severe draw-downs the MM funds' had during tumultuous market periods (Figure 3). As a result, MM funds have exhibited lower beta to the MSCI World Index over the past few years (Figure 4).³ We have considered numerous additional performance-related indicators to compare MM funds with traditional MS funds and have included some of them in the Appendix.

³ In Figures 2–4, the data for MM funds and traditional MS funds represent an equal-weighted portfolio of the same ten funds for each group used in the net asset flows illustration.

Figure 2. Cumulative Multi-Manager Fund and Multi-Strategy Fund Performance

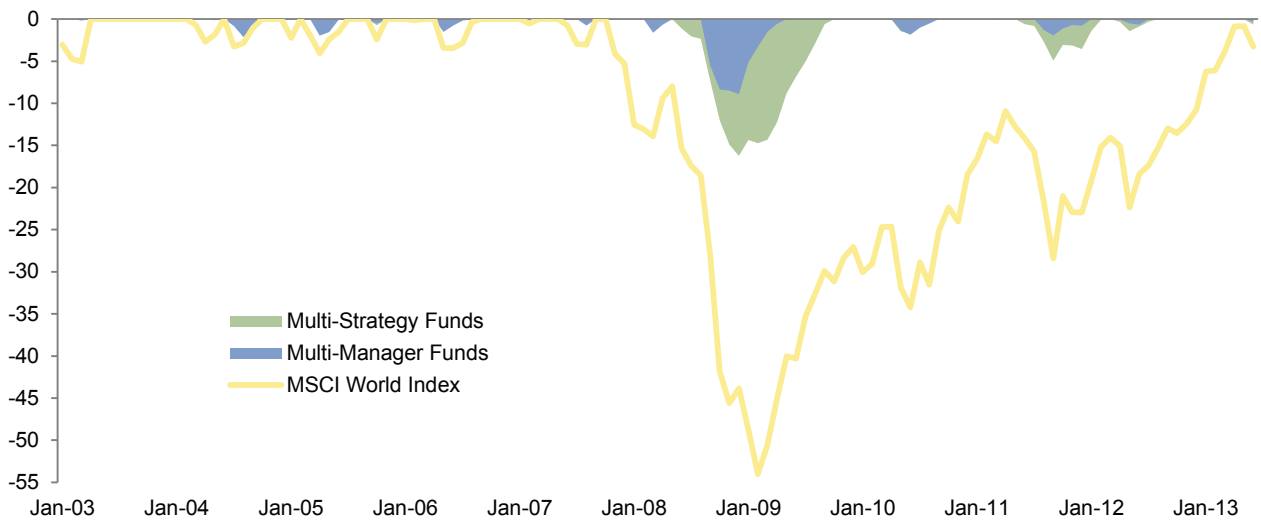
January 1, 2003 – June 30, 2013



Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
 Note: All statistics are computed from monthly returns in the original reported currency of each series.

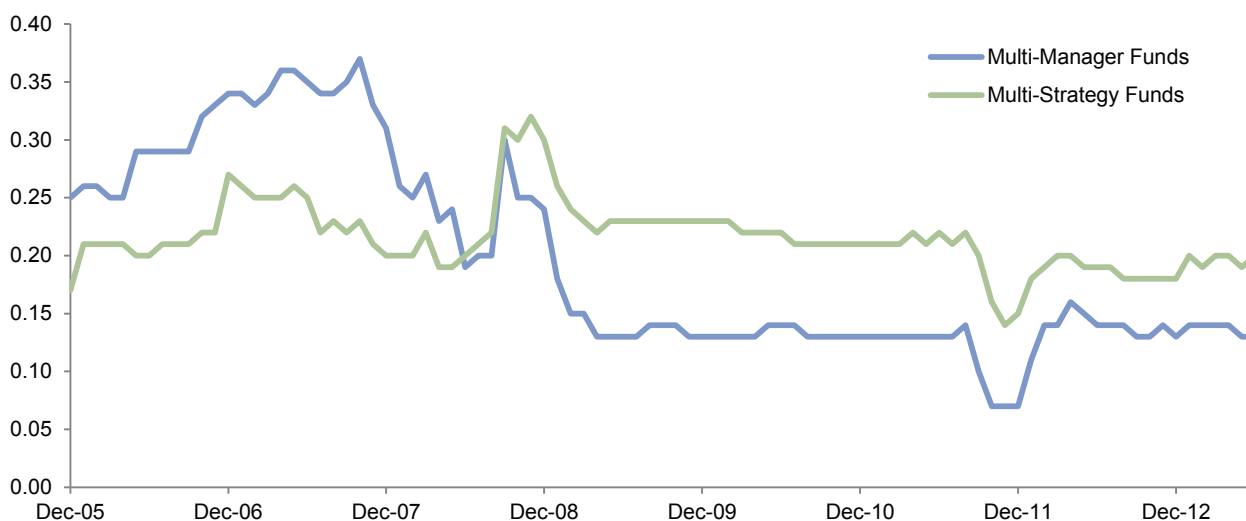
Figure 3. Time Below Previous Peak: Multi-Manager and Multi-Strategy Funds

January 1, 2003 – June 30, 2013



Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
 Note: All statistics are computed from monthly returns in the original reported currency of each series.

Figure 4. Multi-Manager and Multi-Strategy Fund Beta Versus MSCI World Index: Rolling 36 Months
January 1, 2006 – June 30, 2013



Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Note: All statistics are computed from monthly returns in the original reported currency of each series.

Criteria for Evaluating Multi-Manager Firms

Investors should tailor their questions when evaluating a prospective MM allocation and in some cases should ask different questions altogether from those they would ask for other hedge fund allocations. This section explores these questions in some detail; in summary, the key questions are:

- ◆ **Who manages overall risk?** Investors may not be privy to organizational changes within the firm because few MM firms make the underlying traders visible.
- ◆ **How involved are the firm's founders in managing its products?** In addition to the inherent challenge of isolating and evaluating return drivers in a highly diversified portfolio, the existence of "center books" can make it more difficult to pinpoint who is managing the fund's capital.
- ◆ **What is the rate of employee turnover?** For an MM firm, there is a technical reason for the existence of an opportunity cost when a trader departs.
- ◆ **What is the amount of insider capital?** Insider investors sometimes get slightly better terms.
- ◆ **Are the firm's interests closely aligned with investor interests?** MM funds have underlying nuances that may cause investors to question the degree to which the team has its own skin in the game.
- ◆ **How has the fund performed?** Higher risk does not necessarily translate into higher return.
- ◆ **Is a mechanism in place to regulate drawdowns?** The behavior of different MM funds cannot be explained by the amount of leverage they use—it depends instead on what investments they make and how they make them.

- ◆ **How does the firm manage equity exposures?** MM funds mandate various guidelines on their equity teams, which has consequences for how the equity portfolio drives fund returns.
- ◆ **Are withdrawal terms appropriate for the portfolio?** Fundamental mismatches can potentially occur between portfolios, which tend to be dynamic, and withdrawal terms, which tend to be static.
- ◆ **Have fund returns been influenced by one-off events?** Investors may be surprised to find some MM funds' performance partially attributable to fees rather than investment returns.
- ◆ **What's the true cost to investors?** The variation in expenses between different MM funds is wider than it may appear.

In the process of evaluating MM firm, we have found that no two are alike—each structures its organization and investment process differently. So although we do not discuss particular firms in detail in this paper, we do compare and contrast some key differences between firms, substituting Greek alphabet names for actual company names in the examples that follow.

Who Manages Overall Risk?

A highly diversified portfolio with many decision makers renders it difficult to identify and evaluate drivers of returns. MM firms tend to be quick to fire trading teams when they underperform. While this practice may help to mitigate losses in the fund, the turnover also means that it is particularly difficult to anticipate the future sources of fund returns. Investors may not be privy to organizational changes within the firm because few MM firms make the underlying traders visible or provide investors access to them.

How Involved Are the Firms' Founders in Managing Its Products?

Senior management plays a critical role in maintaining a common culture at their firm, mandating appropriate trading limits for each trader, and allocating capital among them. In the cases of the firms we've designated as *chi*, *epsilon*, *iota*, and *nu* in this report, the founders' responsibilities are confined to the aforementioned roles. This arrangement delegates most of the day-to-day investing responsibilities to the traders. In such circumstances investors' confidence in an MM firm's senior management is a function of its ability to source and select talented traders.

However, the way senior management is involved can meaningfully vary. At the firms we've designated as *eta*, *lambda*, *omicron*, *pi*, *tau*, and *theta* in this report, senior management actually trade directly and are intimately involved in day-to-day investing activities. In such cases, it is common for senior management to maintain a "center book" designed to upsize investments in the best ideas from the underlying traders' books. This arrangement renders it more difficult to discern who is managing the fund's capital at any given time because the fund's largest holding may not represent the highest-conviction idea of the trader who originated and underwrote the position. In such circumstances investors' confidence in senior management is a function of their ability to trade their own individual books profitably and to enlarge best ideas from other traders.

In either of these cases, MM firms typically do not make this analysis easier, because their transparency reports aggregate exposure information across all underlying traders regardless of their respective asset class or sector focus.

What Is the Rate of Employee Turnover?

Many MM firms do not make their underlying traders visible or provide investors access to them. As a result, investors may not be privy to organizational changes within the firm. MM firms' explanations typically cite their policy of quickly firing trading teams when they underperform, thus helping mitigate losses in the fund. However, there is an opportunity cost when a trader departs before bringing the portfolio back to its high-water mark subsequent to incurring losses. Because the fund would not be required to pay incentive fees to the trader until the trader completely made up for the previous losses, the opportunity to grow the AUM at a lower cost is lost. Thus, counterintuitively, increasing the pace at which unprofitable traders are replaced may hurt investors in the short run. Some of this downside is addressed by putting the realization of incentive payments on a vesting schedule, as described in the alignment of interests discussion on the next page.

What Is the Amount of Insider Capital?

Insider capital is an area where investors will likely find unusual disparities between MM firms. Insider capital is sometimes invested in separate vehicles governed by slightly different redemption terms from those offered to external LPs. For example, *omega's* insider capital is invested through a separate legal entity that invests in ancillary strategies, employs different leverage levels, and is subject to undisclosed liquidity terms at senior management's discretion. At *iota*, insider capital is invested through a separate internal-only vehicle that allows employees monthly access to their capital, as compared to external LPs' quarterly access. At *epsilon*, half of insider capital—12% of AUM—is invested in a distinct share class not subject to the gating provision imposed on most external LPs. Also, a portion of insider capital at *epsilon*

uses external financing on a 1:1 equity-to-leverage basis to enhance fund performance for employees. Although the costs associated with this financing are not borne by external investors, the practice may subject insider capital to instability; an existing covenant requires that in the event of a 10% fund drawdown, senior management replenish their equity stake to maintain the 1:1 ratio. Other firms that use similar leverage to enhance the returns on insider capital include *lambda* and *omicron*.

Table 1 ranks each MM firm according to insider capital as a portion of total fund AUM.

Are the Firm's Interests Closely Aligned with Investor Interests?

Hedge fund firms need to strike a balance between generating sufficient profit on reasonable terms to attract investor capital and maintaining a sufficiently appealing compensation structure with stable capital to attract talented traders. In this regard, MM firms are no different from any other hedge fund organization. That said, MM firms have certain distinguishing characteristics.

Specifically, MM firms tend to (a) attract and retain traders with compensation structures based on their own individual performance, and (b) maintain fee and withdrawal terms that allow them the flexibility to do so. MM firms have cited the specialization of the equity markets as a justification for this approach. Their reasoning is that employing traders to focus on distinct areas of the market is necessary given the intensity of competition from rival investors. By compensating traders based purely on the success or failure of their individual efforts, MM firms appeal to traders who are seeking to focus on investing, not on managing a business. Investors should be aware of the terms and limitations that typically

Table 1. Insider Capital by Fund

Multi-Manager Fund	Insider Capital	
	As % of AUM	Approx Amt (US\$ millions)
psi	75	200
omicron	55*	7,000
omega	43*	440
chi	38	260
eta	20*	4,700
sigma	19*	130
zeta	12*	560
epsilon	11*	1,900
nu	11	200
iota	10	1,600
pi	7	70
theta	5	270
mu	5	100
phi	4	30
kappa	4	150
tau	3	360
xi	3	40
rho	3	30
lambda	2	90
MM Avg	17	---
Trad MS Avg	11	---

Source: Cambridge Associates LLC.

Notes: Figures represent insider capital as a percentage of total fund assets under management as of December 2012. Traditional (trad) MS = average for traditional multi-strategy funds.

* Insider capital at *omicron* includes an undisclosed amount of external financing. Insider capital at *omega* includes proprietary capital, an *omega*-related foundation and an *omega*-related corporate pension. Insider capital at *epsilon* amounts to 10%, excluding the aforementioned external financing. Most of *lambda*'s insider capital is invested in its levered vehicles, which are run pari-passu with the master fund. *Eta*'s and *zeta*'s insider capital figure is an approximation based on discussions with each manager.

accompany such structures, the behavior they encourage, and the additional responsibility they put on firm management to monitor and regulate the traders to safeguard investors' interests.

First, MM fund employment contracts are typically tailored to each individual trader subject to the trader's track record, caliber, and sector focus. Employing autonomous traders places tremendous demands on the senior management team to maintain effective oversight over many disparate parts. The better firms will have sufficient experience and powerful enough systems to take appropriate action when individual traders fall short of expectations, when the investments they have made collectively approach their stop-loss levels, and when certain unintended risks aggregate to the portfolio level. A by-product of hiring multiple traders with overlapping sector focuses is that the practice may breed rivalry and herd behavior. These effects can undermine the benefits that arise from collaboration and sharing resources within the firm.

Second, MM firms with small asset bases tend to suffer from higher organizational risk because economies of scale play a significant role for MM firms. Even when a small firm pays its traders a meaningful profit percentage, the dollar amount of compensation is unlikely to meet traders' requirements and support each trader's expenses, such as analysts, Bloomberg terminals, and financing. However, larger MM firms can achieve adequate payout amounts to meet traders' requirements even at a lower profit sharing percentage because they are able to allocate larger amounts of capital to each trader. Additionally, larger MM funds are better able to spread fixed infrastructure costs over a larger asset base.

Regarding term structure, MM firms commonly offer numerous underlying share classes, and potential investors should be aware of the specific details of the share classes they are considering. Redemption privileges may vary between share classes, so that some investors' ability to withdraw from the fund may be impaired in a scenario where other investors can withdraw on preferential terms. For example, after September 2009 new investors at *epsilon* could only allocate to two flagship classes of shares, an annual share class and a quarterly class that subjects investors to a 25% investor-level gate. These two classes represent 75% of the fund's AUM. Approximately half of the remaining assets represent over a dozen legacy share classes that hold investors to quarterly redemptions subject to a gate the greater of \$150 million or 17.5%. Under certain circumstances, the investors in these legacy share classes could withdraw their entire allocation from the fund at quarter-end. Meanwhile, investors in the two flagship classes are bound by more restrictive terms.

Regarding compensation, most MM firms compensate their traders formulaically and explicitly describe this methodology in traders' employment contracts. Firms that adopt this practice typically believe that not all investment talent is created equal, and thus compensation needs to be tailored for each trader. In general, traders' payouts range from 8% to 20% of profits. Some firms adopt a nuanced approach whereby their traders' performance bonus is calculated on a sliding scale of 0% to 30% of their trading profits; the higher the rate of return, the larger the share of profits a trader keeps. Other MM firms use combinations of discretionary and formulaic inputs to derive each trader's share of profits they generate. For example, *iota* maintains an entirely

discretionary compensation structure based on both individual trader and overall fund performance measured over a three-year time period to account for sectors' natural cycles and the periodic dampening effect they can have on the performance of sector-focused traders. While it is not possible to accurately compare *iota's* compensation structures with its MM peers, the firm strives to achieve strong alignment of interests with investors. Other firms that compensate their traders largely on discretionary inputs include *phi* and *theta*.

In addition to variations in the portion of trading profits paid to traders, MM firms differ by the terms governing how these payouts are calculated and their vesting schedules.

- ◆ **How are bonus payouts calculated?** Traders at some firms are subject to a perpetual high-water mark and do not earn a performance bonus while their returns are below the high-water mark (*lambda*, *mu*, *nu*, *rho*, and *zeta*). This approach helps avoid distorted decision making by traders, especially in anticipation of a near-term resetting of their high-water mark. Other MM firms reset their traders' high-water marks at year-end (*omicron*, *pi*, and *tau*).
- ◆ **What portion of these payouts is deferred or vested over time?** A standard firmwide deferral program wherein a portion of traders' compensation is vested for a significant period of time has some associated benefits. Specifically, deferrals can help discourage departures and offset potential future losses originating from an individual trader's book. Firms that mandate deferrals typically apply them to a significant portion of compensation over a period of time. *Chi* imposes a 15% to 25% deferral above certain thresholds over a three-year vesting period; *lambda*, a 15%

deferral over a three-year vesting period; *omicron* imposes a 25% deferral over a three-year vesting period; *phi*, a 25% deferral over a two-year vesting period; *pi*, a 30% to 60% deferral above a certain threshold over a three-year vesting period, and *rho*, a 20% deferral over a three-year vesting period. Managers that maintain a claw-back in case of losses incurred the following year include *mu*, *rho*, and *theta*. MM firms that compensate traders entirely in cash or do not disclose details on their deferral program include *epsilon*, *iota*, *omega*, *tau*, and *zeta*.

Table 2 provides an overview of which of the firms in our analysis offer key provisions to better align interests: (a) a key-man clause to protect investors in case of senior-level departures, (b) substantial insider capital—arbitrarily defined as at least 5% of fund assets, (c) substantially equivalent liquidity terms for insider capital and external LPs' investments, (d) a standardized deferral program or performance claw-back feature to deter departures and offset potential losses, and (e) no side letters providing preferential liquidity terms to specific investors.

As shown in Table 2, none of the selected funds meet all five factors. Investors should note that these simple qualification criteria grossly oversimplify important nuances that differentiate MM firms from others. While having more of these qualities is generally better, some individual qualities may hold greater weight, and a small number of them can combine for a potent mix. A few key areas to which investors should pay close attention include the fund's term structure, insider capital, compensation, and firm culture. Note that most MM firms have yet to make meaningful progress toward succession planning. This is especially the case

at firms where GP ownership is concentrated at the top, for example *omicron* and *epsilon*.

How Has the Fund Performed?

Investors should demand a return premium to compensate for the complexities inherent in MM funds. As shown in Table 3, performance varies meaningfully between individual MM funds.

Is a Mechanism in Place to Regulate Drawdowns?

Low levels of leverage do not necessarily coincide with low levels of volatility (Figure 5). Investors seeking a broader measure of fund performance can look to MM funds' historical susceptibility to drawdowns. Table 4 lists the worst drawdown for each fund during the period from January 2000 through March 2013 in increasing order of severity.

To understand the wide range of historical drawdowns, investors may want to consider the drawdown limits each MM firm imposes on its traders, one of the key tools MM firms use to help enforce self-discipline. For example *rho* imposes on its traders a strict 15% drawdown limit implemented in stages: a trader whose portfolio loses 7.5% gets an automatic 20% capital allocation reduction, followed by another 20% reduction if the portfolio loses an additional 3%. However, the effectiveness of these loss-controlling measures depends on their implementation, which in some cases is at senior management's discretion. For example, *epsilon* mandates stop-loss limits implemented in stages: a 50% reduction in allocated capital if a PM incurs a 2.5% loss on his existing allocated capital, an additional 50% reduction of the remaining capital in the event of a cumulative 5% loss, and a full stop-out—an immediate sale of the assets in the portfolio to prevent further losses—after a cumulative 7.5% loss. However *epsilon* expands the limits for traders having an

Table 2. Multi-Manager Funds Offering Various Provisions to Better Align Interests

Multi-Manager Fund	Key-Man Clause	Insider Capital	Liquidity Match	Deferral Program	No Side Letters
eta		✓	✓	✓	✓
pi		✓	✓	✓	✓
lambda	✓		✓	✓	✓
phi	✓		✓	✓	✓
rho	✓		✓	✓	✓
nu	✓	✓	✓		✓
psi	✓	✓	✓		✓
chi		✓	✓	✓	✓
omicron		✓	✓	✓	✓
sigma		✓	✓	✓	✓
theta		✓	✓	✓	✓
zeta		✓	✓		✓
kappa			✓	✓	✓
mu	✓			✓	✓
epsilon	✓	✓			
iota		✓			✓
omega		✓			✓
xi			✓		✓
tau			✓	✓	

Source: Cambridge Associates LLC.

Table 3. Multi-Manager Fund Performance

Five-Year Net Performance • July 1, 2008 – June 30, 2013

Multi-Mgr Fund	AACR	Sharpe	Beta	Ann Alpha
xi	16.2	1.2	0.3	14.2
tau	12.8	2.1	0.1	11.7
rho	10.5	1.5	0.0	10.1
nu	9.2	1.5	0.2	8.0
pi	9.0	1.0	0.3	7.4
omicron	8.9	1.0	0.3	7.4
epsilon	8.7	2.1	0.1	7.7
eta	8.7	1.4	0.0	8.5
iota	8.4	1.1	0.2	7.3
kappa	7.7	0.8	0.3	6.3
zeta	7.4	1.4	0.1	6.8
mu	6.3	0.8	0.2	5.7
theta	5.4	0.7	0.2	4.4
lambda	5.1	0.9	0.1	4.4
omega	2.4	0.3	0.1	1.7
phi	2.3	0.9	0.0	1.9
MM Avg	8.1	1.2	0.2	7.1
Trad MS Avg	5.6	0.8	0.2	4.4

Sources: Cambridge Associates LLC and MSCI Inc. MSCI data provided "as is" without any express or implied warranties.

Notes: Figures are based on monthly net returns from July 1, 2008 to June 30, 2013, except for *rho* which launched on July 15, 2008, and *mu* which liquidated on December 31, 2012. Beta and annualized alpha figures are relative to the MSCI World Index. The following funds were excluded because their track records exclude most of 2008: *chi* (launched April 2009) and *psi* (launched October 2008). *Sigma* is excluded because its Sharpe (3.4), beta (0.1), and alpha (13.6) figures may be grossly misleading given the portfolio's large allocation to illiquid investments. Traditional (trad) MS = average of traditional multi-strategy funds.

Table 4. Multi-Manager Fund Drawdowns

January 1, 2000 – March 31, 2013

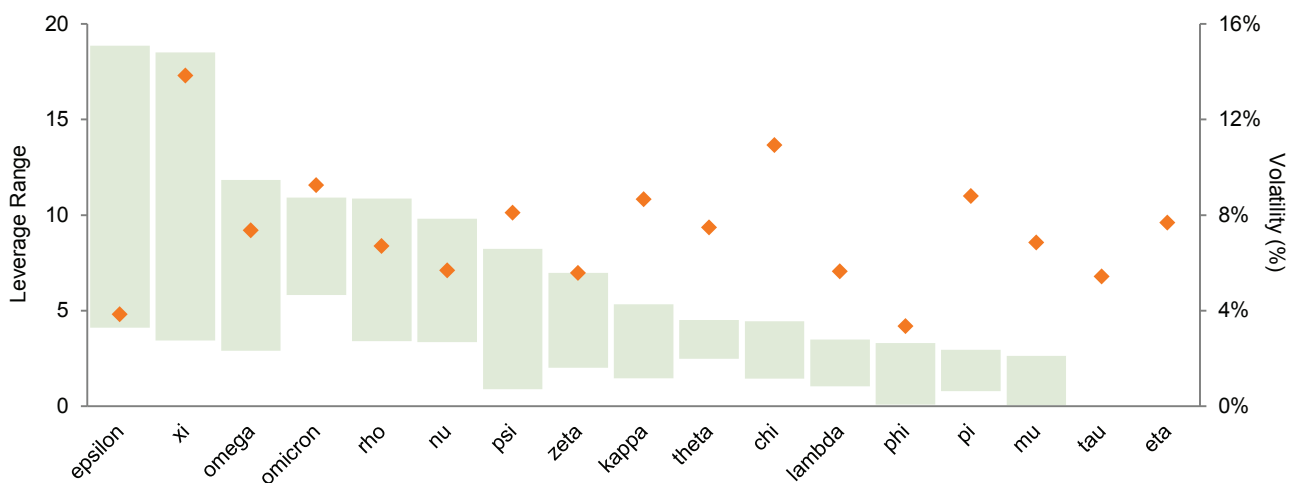
Multi-Mgr Fund	Maximum Drawdown	Start Month–Trough Month
phi	-4.26%	Jan 2004–Jul 2004
sigma	-4.44%	Sep 2008–Oct 2008
tau	-4.83%	Jun 2003–Aug 2003
eta	-5.18%	Mar 2008–Apr 2008
epsilon	-6.61%	Jul 2008–Dec 2008
nu	-6.88%	Aug 2011–Dec 2011
rho	-7.75%	May 2011–Feb 2012
chi	-7.80%	May 2010–Jun 2010
zeta	-9.28%	May 2006–Sep 2006
mu	-10.75%	May 2011–Sep 2011
iota	-11.66%	Oct 2001–Mar 2002
psi	-12.32%	Jun 2011–Sep 2011
lambda	-12.51%	Jul 2004–Aug 2004
omega	-18.15%	Jul 2008–Dec 2008
theta	-19.30%	Sep 2008–Dec 2008
omicron	-20.22%	Aug 2008–Dec 2008
kappa	-20.54%	Jun 2008–Nov 2008
pi	-21.00%	Dec 2007–Nov 2008
xi	-29.16%	July 2008–Dec 2008

Source: Cambridge Associates LLC.

Note: Figures based on monthly returns provided by each manager.

Figure 5. Multi-Manager Fund Leverage Ranges Versus Volatility

January 31, 2008 – June 30, 2013



Source: Cambridge Associates LLC.

Notes: Leverage figures are multiples of net asset value (NAV) and represent gross leverage (the sum of long market value plus short market value divided by NAV) as disclosed by each manager. Volatility represents annualized standard deviation. Figures capture month-end data from January 2008 to June 2013. Leverage figures for *eta* and *tau* are unavailable.

unusual “winning streak.” *Omicron* similarly maintains a soft drawdown limit whereby the firm has the option (not the obligation) to liquidate a trader’s book, which helps explain the disparity between *omicron*’s 10% stop-out limit and its 20% performance drawdown in 2008. In most other cases, including *iota*, *kappa*, *lambda*, *omega*, *phi*, and *theta*, MM firms lack drawdown limits, grant exceptions, or widen their limits in certain circumstances, such as for an unusually profitable or long-tenured trader.

Because most MM firms maintain soft drawdown limits or often grant exceptions to hard limits, a comprehensive list of each MM firm’s limits is of little value when comparing MM funds. Instead, investors should focus their due diligence efforts on identifying the guidelines used to evaluate the traders they employ and gauging senior management’s response to an unprofitable trader. Some

MM firms may approach these trader management issues in different ways.

Members of *nu* senior management, for example, say they believe the evolution of traders follows an arc. Young and inexperienced traders tend to be more dynamic and energetic—over time they mature and excel, but eventually lose focus. Concurrently, *nu* believes the evolution of strategies is cyclical, that unprofitable strategies once shunned and dismissed by market participants will over time regain their attractiveness and get a lot more interest, leading to capital inflows that inevitably erode their profitability. Accordingly, *nu*’s senior management does not require its traders to be profitable at all times, but rather they hire promising talent, initially allocate small amounts of capital to them, and eventually increase their allocations in anticipation of a favorable market environment—when they do

expect the trader to be profitable. *Nu* is in fact tolerant of trader underperformance, a characteristic it shares with some other MM firms, including *rho* and *psi*.

How Does the Firm Manage Equity Exposures?

In addition to the aforementioned drawdown limits, MM firms commonly require their equity traders to abide by gross and net exposure limits, often explicitly defined in employment contracts. Firms typically respond to breaches of these limits by liquidating the trader's book and dismissing the trader from the firm. It is unclear how significant these prescribed limits are to a fund's risk profile because they vary between firms, as does the extent to which they are enforced within each firm. *Epsilon*, for example, limits its equity-focused traders' net exposure to within 15% of neutrality at all times. Other MMs that maintain such "strict" net limits on their equity-focused PMs include *kappa*, *lambda*, *rho*, and *theta*. MM firms that hold their equity PMs to soft net exposure limits or lack them entirely include *chi*, *iota*, *nu*, *omega*, and *omicron*.

Note that we hone in on equities because they tend to dominate MM funds' portfolios and they are a relatively straightforward asset class with exposures that are less subject to manipulation—at least relative to credit or fixed income.

Figure 6 groups MM funds' equity books into two categories based on two dimensions: average gross exposure (y-axis) and average net exposure (x-axis). MM funds' equity exposures tend to cluster into two broad categories:

- ◆ **Neutral equity books** are those in which traders are typically limited to maintaining low amounts of net long bias. As a result, traders' behavior is generally consistent with going long a company and shorting a

roughly equal amount of a closely-related company. The general expectation is to quickly take profits and quickly cut losses. As a result, returns originating from these equity books tend to be steady and well balanced. Unsurprisingly, most of these books belong to MM funds that maintain strict net exposure limits as outlined above.

- ◆ **Directional equity books** are those in which traders are typically allowed to express their fundamental or event-driven views with more directionality. These traders' behavior is generally consistent with "letting profits run" on idiosyncratic situations as market perception catches up with fundamental reality. Accordingly, net exposure limits are typically much wider and profits are more volatile, consistent with the aforementioned MM funds that maintain soft exposure limits or lack them entirely.

While different MM funds' equity books perform in different ways, in general those that fall into the directional category derive a much larger portion of their equity profits from beta relative to those in the neutral category. This difference is illustrated in Figure 7, which decomposes equity returns into those attributable to leverage (gross exposure), beta (net exposure), and value add (alpha) over the past five years.

Overall, not only do different firms generate different levels of equity returns, but the way they achieve them varies meaningfully depending on the fund. For example *omicron's* equity returns are among the highest in the group, but its returns are largely attributable to leverage. Meanwhile *iota's* total returns are comparatively lower, but it attributes most of its returns to value add. Interestingly, as illustrated by the two bars on the right side of Figure 7, the average MM fund is roughly equally effective at generating alpha on its equity investments as

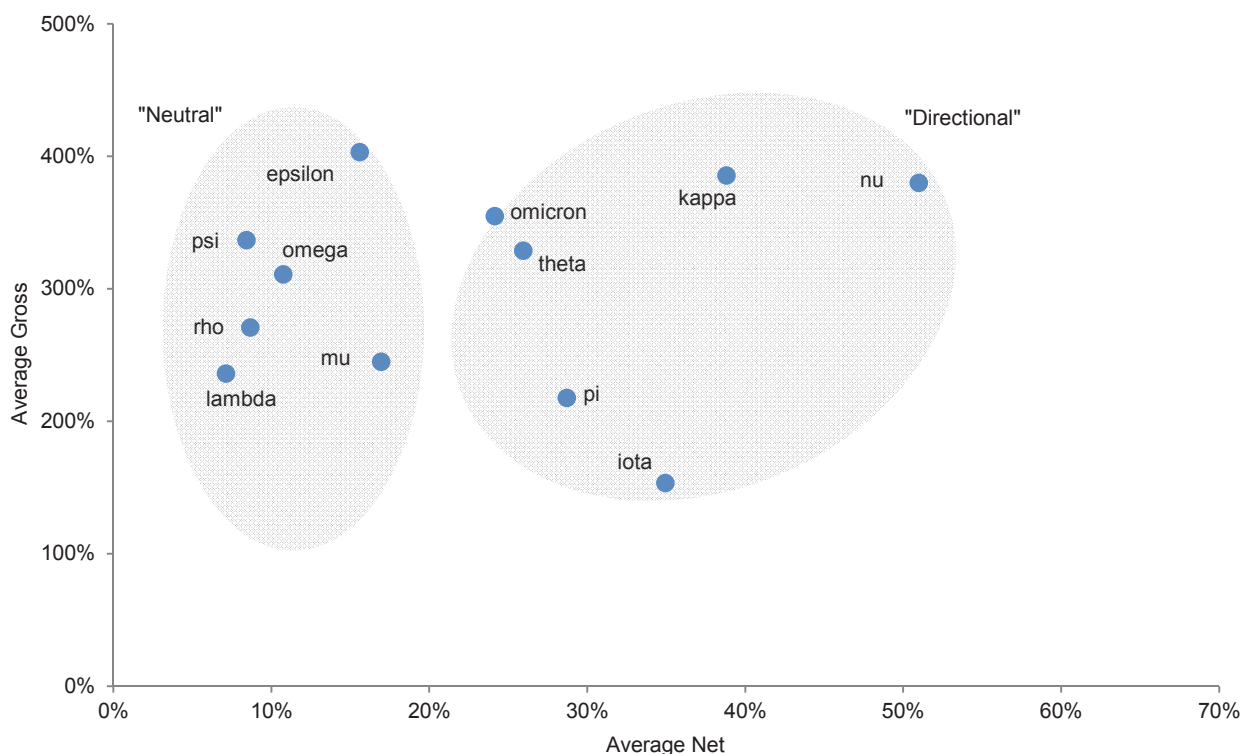
the average traditional MS fund. However, MM funds tend to derive a larger portion of their equity returns from leverage, while traditional MS funds tend to derive a larger portion of their equity returns from beta.

Note that MM funds and traditional MS funds vary in the portion of their portfolios they allocate to equities. Table 5 puts total equity returns from Figure 7 in the context of the role equity strategies play in their respective portfolios.

MM funds tend to derive a substantially larger portion of their overall returns from equities relative to traditional MS funds. This difference may be explained by traditional MS funds being more active in other asset classes. As we illustrate later, these other asset classes have generally been less liquid.

Figure 6. Multi-Manager Fund Equity Exposure

January 1, 2009 – June 30, 2013

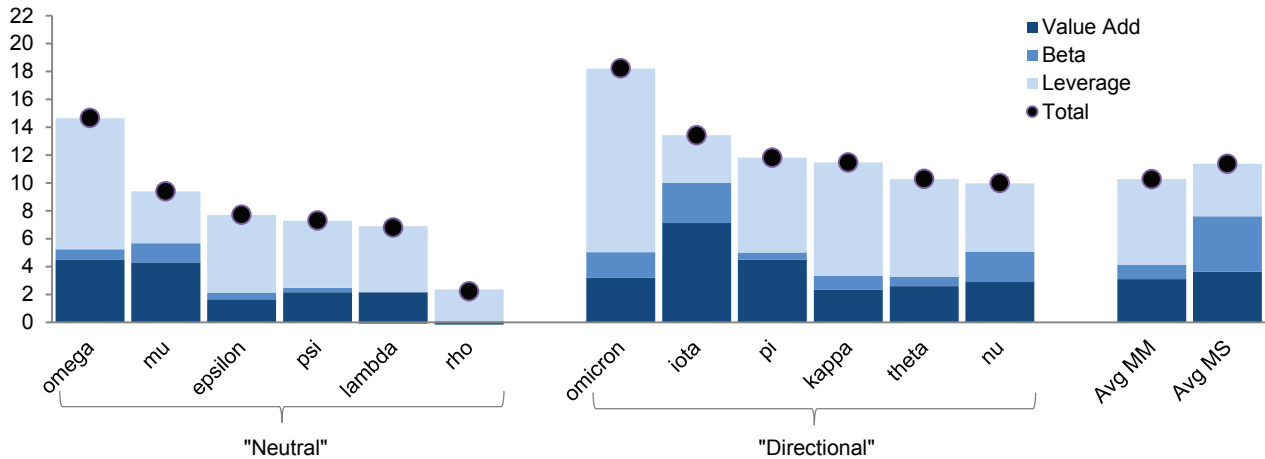


Source: Cambridge Associates LLC.

Notes: Chart uses manager-provided monthly long and short market value data from January 2009 through June 2013, except for *mu* which liquidated in December 2012. Figures for *chi* and *xi* are excluded due to either the lack of 2009 data or distortions carried over from 2008, which is excluded from our analysis. This graph captures exposures originating from only the equity books in each MM's portfolio, including in fundamental, event-driven, and quantitative strategies. The denominator in calculating the figures for the chart is the capital allocated to equity strategies (not total fund NAV) to properly account for funds' different allocation sizes to equity strategies.

Figure 7. Multi-Manager Fund Equity Return Decomposition

January 1, 2000 – June 30, 2013 • Annual (%)



Source: Cambridge Associates LLC.

Notes: Figures are based on monthly long and short market value and profit contribution data from January 2009 through June 2013, except for *mu*, which liquidated in December 2012. Figures for *chi* and *xi* are excluded due to either the lack of complete 2009 data or distortions carried over from 2008, which is excluded from this analysis. Avg MS = average for traditional multi-strategy funds. Ranges for traditional multi-strategy funds are as follows: value add (min=-3.3%, max=8.9%), beta (min=1.6%, max=11.5%), leverage (min=-6.3%, max=16.2%), and total (min=5.8%, max=20.6%).

Are Withdrawal Terms Appropriate for the Portfolio?

MM firms may hold investors to very different withdrawal terms. It is important that investors evaluate the degree to which a fund’s withdrawal terms are appropriate for the liquidity and duration of its portfolio holdings. However, investors may find it challenging to evaluate the anticipated holding periods of all underlying PMs employed at an MM firm. An alternative would be to consider the liquidity of an MM fund’s portfolio in its entirety.

Table 6 ranks MM funds based on overall portfolio liquidity using FASB Topic 820 fair value measurement categories, which define level 1 assets as those valued using quoted prices in active markets for identical assets or liabilities, level 2 assets as those valued using significant other observable inputs, and level 3 assets as those valued using significant unobservable inputs.

Table 5. The Role of Equity Strategies

Multi-Manager Type	Equity Return as % of Total Fund Returns
Neutral	63%
Directional	58%
MM Average	60%
Traditional MS Average	39%

Source: Cambridge Associates LLC.

Notes: Based on monthly data from January 2008 to June 2013. Traditional MS represents the average of traditional multi-strategy funds.

On average, MM funds have substantially lower exposure to Level 3 assets than traditional MS funds. An exception to this general rule is *sigma*, where most assets are in strategies that maintain highly illiquid investments; some are Asia-domiciled investments. Given the monthly liquidity this fund offers, investors should clearly be concerned about decision making being rendered ineffective by a potential asset/liability mismatch. Significant withdrawals from *sigma* could destabilize the fund.

Have Fund Returns Been Influenced by One-Off Events?

Investors should note that early withdrawal fees may have had an appreciable impact on some funds' returns. For example investors in *eta* are held to a 5% early withdrawal fee of the redemption proceeds in the event that, in any consecutive three-month period, an investor redeems more than 25% of the investor's allocation. In first quarter 2009, *eta* experienced approximately \$1.2 billion in net redemptions. While these redemptions only represented roughly a tenth of the fund's assets at the time, enough investors incurred the early withdrawal fee to generate \$111 million in proceeds to the fund's income statement that year. Had this early withdrawal fee not existed, *eta's* net returns in 2009 would have been 17.9%, not 18.7%. Table 7 lists the MM funds whose returns have been most influenced by early withdrawal fees over the past five years:

What's the True Cost to Investors?

Traditional MS firms typically maintain a fixed fee structure, which helps incent cost efficiency. Fee structures at most MM firms, however, permit the pass-through of investment-related expenses (including salaries and bonuses) to the fund's investors, often in addition to incentive fees. A byproduct of a pass-through fee

Table 6. MM Fund Overall Portfolio Liquidity

Multi-Manager Fund	% of Portfolio in		
	Level 1	Level 2	Level 3
Annual Liquidity			
iota	98	2	0
theta	67	30	3
nu	46	49	5
Quarterly Liquidity (with Gates)			
epsilon	97	3	0
omicron	93	4	3
psi	80	18	1
rho	65	35	0
kappa	64	33	2
xi	54	44	2
Quarterly Liquidity (No Gates)			
omega	91	9	0
mu	64	34	2
tau	27	72	1
sigma	21	12	67
zeta	5	88	7
Monthly Liquidity (No Gates)			
phi	97	3	0
lambda	80	20	0
pi	80	18	1
chi	67	33	0
eta	60	40	0
MM Average	66	29	5
Trad MS Avg	46	38	16

Source: Cambridge Associates LLC.

Notes: Figures based on representative fund's 2012 audited financial statement. Level 1, 2 and 3 figures are based on FASB Topic 820 (formerly FAS 157) fair value measurement categories. Traditional (trad) MS = average for traditional multi-strategy funds. Ranges for traditional multi-strategy funds are as follows: Level 1 (min=14.7%, max=79.8%), Level 2 (min=16.3%, max=54.4%), and Level 3 (min=3.9%, max=37.5%). Note that Level 1, 2, and 3 categories generally correlate with liquidity, but not at all times. For example it may take many months to liquidate a large position in a small-cap company listed on a stock exchange, depending on daily trading volume. Similarly some Level 2 assets, such as corporate bonds, may benefit from deeper liquidity than some Level 1 assets.

structure is netting risk, where investors may incur the cost associated with compensating profitable traders even if the overall fund is unprofitable in a given year. Investors are thus exposed not only to the risk of all traders incurring losses in a given year, but also the risk of wide performance dispersion between the most and least profitable traders.

MM funds generally have one of three types of fee structures:

- ◆ **Flat fund-level incentive fee.** Investors incur a management fee, a fixed incentive fee on the net profits of all underlying trading strategies, and non-compensation-related operating expenses. *Eta, iota, kappa, omega, omicron, phi, tau, theta, xi, and zeta* fall under this fee category. Netting risk is incurred by the firms, with the exception of *omicron*, which takes netting risk between PMs in each individual strategy, but not across different strategies. For example, investors were still charged an incentive fee in 2008 when *omicron's* net income was negative because certain quantitative PMs were highly profitable.
- ◆ **Full pass-through of expenses without a fund-level incentive fee.** Investors incur a management fee in addition to paying all salary and bonus compensation and operating expenses. *Mu* falls under this fee category, wherein investors incur netting risk.
- ◆ **Full pass-through of expenses with a flat fund-level incentive fee.** Investors incur a management fee and an incentive fee on top of all salary and bonus compensation and operating expenses. *Epsilon, lambda, and rho* fall under this fee category, wherein investors incur netting risk. Note that *epsilon* charges no explicit management fee.

Note that each MM firm has its nuances related to fees, making direct comparisons between firms imprecise. For example, *iota* is able to reset the fund's high-water mark at the beginning of any calendar month, albeit the firm has not done so in the past. Putting aside such idiosyncrasies, it is possible to compare the costs between different MM firms using historical audited financial statements. Table 8 approximates annual fee structures that correspond to the dollar amount of expenses that investors

Table 7. MM Fund Returns Most Influenced by Early Withdrawal Fees Over Past Five Years

Multi-Manager Fund	Total Fund-Level Redemption Fee Proceeds (US\$ mm)	Annual Net Returns (%)	Est Net Return Excluding Withdrawal Fee (%)	Difference Between Actual and Est Return (%)
tau	25 (in 2009)	45.4	43.7	1.7
eta	111 (in 2009)	18.7	17.9	0.8
mu	3 (in 2009)	22.9	22.1	0.8
omega	6 (in 2008)	-7.2	-7.7	0.5
epsilon	20 (in 2009)	17.5	17.1	0.4

Source: Cambridge Associates LLC.

Notes: Based on CJA estimates using figures extracted from audited financial statements. *Tau* represents net returns for USD Class A shares. *Mu* represents net returns for Class A shares. *Eta* represents net returns for USD Class A shares. *Epsilon* represents net returns for EE-I shares.

actually incurred over the past five years. This accounts for trader compensation, and operating expenses (including audit, professional, and uncategorized “other” fees), as well as incentive fee charges. More “expensive” funds are ranked lower in the table.

Investors need to be aware of the costs associated with investing in a MM fund, not all of which are immediately apparent. Effective fee structures vary drastically between MM funds, and even between years, depending on the individual and collective performance of traders employed by the firm. The differences in incentive fees between some MM funds and traditional MS funds can be staggering. They are largely attributable to MM firms being able to pass through many organizational costs that normally are paid with management fee proceeds.

Comparing performance between funds is inherently incomplete without properly accounting for the period subsequent to 2008 due to high-water mark–related incentive fee differentials. Part of the reason investors in traditional MS funds have incurred under 20% incentive fees is that the funds spent a lot of time under their high-water marks during the five years ended December 2012. Specifically, traditional MS funds spent an average of 23 months (or 41% of the last 60 months) under their respective high-water marks subsequent to their 2008 losses. In comparison, MM funds spent an average of 13 months (or 21% of those 60 months) under their respective high-water marks, or roughly half. Clearly, if traditional MS funds had less severe drawdowns, their effective fee structures would have been higher.

We found that “expensive” MM funds, represented by the Tier 2 category in Table 8, tend to exhibit similar annualized net returns to “inexpensive” MM funds, represented by the Tier 1

Table 8. MM Fund Annual Fee Structures

Tier	Multi-Manager Fund	Effective Fee Structure	Who Takes Netting Risk?
1	pi	2% + 17%	Firm
	xi	2% + 17%	Firm
	omega	2% + 22%	Firm
	iota	2% + 22%	Firm
	phi	2% + 24%	Firm
	tau	2% + 26%	Firm
	kappa	2% + 27%	Firm
	theta	2% + 29%	Firm
2	zeta	2% + 34%	Firm
	eta	2% + 38%	Firm
	nu	2% + 38%	LPs
	epsilon	2% + 46%	LPs
	rho	2% + 47%	LPs
	lambda	2% + 47%	LPs
	omicron	2% + 52%	Firm
MM Average		2% + 33%	---
Traditional MS Avg		2% + 13%	Firm

Source: Cambridge Associates LLC.

Notes: Based on representative feeder fund's audited financial statements. Denominator used is the average between year-beginning and year-ending net asset value, adjusted for redemptions. Note that the underlying calculations penalize smaller funds (in part due to economies of scale) and those with more modest performance. Also note *omicron* takes netting risk between PMs in each individual strategy, but not across different strategies. For example, investors were still charged an incentive fee in 2008 when the fund's net income was negative because certain quantitative PMs were highly profitable. Figures for *psi*, *mu*, and *chi* are excluded due to unavailable 2008 data, the fund being wound-down, or the outsized insider capital as a portion of fund AUM, which would otherwise obscure the figures. Traditional MS = average for traditional multi-strategy funds. Effective incentive fee ranges for traditional multi-strategy funds: min=1.5%, max=26.9%. Effective fee structure is management + incentive.

Table 9. MM Fund Betas to MSCI World Index

Tier	Avg AACR	Avg Sharpe	Avg Beta
1	8.5%	1.08	0.18
2	8.6%	1.34	0.08

Sources: Cambridge Associates LLC and MSCI Inc. MSCI data provided "as is" without any express or implied warranties. Notes: Figures based on monthly net returns from January 2008 through June 2013. Beta figures are relative to the MSCI World Index. Tiers are in reference to the average of MM funds within each tier as categorized in the previous table.

category. However, historical performance data suggest that the more expensive funds tend to outperform the inexpensive funds on a risk-adjusted basis. The more expensive funds tend to also exhibit lower beta to the MSCI World Index (Table 9).

Investors should also consider the significant disparity between gross and net returns to investors as a result of the vastly different fee structures. Based on our analysis, the average MM fund needs to generate 40% higher profits on its investments for the investor to benefit from the same net return as with an average traditional MS fund (Table 10). While this is a broad generalization that ignores different uses of leverage, we find it generally consistent with MM firms' tendency to place more stringent return expectations on its traders. In turn, this disparity helps explain the existence of strict drawdown limits, tailored compensation programs, and generally higher levels of employee turnover.

Table 10. Gross Return Necessary for a 10% Net Return

Multi-Manager Fund	% Gross Return Necessary for a 10% Net Return to LPs
phi	25.0%
eta	23.6%
omicron	22.3%
lambda	22.1%
epsilon	20.8%
omega	19.5%
nu	18.4%
zeta	18.3%
rho	18.3%
kappa	17.8%
iota	17.4%
tau	16.7%
theta	15.3%
pi	14.2%
xi	13.7%
MM Average	18.9%
Trad MS Average	13.6%

Source: Cambridge Associates LLC.

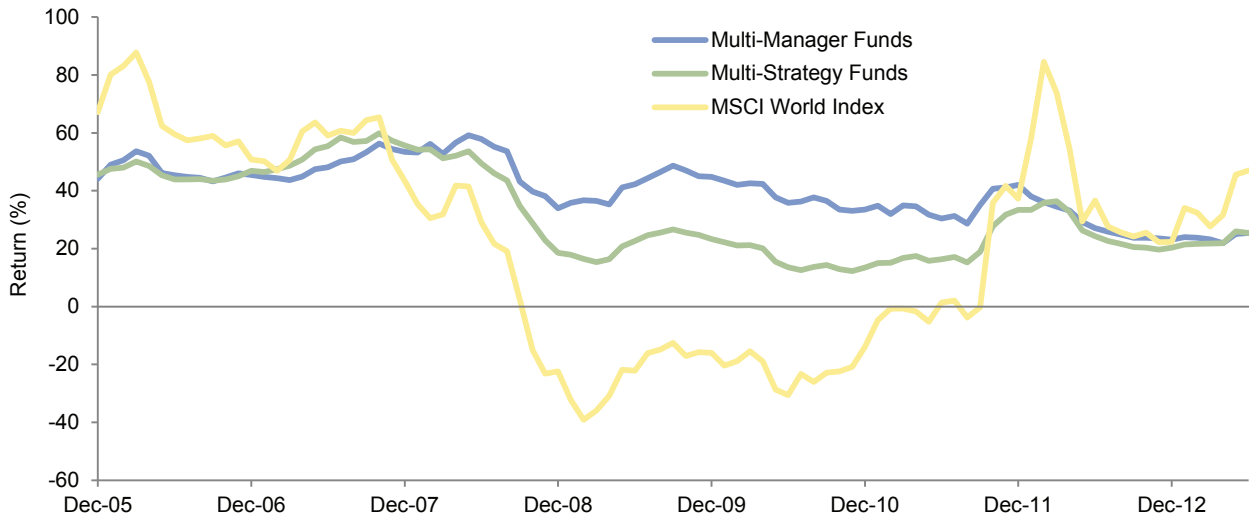
Notes: Figures are on a total feeder-fund level, ignoring differences between share classes. Note that the underlying calculations penalize smaller funds (in part due to economies of scale) and those with more modest performance. Data based on 2008–2012 audited financial statements for representative feeder funds. Fiscal year-end for *iota* is June 30. Figures for *pi*, *psi*, and *chi* are excluded because of the outsized insider capital as a portion of fund AUM, which would otherwise obscure the figures. Traditional MS = average for traditional multi-strategy funds. Ranges for traditional multi-strategy funds are as follows: min=11.5%, max=16.2%.

Conclusion

This report examined the characteristics of multi-manager hedge funds that sufficiently differentiate them from their traditional multi-strategy counterparts to warrant particular consideration by potential investors. Our examination does not lead us to make a blanket endorsement of one type over the other. Rather, our discoveries provide insight into the significant ways the funds within the MM group differ not only from MS funds, but also from each other. The resulting questions investors should include in their due diligence process are provided here as a resource for investors that want to avoid unexpected outcomes and build on their qualitative analysis of the firm's potential to ultimately select the fund that is the best fit for their needs. ■

Appendix Figure 1. Cumulative Rolling Performance: 36 Months

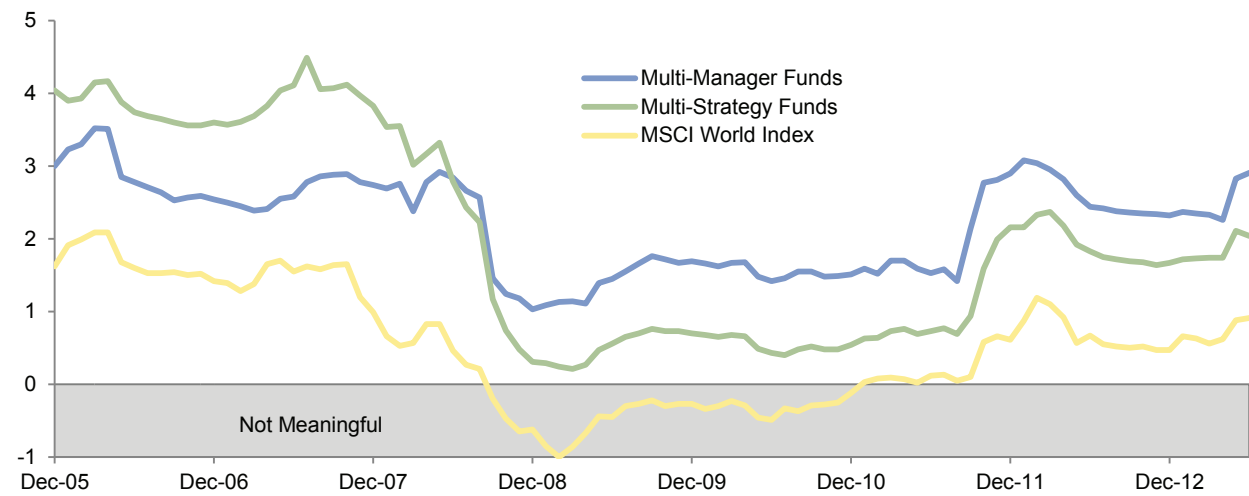
December 31, 2005 – June 30, 2013



Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
 Note: All statistics are computed from monthly returns in the original reported currency of each series.

Appendix Figure 2. Sharpe Ratio: Rolling 36 Months

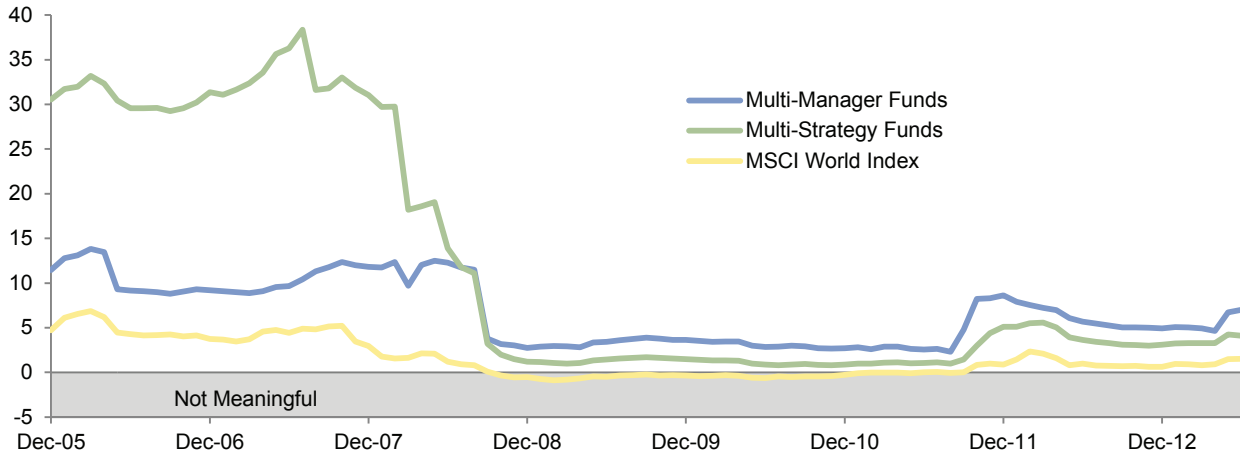
December 31, 2005 – June 30, 2013



Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
 Notes: All statistics are computed from monthly returns in the original reported currency of each series. Sharpe ratio is defined as the return in excess of the risk-free rate by standard deviation.

Appendix Figure 3. Sortino Ratio: Rolling 36 Months

December 31, 2005 – June 30, 2013

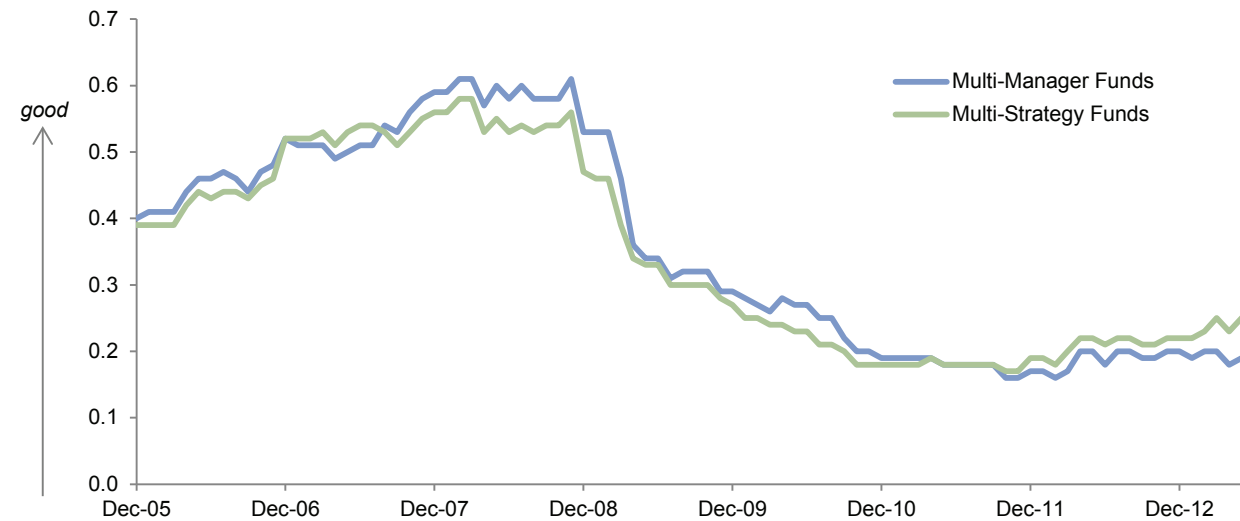


Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: All statistics are computed from monthly returns in the original reported currency of each series. The Sortino ratio is defined as the return in excess of the risk-free rate divided by downside deviation. It penalizes only those returns falling below the target rate of return, while the Sharpe ratio penalizes both upside and downside volatility equally.

Appendix Figure 4. Up Capture: Rolling 36 Months

December 31, 2005 – June 30, 2013

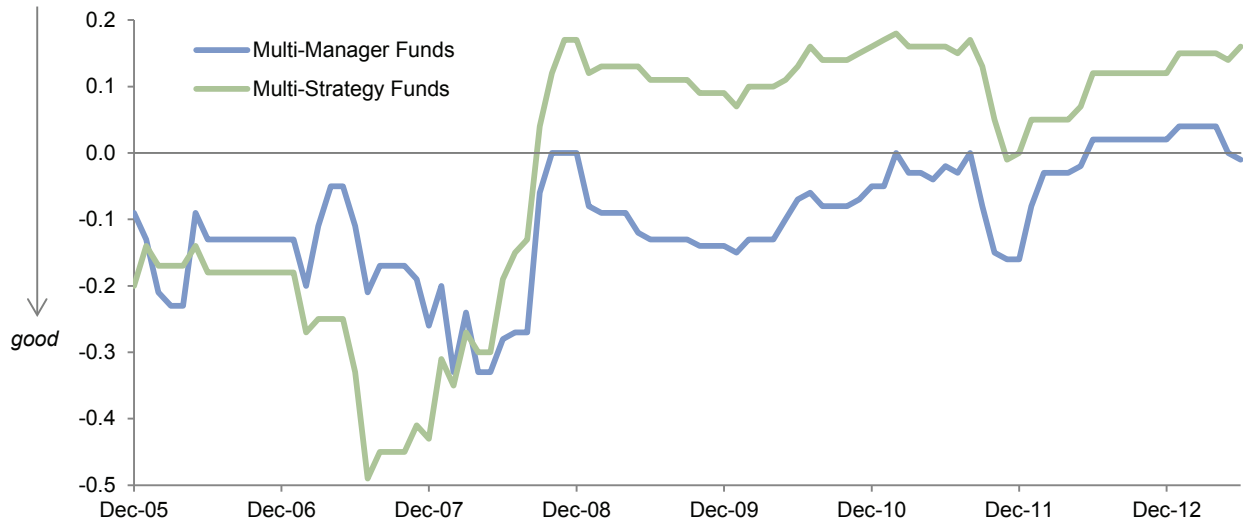


Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Note: All statistics are computed from monthly returns in the original reported currency of each series.

Appendix Figure 5. Down Capture: Rolling 36 Months

December 31, 2005 – June 30, 2013

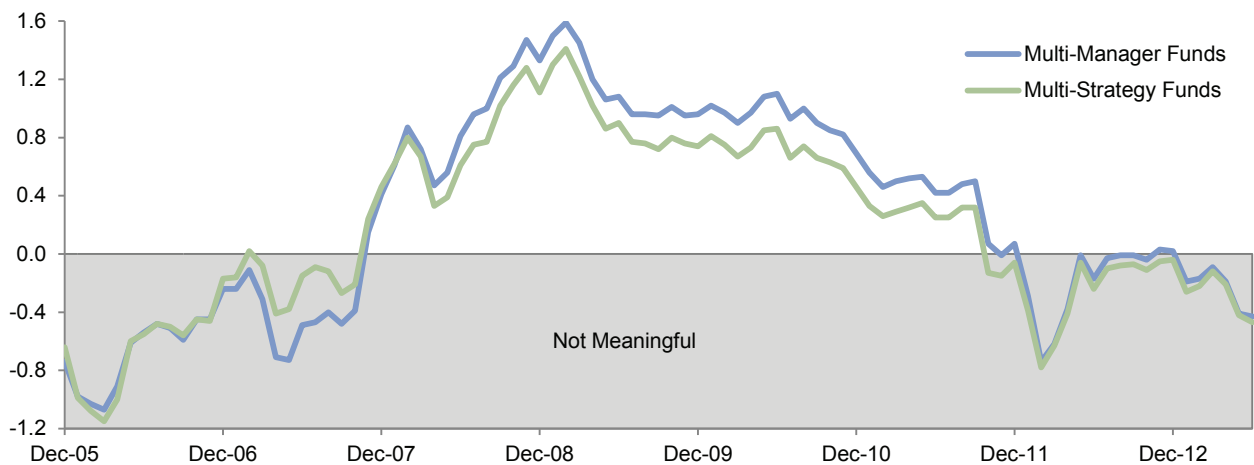


Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Note: All statistics are computed from monthly returns in the original reported currency of each series.

Appendix Figure 6. Information Ratio: Rolling 36 Months

December 31, 2005 – June 30, 2013

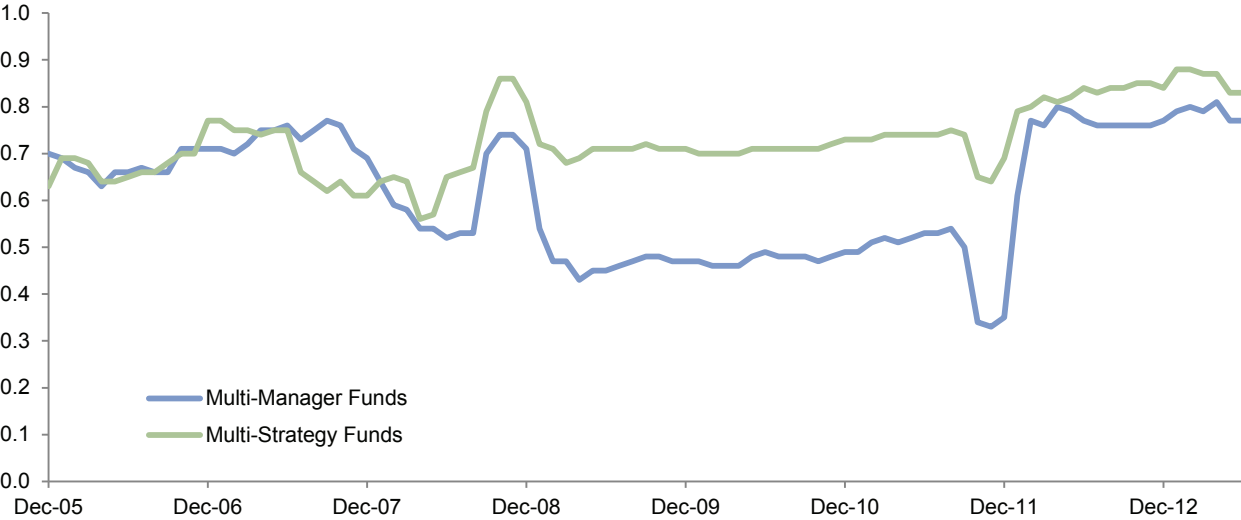


Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: All statistics are computed from monthly returns in the original reported currency of each series. The information ratio is defined as the expected active return (active return is the difference between the fund's return and the return of a selected benchmark index) divided by tracking error (the standard deviation of the active return).

Appendix Figure 7. Correlation with MSCI World Index: Rolling 36 Months

December 31, 2005 – June 30, 2013



Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
 Note: All statistics are computed from monthly returns in the original reported currency of each series.