

Liquid Alternative Investments MAPS

Market Analysis & Performance
Summary

First Half 2017

What are Liquid Alternatives?

In our view, liquid alternative investments (“LAI”) are daily liquid investment strategies that, like hedge funds, seek to deliver:

- differentiated returns from those of core asset classes—returns that are most beneficial during difficult times in core markets;
- the potential to reduce overall portfolio risk; and
- the potential to mitigate the effects of severe drawdowns, particularly in equities.

We note that neither alternative mutual funds nor hedge funds are riskless investments, so investors can lose money in both types of funds.

This material is provided for educational purposes only and should not be construed as investment advice or an offer or solicitation to buy or sell securities.

To learn more please visit our Liquid Alternatives Center at [GSAM.com/LAC](https://www.gsam.com/LAC)

LAI MAPS Overview: Investors Turn Bullish on Alternatives

How to Use the LAI MAPS

The MAPS is designed to help investors better understand and allocate to liquid alternatives, or alternative *mutual funds*. In this analysis, we narrow down the vast universe of liquid alternatives to the funds that may better provide the differentiated return and risk characteristics of *hedge funds*. We then categorize those funds into “LAI Peer Groups,” which align with the five major hedge fund categories: *equity long/short*, *event driven*, *relative value*, *tactical trading/macro*, and *multistrategy*. Investors can use these LAI Peer Groups to evaluate alternative mutual funds relative to other LAI and similar hedge fund strategies.

The Dashboard on page 2 provides an overview of Q2 2017 LAI Peer Group performance. An explanation of our approach follows on page 4. Long-term performance analysis begins on page 13. Pages 8-9 and 20-24 provide sources, calculation methodology and definitions related to the Peer Groups.

For Q1 2017 data please refer to the LAI MAPS Supplemental Data on GSAM.com/LAC.

Glossary Terms

Refer to the glossary on page 26 for additional information on any term in *italics*.

The first half of 2017 inspired more positive sentiment towards alternative investments. The HFRX Global Hedge Fund Index registered eight straight months of positive performance in June,¹ and hedge funds’ record 2016 outflows turned to inflows in the second quarter of 2017.² Similarly, liquid alternative investments (LAI) experienced positive performance, with the GSAM LAI Multistrategy Peer Group up 1.97% through June, as well as inflows in the second quarter.³ Lower-cost, quantitative or “alternative beta” investment strategies within the GSAM LAI Multistrategy Peer Group garnered the majority of inflows in the first half of the year,⁴ following a broader interest in quantitative investing among institutional hedge fund investors.⁵

One likely contributor to the more upbeat outlook for alternative investments was lofty equity valuations. The price-earnings ratio of the median stock in the S&P 500 TR Index reached the 98th percentile towards the end of the first half, raising fears of limited upside and a possible correction.⁶ Furthermore, investors may not be able to rely on bonds for downside hedging. A 30 basis point increase in the 10-year Treasury rate in late February and early March caused bonds to lose 1.5%.⁷ During this period, liquid alternatives outperformed bonds by 1.4%,⁸ and the GSAM LAI Equity Long/Short and Relative Value Peer Groups profited.⁹ Historically, alternatives have significantly outperformed both the S&P 500 TR Index in equity market drawdowns and the Barclays Aggregate Bond Index during periods of rising rates.¹⁰

Over the entire first half of 2017, the GSAM LAI Equity Long/Short and Event Driven Peer Groups fared best, up 4.0% and 2.3% respectively, driven by growing equity and credit markets and wider dispersion among sectors.¹¹ Wider dispersion also benefited some funds in the GSAM Relative Value Peer Group, up 0.2% for the first half. The only peer group with negative performance through June was Tactical Trading/Macro, down 1.0% due to low volatility and price trend reversals in some interest rate, commodity, and currency markets.¹²

KEY TAKEAWAYS

- Positive recent performance of alternatives combined with extreme public equity market valuations and rising rates appears to have inspired investors to once again invest in both hedge funds and liquid alternative investments (LAI).
- Four of the five GSAM LAI Peer Groups posted positive performance in the first half of 2017, with Equity Long/Short and Event Driven strategies performing best, and Tactical Trading/Macro strategies posting losses.
- Lower cost, quantitative alternative investment strategies have attracted investors.

1-12. Please refer to end notes on page 30 for important disclosures and additional information. Diversification does not protect an investor from market risk and does not ensure a profit. **Past performance does not guarantee future results, which may vary.**

LAI Performance Dashboard - Q2 2017

LAI Equity Long/Short

Funds that select stocks *long*, using a *bottom-up*, *top-down*, *fundamental* or *quantitative* process, and then *hedge* with *short* stocks, stock index futures, ETFs, or long *put options*.



MARKET ENVIRONMENT

This Peer Group fared well in the first half of 2017, as stocks rallied globally and dispersion across sectors and markets was high.¹³ In a reversal of post-U.S. Election trends, technology, healthcare, and other growth stocks outperformed the broader market (S&P 500 TR Index), while energy and telecom underperformed. Furthermore, global stocks, and most notably emerging markets, led other regions. Markets temporarily dipped at the end of Q1 and Q2, and during these periods equity long/short funds outperformed.¹⁴



BETTER PERFORMERS

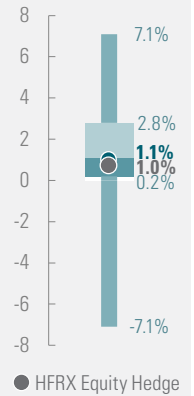
- Funds focused on European and emerging market stocks
- Funds with net-long overweights in U.S. technology, healthcare, and industrial sectors



WORSE PERFORMERS

- Funds with long-put hedges
- Funds with larger net-long allocations to energy, small-caps, and value stocks, and poor short sector selection

LAI Equity Long-Short Peer Group Quartiles/**Median**



LAI Event Driven

Funds that invest in equity or debt securities in order to potentially profit from *corporate events*, such as mergers and bankruptcies. These strategies include *merger arbitrage* and *long/short credit*.



MARKET ENVIRONMENT

High-yield spreads declined for most of the first half of 2017, buoying event driven strategies focused on long/short credit (except funds with long energy positions, which fared poorly as oil prices declined).¹⁵ The hedged nature of long-short credit strategies managed against losses in March, when high yield fell mid month.¹⁶ Event driven strategies focused more on equities and merger-arbitrage profited from a number of deal closings and deal spreads narrowing in the first half of 2017.¹⁷



BETTER PERFORMERS

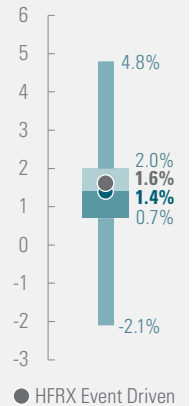
- High yield credit-focused strategies, particularly those with allocations to municipal or emerging market bonds¹⁸
- Merger arbitrage and other event driven equity



WORSE PERFORMERS

- Merger funds with larger positions in cash or revised/broken merger deals¹⁷
- Funds with larger positions in energy-related credits

LAI Event Driven Peer Group Return Quartiles/**Median**



LAI Relative Value

Funds that seek to capture the price differential between two similar securities. These strategies include *equity market neutral*, *convertible arbitrage*, and option *arbitrage* strategies.



MARKET ENVIRONMENT

As market volatility declined significantly in the first half of 2017, relative value funds employing short option strategies fared well.¹⁹ Relative value funds employing equity market neutral strategies had mixed results, depending on sector and style positioning. For example, those with long positions in large cap and growth stocks (particularly technology) and short positions in value stocks (particularly energy and telecom) outperformed those positioned in the opposite direction. Finally convertible arbitrage relative value strategies fared well due to long-credit exposure.²⁰



BETTER PERFORMERS

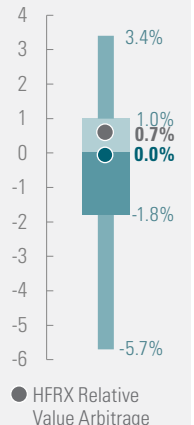
- Option strategies with short-volatility positions
- Equity market neutral funds with larger-cap and long growth/short value strategies



WORSE PERFORMERS

- Equity market neutral funds with small-cap and long value/short growth strategies
- Strategies with more leverage

LAI Relative Value Peer Group Quartiles/**Median**



LAI Tactical Trading/Macro

Funds that take dynamic *directional* (long or short) views across asset classes (equity, debt, commodities, and currencies) using *systematic* or *discretionary* approaches.



MARKET ENVIRONMENT

This peer group is comprised of two main subgroups. Managed futures fared particularly well in February, as equities generally rose and interest rates generally fell, but were hit with price-trend reversals in March and June, one of the worst months for trend-following strategies.²¹ Furthermore, oil experienced a major reversal beginning in March, and a falling U.S. dollar versus the Euro and Yen hurt some trend followers.²² Global Macro strategies which held long positions in European and emerging market equities and bonds or short positions in oil-driven currencies (Australian Dollar, Canadian Dollar) versus the Euro saw profits.²³



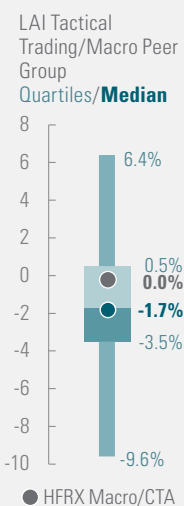
BETTER PERFORMERS

- Fundamentally-driven global macro/discretionary strategies
- Countertrend or shorter-term trend followers



WORSE PERFORMERS

- Longer-term price-trend followers (most managed futures strategies), particularly in the second quarter
- Currency strategies that were long US Dollar versus Euro or Japanese Yen



LAI Multistrategy

Funds that employ strategies consistent with at least two of the other LAI Peer Groups through a multi-manager or single-manager approach, using *active management* or *passive replication*.



MARKET ENVIRONMENT

Because global equities and credit markets prospered in the first half, this was a good environment for multistrategy funds with larger allocations to equity long/short and credit (part of event driven) strategies. Most funds in this LAI peer group profited. Some multistrategy funds, particularly those with larger allocations to managed futures (part of the LAI Tactical Trading/Macro peer group), produced losses. Funds with significant equity hedges or cash positions also fared poorly.



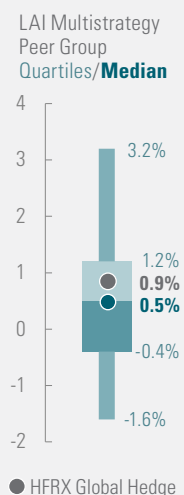
BETTER PERFORMERS

- Funds with larger allocations to equity long/short (particularly European equities, healthcare and technology) volatility strategies, and credit (particularly emerging market debt and structured credit)



WORSE PERFORMERS

- Funds with large allocations to managed futures/trend following strategies
- Funds with large equity market hedges



For Q1 2017 data please refer to the LAI MAPS Supplemental Data on GSAM.com/LAC.

Glossary Terms: Please refer to the glossary on page 26 for additional information on any term in *italics*.

The returns represent past performance. Past performance does not guarantee future results, which may vary. Current performance may be lower or higher than the performance quoted. The performance results are based on historical performance of the indices used. The results are net of fees and will vary based on market conditions and your allocation. Returns for other share classes will vary due to different fees charged. As of June 30, 2017. HFR data as of June 30, 2017 update.

13-23. Please refer to end notes on page 30 for important disclosures and additional information.

Why We Created the LAI MAPS

We believe our analysis provides new insights into the following three common questions:

- What types of liquid alternative strategies should I consider?
- Are my liquid alternative investments meeting appropriate performance expectations?
- How has the performance of liquid alternatives compared to private placement hedge funds?

As liquid alternative investments have risen in popularity, many investors considering these strategies have told us that they find themselves without a consistent evaluation framework. How, for instance, can thoughtful manager selection or performance evaluations proceed if even fund categories are open to debate? To a surprising degree, we believe the diverse LAI field lacks the most basic tools of assessment.

We believe a thoughtful evaluation framework can lead to a number of potential benefits and help mitigate certain risks, such as unrealistic return expectations or unwarranted *concentration* in a particular manager or strategy. We hope that our analysis can provide additional context, helping to fill what we view as a significant analytical vacuum.

Because LAI are structured as mutual funds, many investors have defaulted to widely respected data providers such as Morningstar, Inc. and Lipper to categorize and evaluate LAI alongside “traditional” *long-only* mutual funds. Our discussions with clients and financial advisors have revealed that many investors are overwhelmed by these LAI categorization schemas, which as of June 30, 2017, incorporated as many as 538 funds across 18 unique subcategories.²⁴

We believe investors may be better served by looking at the universe of LAI through the framework which we call a “hedge fund lens.” Hedge fund investors have historically categorized the universe of thousands of hedge funds using only five categories for selection and evaluation.²⁵

1. Equity long/short
2. Event driven
3. Relative value
4. Tactical trading/macro
5. Multistrategy

See Figure 2a on page 10 for a more comprehensive description of each investment style.

Glossary Terms: Please refer to the glossary on page 26 for additional information on any term in *italics*.

24. This includes the 17 categories in Morningstar’s “alternative” broad category group as well as the Nontraditional Bond category, which contains nontraditional and alternative funds. In an effort to distinguish funds by what they own, as well as by their prospectus objectives and styles, Morningstar developed the Morningstar Categories. While the prospectus objective identifies a fund’s investment goals based on the wording in the fund prospectus, the Morningstar Category identifies funds based on their actual investment styles as measured by their underlying portfolio holdings (portfolio and other statistics over the past three years). 25. Two large hedge fund databases, Hedge Fund Research and Credit Suisse, contain over 7,300 and 9,000 funds respectively (as of June 30, 2017), per the databases’ public websites. https://www.hedgefundresearch.com/sites/default/files/pdf/HFRI_formulaic_methodology.pdf, <http://www.hedgeindex.com/hedgeindex/en/faq.aspx?indexname=HEDG&cy=USD>

The LAI Benchmarking Problem

It is easy for investors to follow the stock and bond markets. For example, by simply turning on the news, investors can determine the performance of the S&P 500 TR Index, and, in turn, compare the index to the performance of an equity fund. However, evaluating the performance of LAI funds is more challenging, as they do not track a single commonly accepted benchmark.

We believe that comparing alternative mutual funds to their hedge fund counterparts is a helpful exercise. The goal of liquid alternative investments and hedge funds is often the same: (1) the potential for differentiated returns versus widely owned asset classes such as core equity and fixed income, (2) the potential to reduce overall portfolio risk, and (3) the potential to mitigate the effects of severe *drawdowns*, particularly in equities. Also, like hedge funds, these mutual funds attempt to reshape the risk of their underlying investments using techniques such as shorting, *derivatives*, and leverage.

We also believe that a hedge fund lens can provide investors with useful context as they consider how to benchmark the performance of these funds appropriately. Few liquid alternative funds have more than a five-year track record.²⁶ Thus, they have generally experienced only one prevailing market environment—a *bull equity market* coinciding with a period of steadily declining interest rates. For this reason, we believe it can be difficult to know what to expect from these funds as market conditions change over the longer term.

Hedge fund investors may find it somewhat easier to set appropriate long-term expectations for their investments. Well-known hedge fund index providers offer more than two decades of performance data across various hedge fund strategies and through many different types of market environments.

In summary, we believe a categorization framework which mirrors what has been adopted by the hedge fund industry may help investors construct more diversified²⁷ portfolios and set more realistic risk and return expectations for their LAI allocations. By paring down the LAI universe into hedge fund-like peer groups, we believe that the returns of LAI mutual fund peer groups and the hedge fund indices could be more comparable.

Of course, we can only look at the past, and past performance is not indicative of future performance, an observation which we believe must be part of any well-grounded LAI analysis. Additionally, there are biases presented in hedge fund data that may not be present in mutual fund data, such as *selection* and *backfill biases*. *Survivorship bias* exists in both data sets.

Glossary Terms: Please refer to the glossary on page 26 for additional information on any term in *italics*.

26. Source: Morningstar, Inc. as of June 30, 2017. 27. Diversification does not protect an investor from market risk and does not ensure a profit.

Figure 1a: The Vast LAI and Nontraditional Mutual Fund Universe as Defined by Morningstar²⁸

Morningstar, Inc. classifies 538 funds across 17 categories as liquid alternative strategies. Including funds in the Nontraditional Bond category, which contains many funds that qualify as alternative strategies, the number of funds grows to 631 funds.

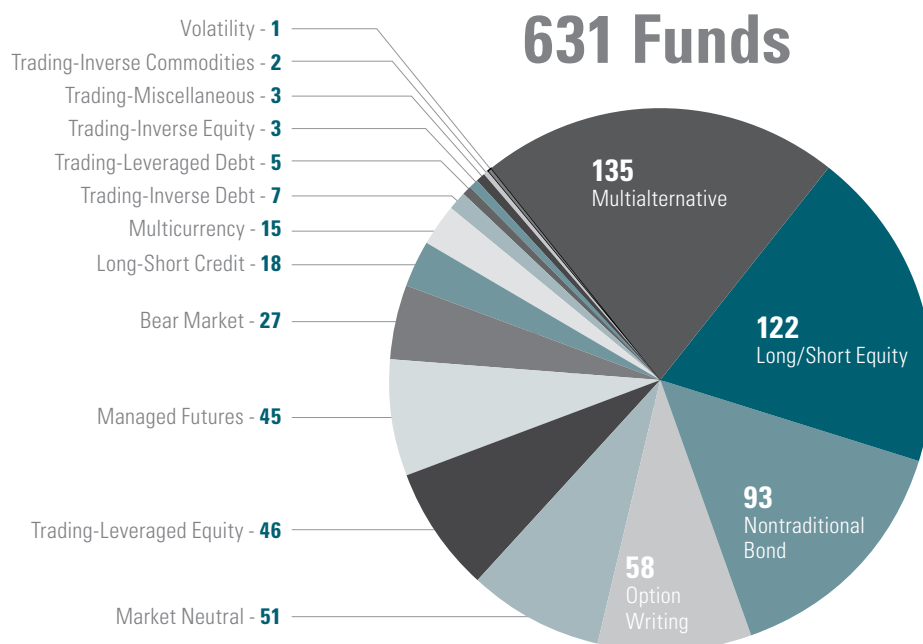
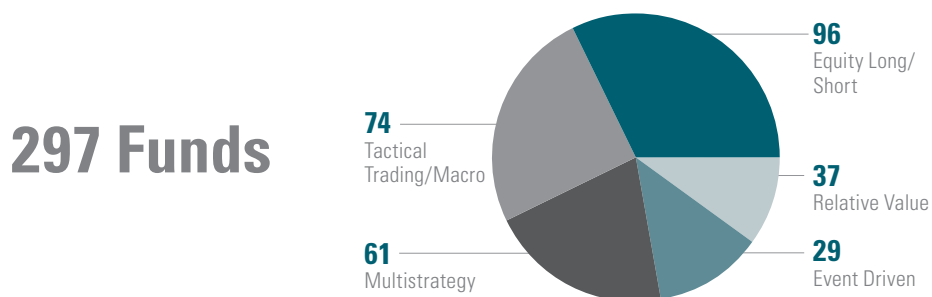


Figure 1b: The Narrower Hedge Fund-like LAI Universe as Defined by GSAM²⁹

Examination of the underlying fund characteristics reduces the number of liquid alternative funds to 297 across 5 categories.



Glossary Terms: Please refer to the glossary on page 26 for additional information on any category names.

28. Source: Morningstar, Inc. as of June 30, 2017. For illustrative purposes only. 29. Source: GSAM, Morningstar, Inc., as of June 30, 2017.

While we believe viewing LAI through a hedge fund lens can be helpful, it is important for advisors and investors to recognize the differences between hedge funds and LAI. In particular, the regulation governing each type of vehicle differs. Alternative mutual funds are regulated according to the Investment Company Act of 1940, and therefore have explicit restrictions on the amount of leverage, *illiquidity*, and concentration that they can employ. Hedge funds are less regulated vehicles generally without externally imposed investment restrictions. Of course, neither alternative mutual funds nor hedge funds are riskless investments, so investors can lose money in both types of funds. That said, we hope the analyses that follow will be helpful in evaluating and understanding liquid alternatives.³⁰

GSAM'S LAI PEER GROUP SELECTION UNIVERSE

In order to help investors and advisors make sense of the myriad of LAI offerings, we analyzed the 631 mutual funds that Morningstar, Inc. categorizes as liquid alternatives to identify those that employed an investment style that we deemed to be “hedge fund-like.”³¹ In other words, we eliminated funds that used certain nontraditional investment styles that do not closely resemble a traditional hedge fund investment strategy. Our elimination process narrowed the universe of liquid alternative investments to 297 funds. See Figures 1a and 1b on page 6.

Once we identified our universe of “hedge fund-like” LAI funds, we then assigned each fund to one of the five standard hedge fund buckets based on fund information:³² equity long/short, event driven, relative value, tactical trading/macro, and multistrategy. Next, we compared the performance of these new categories, or GSAM’s LAI Peer Groups, to the commonly used hedge fund indices for each strategy, as well as the relevant Morningstar category averages over the past one, three, and five years (ended June 30, 2017).

We hypothesized that if investors selected from a more hedge fund-like universe, then the returns, risk, and diversification³³ benefits (as measured by correlations and betas to traditional stock and bond indices) of LAI might more closely align with those of hedge funds.

Glossary Terms: Please refer to the glossary on page 26 for additional information on any term in *italics*.

30. Reasons behind the performance discrepancy between hedge funds and LAI mutual funds with similar strategies include but are not limited to leverage, illiquidity, concentration, economics and others. 31. Source: Morningstar, Inc., as of June 30, 2017. 32. Sources of information include but are not limited to: fund prospectus, fact sheet, annual/semi-annual report, and manager commentary. 33. Diversification does not protect an investor from market risk and does not ensure a profit.

LAI Dispersion

Because alternative mutual funds have the freedom to employ a broad set of portfolio management tools and invest without benchmarks, the return dispersion within any particular LAI peer group can be much wider than one would expect in traditional equity or fixed income categories. For more information on the performance dispersion of the LAI Peer Groups, please refer to pages 2-3, 13-17.

Indeed, we found that certain LAI Peer Groups (Equity Long/Short, Tactical Trading/Macro, and Multistrategy) performed similarly to the relevant hedge fund indices over longer time periods. Moreover, all five LAI Peer Groups exhibited correlations³⁴ and betas to traditional stock and bond indices in line with those of the hedge fund indices. See pages 2-3, 13-17 for the results of our in-depth analysis of each peer group. Based on these findings, we conclude that LAI have generally provided differentiated returns from traditional investments such as stocks and bonds, and that certain LAI strategies have exhibited risk and return characteristics similar to hedge funds.

GSAM'S LAI PEER GROUP SELECTION METHODOLOGY

In order to draw the line between liquid alternatives and other nontraditional investments, we started with GSAM's definition of what it means to be a liquid alternative investment, as detailed inside the cover page. We then identified conditions that we believe are necessary for nontraditional mutual funds to behave in a manner similar to hedge funds.

Our first criterion was that liquid alternatives should provide more than just long-only exposure to asset classes, namely: equities, fixed income, commodities, or currencies. Secondly, they seek to significantly hedge against potential downside risk via short positions (we used 20% of *net assets* as a threshold, the same threshold that Morningstar, Inc. uses). We believe that, without considering this narrower universe, investors could end up investing in a fund with an investment strategy that is inconsistent with their investment goals or objectives.

For **GSAM's LAI Equity Long/Short Peer Group**, we included all funds that select stocks long, using a bottom-up, top-down, fundamental or quantitative process, and then hedge by shorting stocks, stock-index futures, ETFs, or long put options (again using the 20% minimum threshold). Most of these funds were sourced from Morningstar's *Long-Short Equity* category, and a few were found in the Morningstar *Market Neutral* category.

For **GSAM's LAI Event Driven Peer Group**, we included all funds that invest in equity or debt securities in order to potentially profit from corporate events, such as mergers or bankruptcies. These strategies included the merger arbitrage funds from the Morningstar Market Neutral category, and the long/short credit strategies from Morningstar's *Nontraditional Bond* and Morningstar *Long-Short Credit* categories.

Glossary Terms: Please refer to the glossary on page 26 for additional information on any term in *italics*.

34. Past correlations are not indicative of future correlations, which may vary.

For **GSAM's LAI Relative Value Peer Group**, we included all funds that seek to capture the price differential between two similar securities. Therefore, we selected the equity market neutral and (non-merger) arbitrage funds from the Morningstar Market Neutral category.

For **GSAM's LAI Tactical Trading/Macro Peer Group**, we chose all funds that take dynamic directional (long or short) views on at least three of four asset classes (equities, fixed income, commodities, currencies) using systematic or discretionary approaches. We combined the systematic managed futures funds from the Morningstar Managed Futures category with the global macro strategies (which consistently short 20%) from the Morningstar *Multialternative* category.

And finally, for **GSAM's LAI Multistrategy Peer Group**, we selected all funds which employ strategies consistent with at least two of the other LAI peer groups using a multi-manager or single-manager approach, using active management or hedge fund replication. We found most of these funds in Morningstar's *Multialternative* category.

Figure 2a summarizes these mappings and Figure 2b demonstrates why many funds currently residing in Morningstar's alternative categories did not meet our narrower definition of a "liquid alternative." See pages 10-11.

Figure 2a: GSAM's LAI Peer Group Definitions and Mappings

Upon closer examination of the underlying fundamentals, we mapped the liquid alternative mutual fund universe to the following five peer groups.

LAI Category	Goal of Category	Morningstar Categories Most Commonly Sourced From	Investment Styles	Risks/Unfavorable Environments
Equity Long/Short	Seeks to generate returns through long and short equity views	Long-Short Equity	Bottom-Up Fundamental Top-Down Quantitative	Because these strategies generally take on some broad stock market risk, they will likely lose money in a <i>bear equity market</i> , though potentially not as much as a long-only equity investment. They will also not likely rise as much as a long-only equity investment in a bull equity market.
Event Driven	Seeks to profit from corporate events, such as mergers and bankruptcies	Market Neutral Long-Short Credit	Merger Arbitrage Long/Short Credit	Because these strategies generally take on some broad equity and credit market risks, they will likely lose money in a bear equity market, when there is low liquidity, and/or when <i>credit spreads</i> widen. These strategies also may not perform as well when there are fewer corporate events.
Relative Value	Seeks to capture the price differential between two similar securities	Market Neutral	Convertible Arbitrage Equity Market Neutral <i>Volatility Arbitrage</i>	Although these positions are typically “hedged” it is possible that both the long and the short positions can lose money at the same time. This tends to happen during periods of low liquidity or low dispersion among different securities in the same market.
Tactical Trading/Macro	Seeks to profit from long and short directional positions in equities, bonds, commodities, and currencies	Managed Futures Multialternative	<i>Trend Following</i> <i>Countertrend</i> Discretionary Global Macro/ <i>GTAA</i> <i>Absolute Return</i> <i>Currency</i>	Systematic strategies tend to perform poorly or lose money when long-term asset class (up or down) price trends are not present, or if there are short-term reversals in a long-term price trend. Discretionary strategies can perform poorly if a manager makes an incorrect selection of a group of securities or an asset class.
Multistrategy	Follows at least two of the strategies listed above, in an attempt to offer diversified [†] alternatives exposure	Multialternative	Multi-Manager Multistrategy Single-Manager Multistrategy <i>Hedge Fund Style</i> <i>Premia/Replication</i>	Multistrategy funds can employ different combinations of the above strategies, and therefore can act very differently from one another. They can target different levels of volatility and leverage, which may magnify both positive and negative returns. Multi-manager strategies can have higher fees, which may dampen returns.

Glossary Terms: Please refer to the glossary on page 26 for additional information on any term in *italics*.

For illustrative purposes only. Source: GSAM, Morningstar, Inc., as of June 30, 2017.

[†] Diversification does not protect an investor from market risk and does not ensure a profit.

Figure 2b: Excluded Nontraditional Investment Styles

We believe these investment styles, while nontraditional, do not materially reshape the risks of the underlying asset classes or provide meaningfully differentiated returns. Thus, we believe, they are unlikely to significantly reduce long-term portfolio risks or mitigate drawdowns.

Investment Style	Description	Why Not Alternative?	Morningstar Category	Suggested Benchmarks	Risks/Unfavorable Environments
Option Income	Buys and/or sells options as an overlay to long equity positions	Do not take long and short views on equities and are highly correlated to broad markets	Long-Short Equity	CBOE Buy Write/ Put Write Indices (Chicago Board Options Exchange)	These strategies, like equity long/short strategies, tend to rise less than stocks in a bull equity market and tend to fall less than stocks in a bear equity market. However, more so than in equity long/short strategies, their performance can be hampered in periods of low volatility.
Tactical Shorting	Long-only equity or <i>multi-asset</i> strategies which attempt to time down markets	Inconsistently hedged to the underlying asset classes	Long-Short Equity Multialternative	Long-only equity indices (S&P 500, MSCI World, etc.) or a balanced portfolio index (60/40, etc)	Because these strategies do not have a standard level of shorting or hedging, they may lose as much or more than a long-only investment in any environment.
Rate Hedged	Seeks to profit from long credit exposure, while hedging some <i>duration</i> risk	Insufficiently hedged to <i>credit risk</i>	Nontraditional Bond	Barclays US/Global Agg Bond, US/global high yield bond indices	These strategies often short Treasuries or employ derivatives seeking to profit from rising interest rates. These positions can lose money if interest rates do not rise. These strategies are usually unhedged against credit risk, meaning they tend to lose money when credit spreads widen, similar to long-only bond strategies.
Limited Shorting	Equity or credit strategies which hedge less than 20% consistently	Insufficiently hedged to equity or credit risk	Long-Short Equity Nontraditional bond	Long-only equity or credit indices	Because these strategies do not have a significant level of shorting or hedging, they may lose as much as a long-only investment in a bear equity market.
Leveraged Long or Short Indices	Track and seek to deliver the return (or inverse return) of a specific long-only index	Unhedged, levered vehicles	<i>Trading- Leveraged/Inverse Equity Leveraged/Inverse Debt Leveraged/Inverse Commodities Miscellaneous Bear Market</i>	The fund's reported comparative index	These are unhedged and/or levered strategies that rise and fall in step with their underlying index, but in a potentially magnified manner.

Glossary Terms: Please refer to the glossary on page 26 for additional information on any term in *italics*.

For illustrative purposes only. Source: GSAM, Morningstar, Inc., as of June 30, 2017.

LAI Peer Group Long-Term Performance Analysis

The following pages compare the returns, risk, and diversification benefits of the five LAI Peer Groups, relative to the most relevant hedge fund indices and Morningstar category averages, over the past one, three, and five years (ended June 30, 2017).

For disclosures relating to pages 13-17, please refer to page 31.

LAI Equity Long/Short Peer Group

Funds that select stocks long, using a bottom-up, top-down, fundamental or quantitative process, and then hedge with short stocks, stock index futures, ETFs, or long put options. Funds typically exhibit *notional short exposure* of at least 20% of net asset value.

OBSERVATIONS

The LAI Peer Group performed in line with the HFR indices and outperformed the Morningstar Category Average over all three time frames.

The LAI Peer Group exhibited lower correlation to the S&P 500 TR Index but higher standard deviations than both comparable HFR indices (when observable) and the Morningstar Category Average over all three time frames.

Can be found in the following Morningstar Categories:

Long-Short Equity,
Market Neutral

Sample Sizes

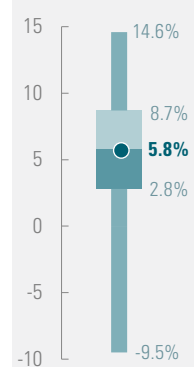
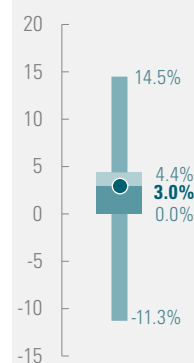
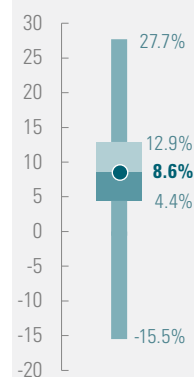
1 Year: 88

3 Year: 57

5 Year: 38



LAI Equity Long/
Short Peer Group
Quartiles/**Median**



Glossary Terms: Please refer to the glossary on page 26 for additional information on any term in *italics*.

The returns represent past performance. Past performance does not guarantee future results, which may vary. Current performance may be lower or higher than the performance quoted.

Past correlations are not indicative of future correlations, which may vary. The performance results are based on historical performance of the indices used. The results are net of fees and will vary based on market conditions and your allocation. Returns for other share classes will vary due to different fees charged. As of June 30, 2017. HFR data as of June 30, 2017 update. N/A: HFRI Data for standard deviation, correlation, and beta metrics has been omitted due to insufficient data points as the index only publishes monthly data. HFRI and HFRX and related indices are trademarks and service marks of Hedge Fund Research, Inc. ("HFR") which has no affiliation with GSAM. Information regarding HFR indices was obtained from HFR's website and other public sources and is provided for comparison purposes only. HFR does not endorse or approve any of the statements made herein.

LAI Event Driven Peer Group

Funds which invest in equity or debt securities in order to potentially profit from corporate events, such as mergers and bankruptcies. These strategies include merger arbitrage and long/short credit.

OBSERVATIONS

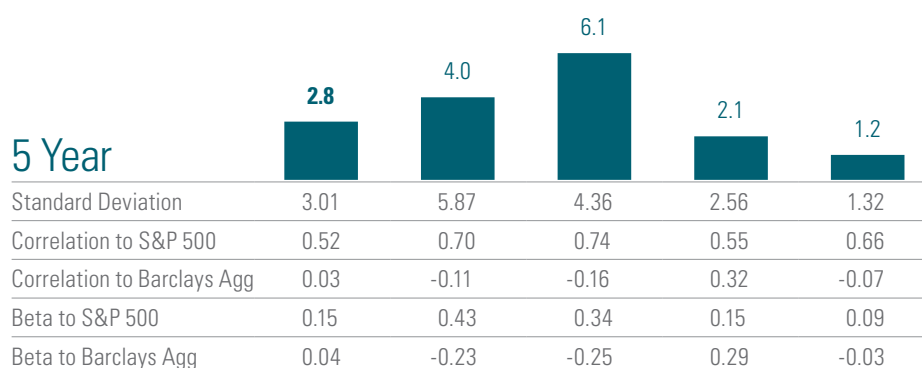
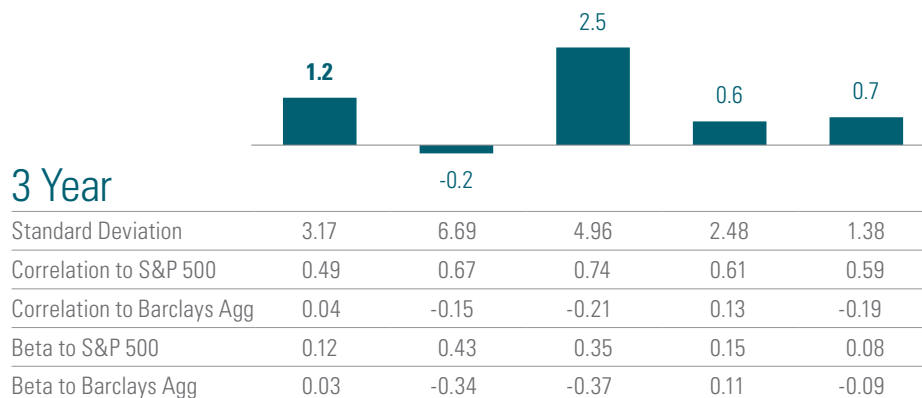
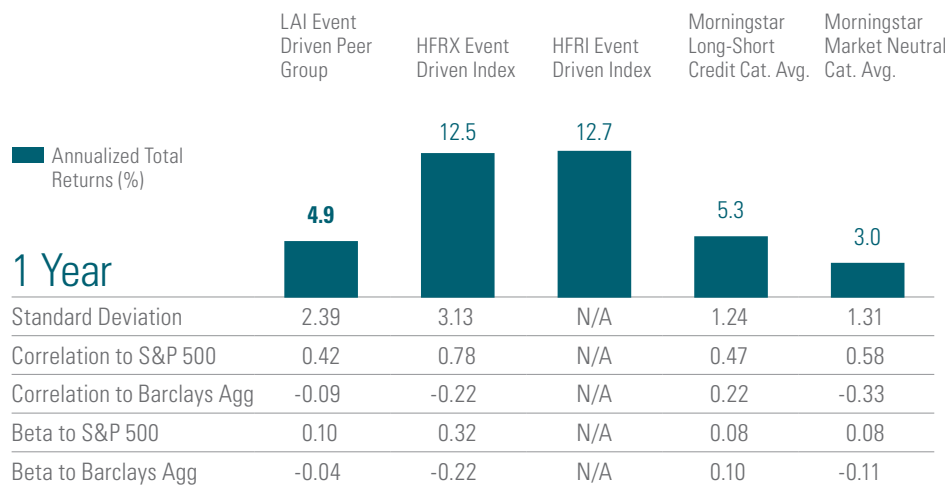
The LAI Peer Group underperformed the comparable HFR indices, particularly over the past year, but has outperformed both relevant Morningstar Category Averages over longer-term periods.

The LAI Peer Group exhibited lower correlation to the S&P 500 TR Index than the comparable HFR indices and Morningstar Category Averages (when observable) over all three time frames.

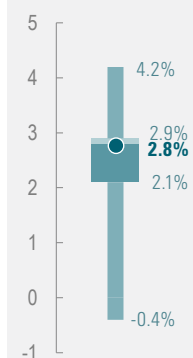
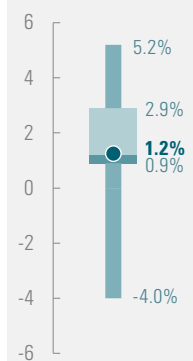
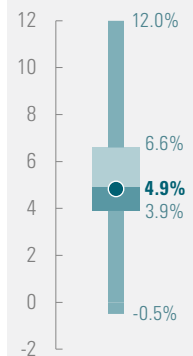
Can be found in the following Morningstar Categories:
Long-Short Credit,
Market Neutral

Sample Sizes

1 Year: 29
3 Year: 21
5 Year: 14



LAI Event Driven Peer Group Return Quartiles/Median



The returns represent past performance. Past performance does not guarantee future results, which may vary. Current performance may be lower or higher than the performance quoted.

Past correlations are not indicative of future correlations, which may vary. The performance results are based on historical performance of the indices used. The results are net of fees and will vary based on market conditions and your allocation. Returns for other share classes will vary due to different fees charged. As of June 30, 2017. HFR data as of June 30, 2017 update. N/A: HFRI Data for standard deviation, correlation, and beta metrics has been omitted due to insufficient data points as the index only publishes monthly data. Hedge Fund Research, Inc. www.hedgefundresearch.com. The above mentioned HFR indices are being used under license from Hedge Fund Research, Inc., which does not approve of nor endorse the contents of this report.

LAI Relative Value Peer Group

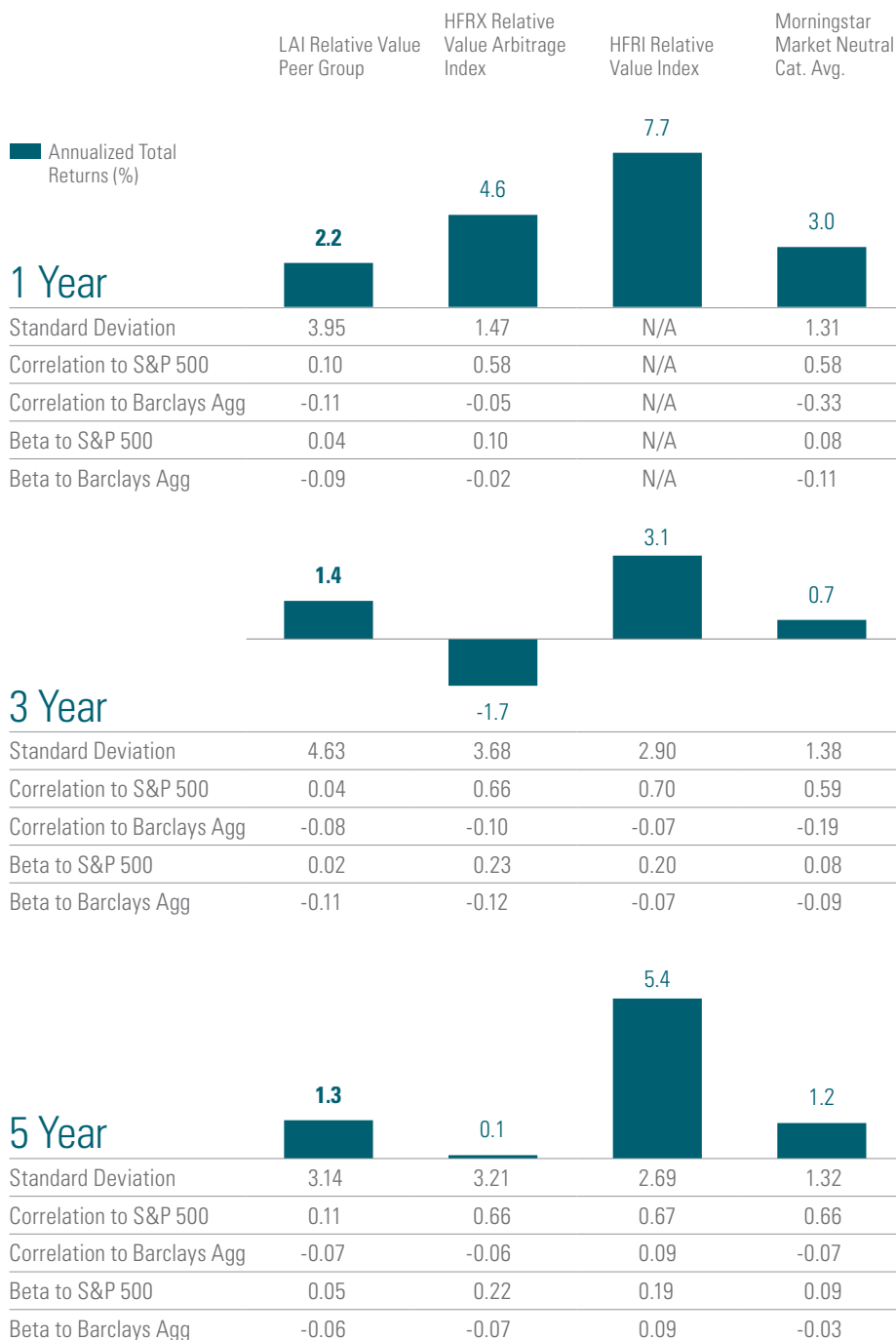
Funds which seek to capture the price differential between two similar securities. These strategies include equity market neutral, convertible arbitrage, or multi-arbitrage strategies, which generally have a beta to the relevant stock market index of 0.10 or less.

OBSERVATIONS

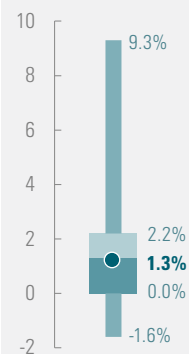
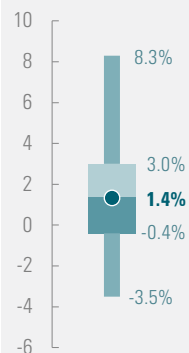
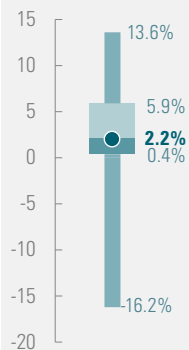
The LAI Peer Group underperformed the HFRI index in all three time frames but outperformed the HFRX index and Morningstar Category Average over longer-term periods.

The LAI Peer Group exhibited near-zero correlation to the S&P 500 TR Index, much lower than the comparable HFR indices (when observable) and Morningstar Category Average over all three time frames.

Can be found in the following Morningstar Categories:
Market Neutral
Sample Sizes
1 Year: 35
3 Year: 27
5 Year: 17



LAI Relative Value Peer Group Quartiles/**Median**



The returns represent past performance. Past performance does not guarantee future results, which may vary. Current performance may be lower or higher than the performance quoted.

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LAI Tactical Trading/Macro Peer Group

Funds which take dynamic directional (long or short) views in at least three of the four asset classes (equity, debt, commodities, and currencies) using systematic or discretionary approaches. Notional short exposure is a significant component of the net asset value (at least 20%).

OBSERVATIONS

The LAI Peer Group outperformed both comparable HFR indices over the past 3-year and 5-year periods, but underperformed the HFRI index over the past year.

The LAI Peer Group exhibited near-zero correlation to the S&P 500 TR Index over the past 3-year and 5-year periods, with higher standard deviations than both comparable HFR indices and the Morningstar Category Average.

Can be found in the following Morningstar Categories:

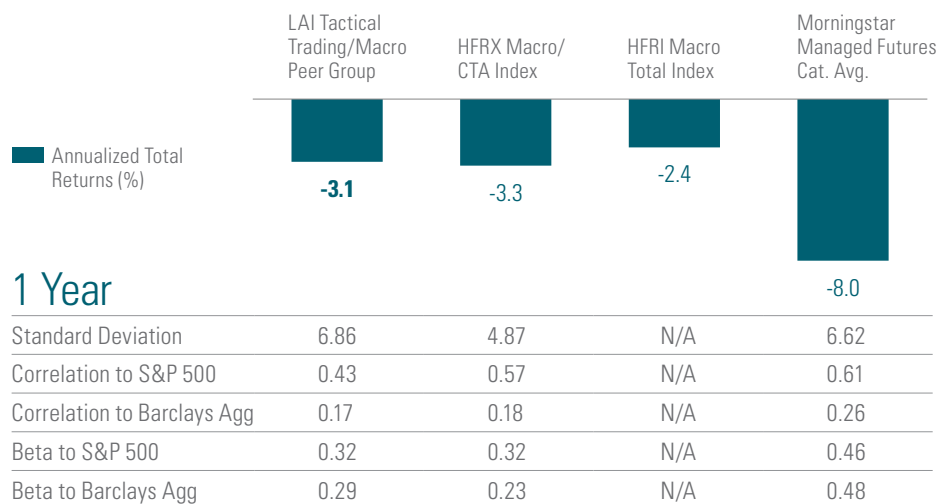
Managed Futures, Multialternative

Sample Sizes

1 Year: 70

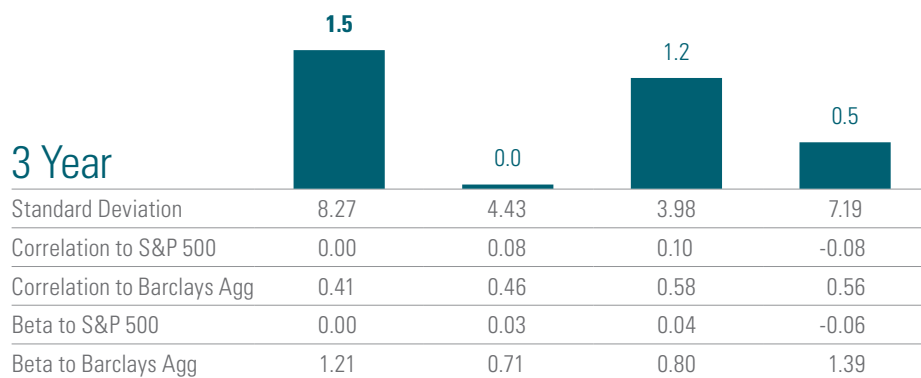
3 Year: 58

5 Year: 36



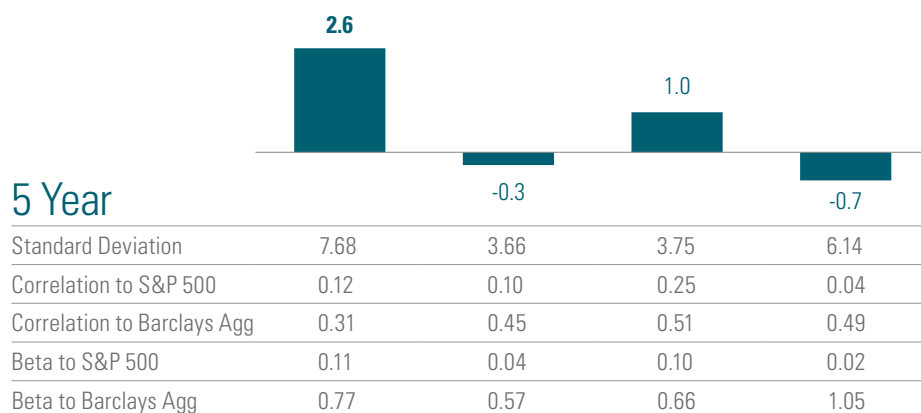
1 Year

Standard Deviation	6.86	4.87	N/A	6.62
Correlation to S&P 500	0.43	0.57	N/A	0.61
Correlation to Barclays Agg	0.17	0.18	N/A	0.26
Beta to S&P 500	0.32	0.32	N/A	0.46
Beta to Barclays Agg	0.29	0.23	N/A	0.48



3 Year

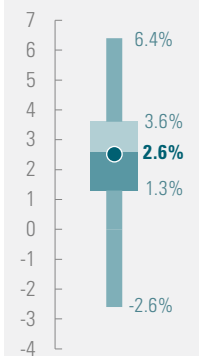
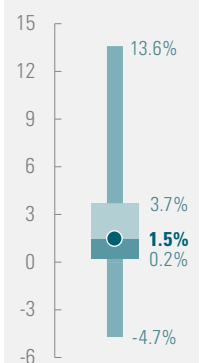
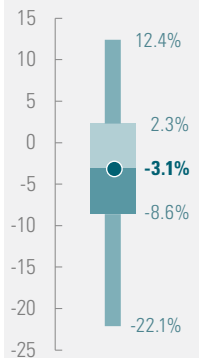
Standard Deviation	8.27	4.43	3.98	7.19
Correlation to S&P 500	0.00	0.08	0.10	-0.08
Correlation to Barclays Agg	0.41	0.46	0.58	0.56
Beta to S&P 500	0.00	0.03	0.04	-0.06
Beta to Barclays Agg	1.21	0.71	0.80	1.39



5 Year

Standard Deviation	7.68	3.66	3.75	6.14
Correlation to S&P 500	0.12	0.10	0.25	0.04
Correlation to Barclays Agg	0.31	0.45	0.51	0.49
Beta to S&P 500	0.11	0.04	0.10	0.02
Beta to Barclays Agg	0.77	0.57	0.66	1.05

LAI Tactical Trading/Macro Peer Group Quartiles/Median



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LAI Multistrategy Peer Group

Funds which employ strategies consistent with at least two of the other LAI Peer Groups through a multi-manager or single manager approach, using active management or passive replication. Shorting is a significant component of the net asset value (at least 20%).

OBSERVATIONS

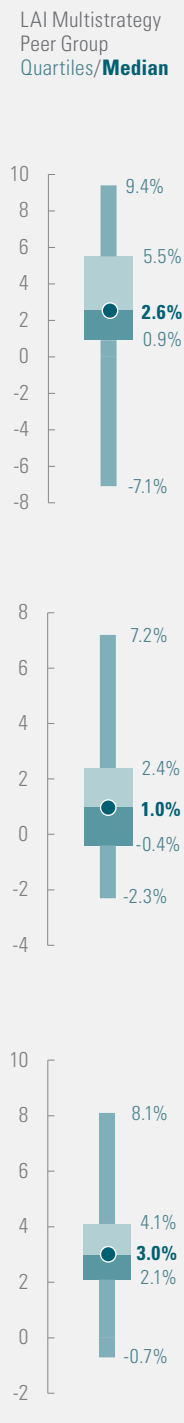
The LAI Peer Group underperformed both HFR indices over the past year, but performed more in line with those indices over the past 3-year and 5-year periods. The LAI Peer Group also outperformed the Morningstar Category Average over those periods.

The LAI Peer Group exhibited a lower correlation to the S&P 500 TR Index than both comparable HFR indices (when observable) and the Morningstar Category Average over all three time frames.

Can be found in the following Morningstar Categories:
Multialternative

Sample Sizes

1 Year: 58
3 Year: 38
5 Year: 25



The returns represent past performance. Past performance does not guarantee future results, which may vary. Current performance may be lower or higher than the performance quoted.

Past correlations are not indicative of future correlations, which may vary. The performance results are based on historical performance of the indices used. The results are net of fees and will vary based on market conditions and your allocation. Returns for other share classes will vary due to different fees charged. As of June 30, 2017. HFR data as of June 30, 2017 update. N/A: HFRI Data for standard deviation, correlation, and beta metrics has been omitted due to insufficient data points as the index only publishes monthly data. HFRI and HFRX and related indices are trademarks and service marks of Hedge Fund Research, Inc. ("HFR") which has no affiliation with GSAM. Information regarding HFR indices was obtained from HFR's website and other public sources and is provided for comparison purposes only. HFR does not endorse or approve any of the statements made herein.

Common Questions

We believe our analysis provides new insights into the following three common questions:

- What types of liquid alternative strategies should I consider?
- Are my liquid alternative investments meeting appropriate performance expectations?
- How has the performance of liquid alternatives compared to private placement hedge funds?

We believe a diversified, long-term approach to alternative mutual funds can potentially benefit many investors’ portfolios. Returning to the three questions we often hear from advisors and their clients, here is a summary of what we believe our analysis highlights as key considerations:

WHAT TYPES OF LIQUID ALTERNATIVE STRATEGIES SHOULD I CONSIDER?

We believe investors evaluating the liquid alternatives landscape should initially consider our narrowed universe of funds, categorized into five LAI Peer Groups (see page 6 for a summary of our universe). We believe this universe of funds has the potential to provide diversification³⁵ benefits for traditional stock and bond portfolios because of their differentiated investment strategies when compared to traditional asset classes. In addition, each LAI Peer Group historically has shown return drivers and characteristics that we believe can potentially play distinct roles in a portfolio in various market environments (see Figure 3). We believe investors can use our framework to better assess the universe of alternatives as they build a diversified, long-term investment portfolio in alternatives.

Figure 3: Median Returns by LAI Peer Group

Historically the performance of the LAI Peer Groups has been difficult to predict. We believe that this “quilt” pattern suggests that the effort to “time” an allocation to a given LAI strategy based solely on recent past performance may lead to poor future results.

2011	2012	2013	2014	2015	2016
2.71%	6.64%	14.20%	5.31%	1.46%	4.38%
0.30%	6.02%	6.09%	3.01%	-0.40%	3.63%
0.03%	3.68%	4.74%	2.29%	-0.70%	1.98%
-1.44%	2.33%	2.95%	1.83%	-1.43%	1.60%
-2.89%	1.52%	1.92%	0.06%	-1.97%	-0.69%

■ LAI Equity Long/Short
 ■ LAI Event Driven
 ■ LAI Relative Value
■ LAI Tactical Trading/Macro
 ■ LAI Multistrategy

These returns represent past performance. Past performance does not guarantee future results, which may vary.

35. Diversification does not protect an investor from market risk and does not ensure a profit.

ARE MY LIQUID ALTERNATIVE INVESTMENTS MEETING APPROPRIATE PERFORMANCE EXPECTATIONS?

Our analysis suggests that when viewed through a hedge fund categorization framework, certain liquid alternative investments, as discussed below, have delivered results similar to their hedge fund counterparts. For these strategies, hedge fund benchmarks may serve as an appropriate frame of reference when assessing historical performance and setting performance expectations.

HOW HAVE LIQUID ALTERNATIVE INVESTMENTS PERFORMED RELATIVE TO PRIVATE PLACEMENT HEDGE FUNDS?

Considering our narrowed universe of funds, we find that equity long/short, tactical trading/macro, and multistrategy liquid alternative solutions historically have provided mutual fund investors with a reasonable proxy for traditional hedge fund strategies (see pages 13, 16-17). However, event driven and relative value strategies historically have translated less effectively to a daily liquid format (see pages 14-15). We therefore believe that mutual fund investors looking to achieve some of the potential portfolio benefits of event driven and relative value strategies may be better off accessing them through a multistrategy solution.

There are many complexities to analyzing, categorizing, and evaluating liquid alternative investments. We hope that by re-classifying liquid alternative funds through a “hedge fund lens,” we can help investors better understand what to expect and how to assess the performance of their liquid alternative investments.



Nadia Papagiannis is the Director of Alternative Investment Strategy for GSAM's Global Third Party Distribution. In this role, Nadia is responsible for educating clients on liquid alternatives and the role they can play in portfolios.

Goldman Sachs Asset Management (GSAM) is one of the largest and most experienced alternative investment managers in the world. We have over 40 years of experience in alternative investing and manage over \$138 billion in alternative investment assets under supervision for institutional and individual investors worldwide.³⁶

36. As of June 30, 2017. Assets Under Supervision (AUS) includes assets under management and other client assets for which Goldman Sachs does not have full discretion. Asset information is reported based on the product and not the portfolio management team managing that product. In June 1997, The Goldman Sachs Group, Inc. acquired the assets and business of Commodities Corporation Limited. This group is now known as Goldman Sachs Hedge Fund Strategies LLC.

Calculation

GSAM's Liquid Alternative Investments Calculation Methodology

For each fund in the LAI Peer Groups, we applied the least expensive share class based on the prospectus net expense ratio. We then calculated the performance and risk (measured by standard deviation) metric for each unique fund in the peer group using data sourced from Morningstar, Inc., and took the median observation of each peer group. The median observation was used to exclude the distorting effect of outliers. For context, we also report the range of outcomes (dispersion), which includes the minimum return, 25th percentile return, 50th percentile return (or median), 75th percentile return, and maximum return for each time period. Mutual fund performance data was sourced from Morningstar, Inc. Morningstar category average performance information was sourced from Morningstar, Inc. Hedge Fund Research ("HFR") indices were sourced from Hedge Fund Research, Inc. www.hedgefundresearch.com. Market index data was sourced from Bloomberg and Morningstar, Inc. We calculated data for one-year, three-year, and five-year time segments ended June 30, 2017 as such periodicity better captures different market cycles and is consistent with common industry reporting.

One-Year Calculations. The HFRI indices only publish data on a monthly basis. To avoid showing calculations that lack statistical significance, the HFRI standard deviation, correlation, and beta statistics were omitted (because there are only 12 observations).

Standard Deviation: GSAM used the smallest periodicity available for such calculations. This was dictated by Morningstar, Inc., which performs such calculations using daily data.

Beta and Correlation: GSAM used the most granular periodicity available for such calculations. This was dictated by Morningstar, Inc., which performs such calculations using weekly data.

Calculations of Three Years or More.

Standard Deviation: GSAM used monthly data to perform these calculations, as this is industry standard.

Beta and Correlation: GSAM used monthly data to perform these calculations, as this is industry standard.

Methodology

MATERIAL DIFFERENCES BETWEEN SUBJECTS OF COMPARISON:³⁷

GSAM's LAI Peer Groups: We note that there are limitations within our Peer Group methodology. These Peer Groups were created and reviewed only by GSAM. These are not indices, in that there is no weighting scheme employed to arrive at a Peer Group statistic; the median observation is always used. There is survivorship bias, in that accurate and complete data on liquid alternative mutual funds that liquidated prior to this analysis is not obtainable. The Peer Groups were based on our own *selection bias*, in that we selected funds from the universe that Morningstar, Inc. already deemed alternative. There is backfill bias, in that we intentionally analyze the back history of the funds in the Peer Groups. This backfill bias is not the same as in hedge fund indices, however, because hedge funds can choose if and when to report their performance data, while mutual funds cannot.

Morningstar Category Averages:³⁸ The Morningstar Category Averages are created and reviewed only by Morningstar, Inc. and are publically available. According to Morningstar, Inc., www.morningstar.com, they are simple weighted averages of all share classes of funds in a Morningstar category (also created and reviewed by Morningstar, Inc.), and published on a monthly and year-end basis. These averages have survivorship bias, as obsolete fund returns are removed from the monthly category average performance numbers. These averages do not have backfill or selection bias, as all mutual funds are required to publically report data upon inception. Morningstar, Inc., however, selects which funds belong in each category.

HFRI Indices: We chose to use the HFRI indices as they are widely used indices for gauging hedge fund performance. These are created and reviewed only by Hedge Fund Research, and are available with a subscription. According to Hedge Fund Research as of June 30, 2017, https://www.hedgefundresearch.com/sites/default/files/pdf/HFRI_formulaic_methodology.pdf, the HFR Hedge Fund Database is comprised of over 7300 funds and fund of funds worldwide. Information on the hedge fund universe of established and emerging managers is collected directly from the fund managers and/or their respective offshore administrators, while other pertinent information is culled from offering memoranda, onsite visits, and due diligence interviews. HFR requests that the client fund managers report performance by the 15th of each month. It also

Glossary Terms: Please refer to the glossary on page 26 for additional information on any term in *italics*.

37. Source: GSAM, as of June 30, 2017. 38. In an effort to distinguish funds by what they own, as well as by their prospectus objectives and styles, Morningstar developed the Morningstar Categories. While the prospectus objective identifies a fund's investment goals based on the wording in the fund prospectus, the Morningstar Category identifies funds based on their actual investment styles as measured by their underlying portfolio holdings (portfolio and other statistics over the past three years).

directly integrates the fund managers with the HFR Hedge Fund Database by providing them with their own website for updating their fund profile. In this manner HFR ensures current and accurate fund data that flows seamlessly from fund managers. The HFRI Monthly Indices (“HFRI”) are a series of benchmarks designed to reflect hedge fund industry performance by constructing equally weighted composites of constituent funds, as reported by the hedge fund managers listed within HFR Database. The HFRI range in breadth from the industry-level view of the HFRI Fund Weighted Composite Index, which encompasses over 2000 funds, to the increasingly specific-level of the sub-strategy classifications.

In order to be considered for inclusion in the HFRI, a hedge fund manager must submit a complete set of information to HFR Database. Funds are eligible for inclusion in the HFRI the month after their addition to HFR Database. For instance, a fund that is added to HFR Database in June is eligible for inclusion in the indices upon reporting their July performance. Additionally, all HFRI constituents are required to report monthly, net of all fees, performance and assets under management in US Dollars. Constituent funds must have either (a) \$50 million under management or (b) a track record of greater than twelve (12) months. The HFRI Monthly Indices (HFRI) are fund-weighted (equal-weighted) indices. Unlike asset-weighting, the equal-weighting of indices presents a more general picture of performance of the hedge fund industry. Any bias towards the larger funds potentially created by alternative weightings is greatly reduced, especially for strategies that encompass a small number of funds.

HFRX Indices:³⁹ We chose to use the HFRX indices as they are widely used indices for gauging hedge fund performance. These indices are created and reviewed by Hedge Fund Research, and are similar to the HFRI indices, except they are investable and are asset-weighted. According to their methodology document, https://www.hedgefundresearch.com/sites/default/files/pdf/HFRX_formulaic_methodology.pdf, HFRX Indices are designed to be investable, offer full transparency, daily pricing and consistent fund selection, as well as stringent risk management and strict reporting standards. Constituents of all indices are selected from an eligible pool of the more than 6800 funds that report to the HFR Database. These funds are screened for various reporting characteristics, asset and duration of track record qualities, unique fund strategy inclusion, and whether they are open to accepting new investment via a fully transparent managed account format.

39. Source: Hedge Fund Research, Inc. www.hedgefundresearch.com as of June 30, 2017. https://www.hedgefundresearch.com/index.php?fuse=hfrx_strats

HFR Database Primary Strategy Descriptions: According to Hedge Fund Research, https://www.hedgefundresearch.com/sites/default/files/pdf/HFR_strategy_classifications.pdf, in completing a fund profile for inclusion in HFR subscriber database, an investment manager qualitatively chooses one of four primary strategies, as defined below:

Equity Hedge: Equity Hedge strategies maintain positions both long and short in primarily equity and equity derivative securities. A wide variety of investment processes can be employed to arrive at an investment decision, including both quantitative and fundamental techniques; strategies can be broadly diversified⁴⁰ or narrowly focused on specific sectors and can range broadly in terms of levels of *net exposure*, leverage employed, holding period, concentrations of market capitalizations and valuation ranges of typical portfolios. Equity Hedge managers would typically maintain at least 50% exposure to, and may in some cases be substantially entirely invested in equities, both long and short.

Event Driven: Investment Managers who maintain positions in securities of companies currently or prospectively involved in corporate transactions of a wide variety, including but not limited to: mergers, restructurings, financial distress, tender offers, shareholder buybacks, debt exchanges, security issuance or other capital structure adjustments. Security types can range from most senior in the capital structure to most junior or subordinated, and frequently involve additional derivative securities. Event Driven exposure contains a combination of sensitivities to equity markets, credit markets and idiosyncratic, company specific developments. Investment theses are typically predicated on fundamental characteristics (as opposed to quantitative), with the realization of the thesis predicated on a specific development exogenous to the existing capital structure.

Relative Value: Investment Managers who maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities. Managers employ a variety of fundamental and quantitative techniques to establish investment theses, and security types range broadly across equity, fixed income, derivative or other security types. Fixed income strategies are typically quantitatively driven to measure the existing relationship between instruments and, in some cases, identify attractive positions in which the risk adjusted spread between these instruments represents an attractive opportunity for the investment manager. RV positions may be involved in corporate transactions also, but as opposed to Event Driven exposures, the investment thesis is predicated on realization of a

Glossary Terms: Please refer to the glossary on page 26 for additional information on any term in *italics*.

40. Diversification does not protect an investor from market risk and does not ensure a profit.

pricing discrepancy between related securities, as opposed to the outcome of the corporate transaction.

Macro: Investment Managers which trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets. Managers employ a variety of techniques, both discretionary and systematic analysis, combinations of top-down and bottom-up theses, quantitative and fundamental approaches and long and short term holding periods. Although some strategies employ RV techniques, Macro strategies are distinct from RV strategies in that the primary investment thesis is predicated on predicted or future movements in the underlying instruments, rather than realization of a valuation discrepancy between securities. In a similar way, while both Macro and Equity Hedge managers may hold equity securities, the overriding investment thesis is predicated on the impact movements in underlying macroeconomic variables may have on security prices, as opposed to EH, in which the fundamental characteristics on the company are the most significant and integral to investment thesis.

Fund of Funds: Fund of Funds invest with multiple managers through funds or managed accounts. The strategy designs a diversified⁴¹ portfolio of managers with the objective of significantly lowering the risk (volatility) of investing with an individual manager. The Fund of Funds manager has discretion in choosing which strategies to invest in for the portfolio. A manager may allocate funds to numerous managers within a single strategy, or with numerous managers in multiple strategies. The minimum investment in a Fund of Funds may be lower than an investment in an individual hedge fund or managed account. The investor has the advantage of diversification among managers and styles with significantly less capital than investing with separate managers.

41. Diversification does not protect an investor from market risk and does not ensure a profit.

Liquid Alternatives Glossary



Absolute Return

Performance generated using the risk-free rate as a starting point rather than the returns of an index like the S&P 500.

Absolute Return Currency

An investment strategy which takes long and short positions in various global currencies, as opposed to strategies which take primarily long foreign currency and short US dollar/home currency position.

Active Management

An investment strategy that does not seek to closely track a specific benchmark index.

Arbitrage

See Relative Value.

Backfill Bias

An effect that can make an index or category average performance better than the actual experience of a hedge fund or mutual fund investor. Backfill bias happens when a fund chooses to report to a data base sometime after inception, and the data provider allows the past history of the fund to be incorporated into the indices.

Bear Equity Market

A period in which major stock market indices fall.

Bear Market

A Morningstar alternative category. According to Morningstar Inc.'s methodology document, http://morningstardirect.morningstar.com/clientcomm/Morningstar_Categories_US_April_2016.pdf, these funds dedicate a majority of the fund's assets to equities. Most of the portfolio is dedicated to short stock positions in an attempt to take advantage of anticipated market or stock declines producing a net exposure to equities of less than or equal to negative 20%. Some managers invest the proceeds from their short positions in low-risk assets, while others dedicate a portion to long stock positions in order to hedge against broad market rallies. In the event of a broad market rally, these funds will lose money on their short positions but will experience a gain on their long positions. Short positions typically account for 60% to 85% of fund active exposure, although some funds may be 100% short after excluding regulatory collateral. These funds will typically have a beta of less than negative 0.3 to equity indexes such as the S&P 500 or MSCI World.

Beta

A measure of the sensitivity of a security's or portfolio's returns to market moves; incorporates both the direction and magnitude of the response.

Bottom-up

An investment strategy that starts by selecting individual securities, rather than countries or sectors.

Bull Equity Market

A period in which major stock market indices rise.

Concentration

The percentage of a fund invested in a single issuer or type of security.

Convertible Arbitrage

A strategy that generally takes long positions in convertible bonds and short positions in the stock of the same issuer.

Corporate Events

Significant changes in publicly traded corporations, such as mergers, acquisitions, spin offs, restructurings, recapitalizations, bankruptcies, and changes in management.

Correlation

A measure of the extent to which two or more variables fluctuate together; can be used to indicate the likelihood of a directional relationship between securities, portfolios, or asset classes.

Countertrend

A systematic trading strategy that attempts to profit from price trend reversals or lack of longer-term price trends.

Credit Risk

The risk that a borrower will default on a debt.

Credit Spread

The difference in yield between two debt instruments of similar maturity but different credit quality.

Derivative

A financial instrument whose price is dependent upon or derived from an underlying asset or security.

Directional

A way to describe a position in a portfolio; long or short positions, viewed independently.

Discretionary

Sourced primarily from a manager's knowledge.

Dispersion

A measure of the range of performance results across securities, funds, etc.

Drawdown

The peak-to-trough decline of an investment.

Duration

A measure of a bond's price sensitivity to a change in interest rates.

Equity Market Neutral

Strategies that match long stocks with short stocks in order to reduce most of the portfolio's systematic or broad market risk.

Equity Long/Short

An investment strategy that selects stocks to potentially profit from both rising and falling stock prices. Also a Liquid Alternative Investment Peer Group as defined by GSAM.

Event Driven

An investment strategy that seeks profit from company events, such as mergers or bankruptcies. Also a Liquid Alternative Investment Peer Group as defined by GSAM.

Fundamental

An investment process that attempts to value securities based on the financial statements and intangible characteristics (such as management quality, brand, or competitive advantages) of the underlying companies.

GTAA

An acronym for Global Tactical Asset Allocation, which is a long-only (see definition for long-only), global macro strategy (see definition for Macro or Global Macro).

Source: GSAM, as of June 30, 2017.

Hedge

Establishing a position to reduce the risk of adverse price movements in a strategy.

Hedge Fund

Private, pooled investment vehicles that are offered via private placement to qualified investors, including certain high net worth individuals and institutional investors.

Hedge Fund Replication

A quantitative strategy that seeks to mimic the returns of a hedge fund index.

Hedge Fund Style Premia

A quantitative strategy that seeks to mimic the returns of hedge fund factors, which are distinct attributes of a portfolio which are deemed responsible for returns, such as value, momentum or size.

High yield (or junk) bond

Lowly rated bonds with ratings below "BBB" from S&P and below "Baa" from Moody's. Yields are usually higher for junk bonds because of the higher default risk of the issuers.

Illiquid investment

As defined by the 1940 Act, any investments not reasonably expected to be able to be sold or disposed of in current market conditions in seven calendar days or less without significantly changing the market value of the investment.

Illiquidity

The inability to quickly convert a security or asset into cash without incurring a large loss.

Junk

See high yield.

Leverage

The use of financial instruments or borrowed capital, in excess of the original investment's value, to increase the potential risk and return of an investment.

Long/Long-only

Investments that attempt to profit when positions rise in value. See definition for shorting below.

Long/Short

The buying of a security with the expectation that the asset will rise in value, combined with the selling of a borrowed security with the expectation that the asset will fall in value.

Long/Short Credit

The buying of a security with credit risk (a long bond or short credit default swap, for example) with the expectation that the asset will rise in value, combined with the selling of a security with credit risk (a short bond or long credit default swap, for example) with the expectation that the asset will fall in value. Also a Morningstar alternative category. According to Morningstar Inc.'s methodology document, http://morningstardirect.morningstar.com/clientcomm/Morningstar_Categories_US_April_2016.pdf, funds in the Long-Short Credit category seek to profit from changes in the credit conditions of individual bond issuers and credit markets segments represented by credit indexes. Typically, portfolios purchase bonds, or sell credit default swaps, with the expectation of profiting from narrowing credit spreads; or, the funds sell bonds, or purchase credit default swaps, with the expectation of profiting from the deteriorating credit of the underlying issuer. This category includes funds

that use credit derivatives to hedge systematic risk of credit markets to isolate credit selection returns. Funds in this category frequently use derivatives to hedge interest rate risk.

Long/Short Equity

A Morningstar alternative category. According to Morningstar Inc.'s methodology document, http://morningstardirect.morningstar.com/clientcomm/Morningstar_Categories_US_April_2016.pdf, long/short portfolios hold sizable stakes in both long and short positions in equities and related derivatives. Some funds that fall into this category will shift their exposure to long and short positions depending on their macro outlook or the opportunities they uncover through bottom-up research. Some funds may simply hedge long stock positions through exchange-traded funds or derivatives. At least 75% of the assets are in equity securities or derivatives.

Macro or Global Macro

Strategies that take directional long and short positions across all asset classes.

Managed Futures

A trading strategy that utilizes futures and option contracts to gain exposure to financial instruments; trading programs can generally be classified as either technical or fundamental; managers are often referred to as "Trend Followers" or "Momentum Traders." The strategies are generally run by CTAs (Commodity Trading Advisors) or CPOs (Commodity Pool Operators). Also a Morningstar alternative category. According to Morningstar Inc.'s methodology document, http://morningstardirect.morningstar.com/clientcomm/Morningstar_Categories_US_April_2016.pdf, these funds primarily trade liquid global futures, options, swaps, and foreign exchange contracts, both listed and over-the-counter. A majority of these funds follow trend-following, price-momentum strategies. Other strategies included in this category are systematic mean reversion, discretionary global macro strategies, commodity index tracking, and other futures strategies. More than 60% of the fund's exposure is invested through derivative securities. These funds obtain exposure primarily through derivatives; the holdings are largely cash instruments.

Market Neutral

A Morningstar alternative category. According to Morningstar Inc.'s methodology document, http://morningstardirect.morningstar.com/clientcomm/Morningstar_Categories_US_April_2016.pdf, these funds attempt to reduce systematic risk created by factors such as exposures to sectors, market-cap ranges, investment styles, currencies, and/or countries. They try to achieve this by matching short positions within each area against long positions. These strategies are often managed as beta-neutral, dollar-neutral, or sector-neutral. A distinguishing feature of funds in this category is that they typically have low beta exposures (< 0.3 in absolute value) to market indices such as MSCI World. In attempting to reduce systematic risk, these funds put the emphasis on issue selection, with profits dependent on their ability to sell short and buy long the correct securities.

Median

The middle value in a consecutive series.

Merger Arbitrage

The strategy of buying the stock of a target company and shorting the stock of the acquirer.

Momentum

An investment style that buys (sells short) assets that have recently risen (declined) in price, expecting that this trend will continue.

Source: GSAM, as of June 30, 2017.

Multialternative

A Morningstar alternative category. According to Morningstar Inc.'s methodology document, http://morningstardirect.morningstar.com/clientcomm/Morningstar_Categories_US_April_2016.pdf, these funds offer investors exposure to several different alternative investment tactics. Funds in this category have a majority of their assets exposed to alternative strategies. An investor's exposure to different tactics may change slightly over time in response to market movements. Funds in this category include both funds with static allocations to alternative strategies and funds tactically allocating among alternative strategies and asset classes. The gross short exposure is greater than 20%.

Multi-asset

An investment strategy that invests in more than one of the four asset classes (equities, fixed income, currencies, and commodities).

Multicurrency

A Morningstar alternative category. According to Morningstar Inc.'s methodology document, http://morningstardirect.morningstar.com/clientcomm/Morningstar_Categories_US_April_2016.pdf, currency portfolios invest in multiple currencies through the use of short-term money market instruments; derivative instruments including and not limited to forward currency contracts, index swaps, and options; and cash deposits. These funds include both systematic currency traders and discretionary traders.

Multistrategy

Funds employing more than one of the LAI Peer Group strategies, as defined by GSAM.

Mutual Fund

Public, pooled investment vehicles that are registered under the Investment Company Act of 1940 (in the US) and open-ended (i.e., additional shares may be issued).

Net Assets

Calculated as total assets less total liabilities of a mutual fund, as reported in the annual and semi-annual reports.

Net Exposure

Calculated as long exposure less absolute value of short exposure of underlying investments in a fund; one indication of the market risk a strategy employs.

Nontraditional Bond

A Morningstar category. According to Morningstar Inc.'s methodology document, http://morningstardirect.morningstar.com/clientcomm/Morningstar_Categories_US_April_2016.pdf, the Nontraditional Bond category contains funds that pursue strategies divergent in one or more ways from conventional practice in the broader bond-fund universe. Many funds in this group describe themselves as "absolute return" portfolios, which seek to avoid losses and produce returns uncorrelated with the overall bond market; they employ a variety of methods to achieve those aims. Another large subset are self-described "unconstrained" portfolios that have more flexibility to invest tactically across a wide swath of individual sectors, including high-yield and foreign debt, and typically with very large allocations. Funds in the latter group typically have broad freedom to manage interest-rate sensitivity, but attempt to tactically manage those exposures in order to minimize volatility. The category is also home to a subset of portfolios that attempt to minimize volatility by maintaining short or ultra-short duration portfolios,

but explicitly court significant credit and foreign bond market risk in order to generate high returns. Funds within this category often will use credit default swaps and other fixed income derivatives to a significant level within their portfolios.

Notional Short Exposure

The total short market exposure of a specific holding or a portfolio, including the inherent leverage of derivatives, derived from annual and semi-annual report data.

Option Writing

A Morningstar alternative category. According to Morningstar Inc.'s methodology document, http://morningstardirect.morningstar.com/clientcomm/Morningstar_Categories_US_April_2016.pdf, option writing funds aim to generate a significant portion of their returns from the collection of premiums on options contracts sold. This category includes covered call strategies, put writing strategies, as well as options strategies that target returns primarily from contract premiums. In addition, option writing funds may seek to generate a portion of their returns, either indirectly or directly, from the volatility risk premium associated with options trading strategies.

Put Option

A privilege, sold by one party to another, that gives the buyer the right, but not the obligation, to sell (put) an underlying asset at an agreed-upon price within a certain period or on a specific date.

Quantitative

Sourced primarily by a computer program.

Relative Value

Long and short positions in similar securities, viewed together.

Risk-Free Rate

The theoretical rate of return of an investment with zero risk; the rate represents the interest an investor would expect from a risk-free investment over a specific time period; US Treasury securities are often used as a proxy for risk-free investing.

Selection Bias

An effect that can make an index, peer group, or category average performance better than the actual experience of a hedge fund or mutual fund investor. Selection bias happens when the funds themselves, or another group of individuals, select the constituents of an index, category average, peer group, or database.

Short

The selling of a borrowed security with the expectation that the asset will fall in value.

Standard Deviation

A measure of volatility that indicates the "risk" or degree of potential price movements associated with an investment.

Structured Credit

A method of pooling debt obligations and then redistributing the cash flows.

Survivorship bias

An effect that can make an index or category average performance better than the actual experience of the hedge fund or mutual fund investor. Survivorship bias happens when hedge funds or mutual fund returns are dropped from the past history of an index or category average when the hedge fund chooses to stop reporting or when the hedge fund or mutual fund liquidates.

Source: GSAM, as of June 30, 2017.

Systematic

See Quantitative.

Tactical Trading

Strategies which can take long and short directional positions in any asset class that change regularly in response to market views.

Top-down

An investment strategy that starts by selecting securities based on their country, sector, or industry.

Total Return

Gains consisting of both price appreciation and yield.

Trading

A set of Morningstar alternative categories. According to Morningstar, Inc., http://morningstardirect.morningstar.com/clientcomm/Morningstar_Categories_US_April_2016.pdf.

Trading-Inverse Commodities

These funds seek to generate returns equal to an inverse multiple of short-term returns of a commodity index. The compounding of short-term returns results in performance that does not correspond to those of investing in the index with external leverage. For example, a fund attempting to achieve negative 2 times the returns of a given index on a daily basis is unlikely to deliver anything like negative 2 times the index's returns over periods longer than one day. Many of these funds seek to generate a multiple typically negative 1 to negative 3 times of the daily or weekly return of the reference index. Trading funds are not considered suitable for a long-term investor and are designed to be used by active traders.

Trading-Inverse Debt

These funds seek to generate returns equal to an inverse fixed multiple of short-term returns of a fixed-income index. The compounding of short-term returns results in performance that does not correspond to those of investing in the index with external leverage. For example, a fund attempting to achieve negative 2 times the returns of a given index on a daily basis is unlikely to deliver anything like negative 2 times the index's returns over periods longer than one day. Many of these funds seek to generate a multiple typically negative 1 to negative 3 times of the daily or weekly return of the reference index. Trading funds are not considered suitable for a long-term investor and are designed to be used by active traders.

Trading-Inverse Equity

These funds seek to generate returns equal to an inverse fixed multiple of short-term returns of an equity index. The compounding of short-term returns results in performance that does not correspond to those of investing in the index with external leverage. For example, a fund attempting to achieve negative 2 times the returns of a given index on a daily basis is unlikely to deliver anything like negative 2 times the index's returns over periods longer than one day. Many of these funds seek to generate a multiple typically negative 1 to negative 3 times the daily or weekly return of the reference index. Trading funds are not considered suitable for a long-term investor and are designed to be used by active traders.

Trading-Leveraged Commodities

These funds seek to generate returns equal to a fixed multiple of short-term returns of a commodity index. The compounding of short-term returns results in performance that does not correspond to those of investing in the index with external leverage. For example, a fund attempting to achieve 2 times the returns of a given index on a daily basis is unlikely to deliver anything

Source: GSAM, as of June 30, 2017.

like 2 times the index's returns over periods longer than one day. Many of these funds seek to generate a multiple of the daily or weekly return of the reference index. Trading funds are not considered suitable for a long-term investor and are designed to be used by traders.

Trading-Leveraged Debt

These funds seek to generate returns equal to a fixed multiple of the short-term returns of a fixed-income index. The compounding of short-term returns results in performance that does not correspond to those of investing in the index with external leverage. For example, a fund attempting to achieve 2 times the returns of a given index on a daily basis is unlikely to deliver anything like 2 times the index's returns over periods longer than one day. Many of these funds seek to generate a multiple of the daily or weekly return of the reference index. Trading funds are not considered suitable for a long-term investor and are designed to be used by active traders.

Trading-Leveraged Equity

These funds seek to generate returns equal to a fixed multiple of the short-term returns of an equity index. The compounding of short-term returns results in performance that does not correspond to those of investing in the index with external leverage. For example, a fund attempting to achieve 2 times the returns of a given index on a daily basis is unlikely to deliver anything like 2 times the index's returns over periods longer than one day. Many of these funds seek to generate a multiple of the daily or weekly return of the reference index. Trading funds are not considered suitable for a long-term investor and are designed to be used by active traders.

Trading-Miscellaneous

These funds seek to generate returns equal to a fixed multiple (positive or negative) of short-term returns of an index. The reference index for this category is not equity, fixed-income, or commodity linked. The compounding of short-term returns results in performance that does not correspond to those of investing in the index with external leverage. For example, a fund attempting to achieve 2 times the returns of a given index on a daily basis is unlikely to deliver anything like 2 times the index's returns over periods longer than one day. Many of these funds seek to generate a multiple of the daily or weekly return of the reference index. Trading funds are not considered suitable for a long-term investor and are designed to be used by active traders.

Trend Following

See Managed Futures.

Value

An investment style that buys (shorts) assets priced low (high) relative to their perceived value.

Volatility

The tendency of a security or index to swing in price; often calculated using standard deviation.

Volatility Arbitrage

An investment strategy that involves buying and selling options which are perceived to be mispriced.

End Notes

1. Source, Bloomberg, Hedge Fund Research, Inc.
2. Source, Hedge Fund Research, Inc. <https://www.hedgefundresearch.com/news/inflows-drive-hedge-fund-capital-to-milestone>
3. Source, Strategic Insights, Simfund. Flows for alternative active mutual funds were \$1.81 billion in Q2.
4. Source, GSAM, Morningstar Inc. In the first half of 2017, 21 funds within the GSAM LAI Multistrategy Peer Group gathered inflows totalling \$1.325 billion, and 61% of those inflows, or \$0.805 billion came from funds employing quantitative alternative beta strategies, per their most recent prospectus and public marketing materials. These strategies have prospectus net expense ratios below the Morningstar Multialternative Category Average of 1.83%.
5. Source: http://www.finalalternatives.com/node/35487?mc_cid=25af557051&mc_eid=7067b1975
6. Source: Compustat, FactSet, and Goldman Sachs Global Investment Research. As of July 10, 2017 Where to Invest Now: Slow Motion Market July 2017 GIR.
7. Source: Bloomberg. Bonds as defined by the Bloomberg Barclays US Aggregate Bond Index LBUSTRUU:IND from 2/24/17 to 3/13/17, and the 10-year U.S Treasury yield USGG10YR:IND rose from 2.3117 to 2.6258.
8. Source: liquid alternatives as defined by the median return of the constituent funds in the GSAM LAI Multistrategy Peer Group, fell -0.11% during this period.
9. Source: the median return of the constituents of the GSAM LAI Equity Long/Short Peer Group was 0.23% and the median return of the constituents of the GSAM LAI Relative Value Peer Group was 0.10% from 2/24/17 to 3/13/17.
10. Source: GSAM, HFR. Alternatives as defined by the HFRI Fund of Funds Composite Index. Since inception of this index in January 1990, alternatives have outperformed the S&P 500 TR Index by an average of 23% during the five largest drawdown periods and the Bloomberg Barclays Aggregate Bond TR Index by an average of 16% during the five largest rising rate periods for the 10-year U.S. Treasury Bond.
11. Source: GSAM, Bloomberg. The best performing sector in the S&P 500 TR for the YTD through June 2017 was Information Technology up 17.23% and the worst performing sector was Energy down 12.61%.
12. Source: GSAM, see footnote #7 and #22.
13. Source: Bloomberg. The MSCI World NR USD index rose 10.66% in the first half of 2017 vs. the MSCI Europe NR USD Index which rose 15.36% and the MSCI Emerging Markets NR USD Index rose 18.43%. The S&P 500 TR USD rose 9.34% in the first half of 2017 vs. the Russell 2000 which rose 4.99%. The S&P 500 Value TR Index rose 4.85% in the first half of 2017 vs. the S&P 500 Growth Index which rose 13.33%. The S&P 500 Sector Information Technology TR Index rose 17.23% YTD through June 2017, the S&P 500 Sector Health Care Index rose 16.07%, the S&P 500 Sector Industrials TR Index rose 9.51%, the S&P 500 Sector Energy TR Index fell 12.61% and the S&P 500 Sector Telecom Services TR Index fell 10.74%.
14. Source: GSAM, Bloomberg. From March 1, 2017 to March 27, 2017, the S&P 500 fell -2.2% from 4595.74 to 4496.53, and the GSAM LAI Equity Long/Short Peer Group fell -0.98. From June 19, 2017 to June 30, 2017, the S&P 500 TR fell 1.2% from 4734.48 to 4678.36, and the GSAM Equity Long-Short Peer Group fell -0.22%.
15. Source: Federal Reserve Bank of St. Louis, BofA Merrill Lynch US High Yield Option-Adjusted Spread declined from 4.22% on Dec. 31, 2016 to 3.77% on June 30, 2017, and the BofA Merrill Lynch High Yield Master II TR Index rose 4.91%. The Bloomberg Barclays High Yield Energy TR Index fell 1.16% in the second quarter, and the S&P GSCI Crude Oil Index fell 10.7% in the second quarter.
16. Source: GSAM, Bloomberg. Between Mar. 2, 2017 and March 22, 2017, the BofA Merrill Lynch US High Yield Option-Adjusted spread rose from 3.55% to 4.16%, the BofA Merrill Lynch High Yield Master II TR index fell 1.67% and the GSAM Event Driven Peer Group lost 0.53%.
17. Source: Public press releases.
18. Source: GSAM, Bloomberg. The Bloomberg Barclays High Yield Muni index rose 6.13% in the first half of 2017 and the Bloomberg Barclays EM USD Aggregate High Yield TR USD index rose 6.47%.
19. Source: GSAM, Bloomberg. The CBOE Volatility Index fell from 14.04 on Dec. 31, 2016 to 11.18 on June 30, 2017.
20. Source: GSAM, Bloomberg. The BofA Merrill Lynch Convertible Bonds All Qualities Index rose 8.73% in the first half of 2017.
21. Source: Bloomberg: SG CTA Index fell 3.4% in June 2017, the worst month since June 2015. See footnotes #7 and #14 for equity and interest rate trends.
22. Source: Bloomberg: Oil as defined by CL1:COM fell from 54.45 on Feb. 23, 2017 to 42.53 on June 21, 2017. The USD/EUR fell from 0.9506 on Dec. 31, 2016 to 0.8752 on June 30, 2017, and the USD/JPY exchange rate fell from 116.96 on Dec. 31, 2016 to 112.39 on June 30, 2017.

23. Source: GSAM, Bloomberg. The MSCI Europe NR USD Index rose 15.36% in the first half of 2017 while the MSCI Emerging Markets NR USD Index rose 18.43%. The AUD/EUR exchange rate fell from 0.7265 on Feb. 24, 2017 to 0.6577 June 1, 2017 and the CAD/EUR exchange rate fell from 0.7232 on Feb. 24, 2017 to 0.6574 on June 2, 2017

Risk Considerations

Investors should also consider some of the potential risks of alternative investments:

Alternative Strategies. Alternative strategies often engage in leverage and other investment practices that are speculative and involve a high degree of risk. Such practices may increase the volatility of performance and the risk of investment loss, including the entire amount that is invested.

Manager experience. Manager risk includes those that exist within a manager's organization, investment process or supporting systems and infrastructure. There is also a potential for fund-level risks that arise from the way in which a manager constructs and manages the fund.

Leverage. Leverage increases a fund's sensitivity to market movements. Funds that use leverage can be expected to be more "volatile" than other funds that do not use leverage. This means if the investments a fund buys decrease in market value, the value of the fund's shares will decrease by even more.

Counterparty risk. Alternative strategies often make significant use of over-the-counter (OTC) derivatives and therefore are subject to the risk that counterparties will not perform their obligations under such contracts.

Liquidity risk. Alternatives strategies may make investments that are illiquid or that may become less liquid in response to market developments. At times, a fund may be unable to sell certain of its *illiquid investments* without a substantial drop in price, if at all.

Valuation risk. There is risk that the values used by alternative strategies to price investments may be different from those used by other investors to price the same investments.

The above are not an exhaustive list of potential risks. There may be additional risks that should be considered before any investment decision.

Investments in Liquid Alternative Funds expose investors to risks that have the potential to result in losses.

These strategies involve risks that may not be present in more traditional (e.g., equity or fixed income) mutual funds.

These Funds generally may seek sources of returns that perform differently from broader securities markets. However, correlations among different asset classes may shift over time, and if this occurs a Fund's performance may track broader markets. In addition, if returns are in fact uncorrelated to the broader securities markets, a Fund may underperform those markets. For example, in periods of robust equity market returns, returns from a Fund may be lower or negative.

The use of alternative investment techniques such as shorting or leveraging creates an opportunity for increased returns but also creates the possibility for greater loss.

Losses on short positions are potentially unlimited, since the positions lose value as the asset that was sold short increases in value. Taking short positions leverages a Fund's assets, because the Fund is exposed to market movements beyond the amount of its actual investments.

Derivative instruments may involve a high degree of financial risk. These risks include the risk that a small movement in the price of the underlying security or benchmark may result in a disproportionately large movement, unfavorable or favorable, in the price of the derivative instrument; risks of default by a counterparty; and liquidity risk.

There is risk that alternative funds hold investments that may be difficult to value and as a result the values used by alternative funds to price investments may be different from those used by others to price the same investments. At times, a Fund may be unable to sell certain of its illiquid investments without a substantial drop in price, if at all. There is also the risk that funds will not be able to pay redemption proceeds within the allowable time period because of unusual market conditions, an unusually high volume of redemption requests or other reasons.

There may be additional risks that the Funds do not currently foresee or consider material. Not all investment products are suitable for all investors. This is not a recommendation for any particular investment product or strategy.

Stocks are subject to market risk.

Debt securities generally, include credit, liquidity and interest rate risk. Any guarantee on US government securities applies only to the underlying securities of a Fund if held to maturity and not to the value of a Fund's shares.

Foreign investments may be more volatile and less liquid than investments in US securities and are subject to the risks of adverse economic or political developments.

An investment in real estate securities is subject to greater price volatility and the special risks associated with direct ownership of real estate.

High-yield (Junk), lower-rated securities involve greater price volatility and present greater credit risks than higher-rated fixed income securities.

Investments in commodities may be affected by changes in overall market movements, commodity index volatility, changes in interest rates or factors affecting a particular industry or commodity.

An investment in alternatives is not appropriate for all investors. Investors should carefully review and consider their personal investments, risks, charges and expenses before investing.

REFERENCES TO "ALTERNATIVE INVESTMENTS" IN THE FOLLOWING PARAGRAPHS DO NOT INCLUDE LIQUID ALTERNATIVE MUTUAL FUNDS DISCUSSED HEREIN, WHICH DIFFER FROM TRADITIONAL "ALTERNATIVE INVESTMENTS" IN SEVERAL WAYS, INCLUDING WITH RESPECT TO LIQUIDITY PROFILE, FEE STRUCTURE AND REGULATORY REQUIREMENTS.

Supplemental Risk Disclosure for All Potential Direct and Indirect Investors in Hedge Funds and other private investment funds (collectively, "Alternative Investments").

In connection with your consideration of an investment in any Alternative Investment, you should be aware of the following risks:

Alternative Investments are subject to less regulation than other types of pooled investment vehicles such as mutual funds. Alternative Investments may impose significant fees, including incentive fees that are based upon a percentage of the realized and unrealized gains, and such fees may offset all or a significant portion of such Alternative Investment's trading profits. An individual's net returns may differ significantly from actual returns. Alternative Investments are not required to provide periodic pricing or valuation information. Investors may have limited rights with respect to their investments, including limited voting rights and participation in the management of the Alternative Investment.

Alternative Investments often engage in leverage and other investment practices that are extremely speculative and involve a high degree of risk. Such practices may increase the volatility of performance and the risk of investment loss, including the loss of the entire amount that is invested.

Alternative Investments may purchase instruments that are traded on exchanges located outside the United States that are "principal markets" and are subject to the risk that the counterparty will not perform with respect to contracts.

Past performance of an index or indices does not represent performance of any Goldman Sachs product or fund. The value of investments and the income derived from investments will fluctuate and can go down as well as up. A loss of principal may occur.

Alternative Investments are offered in reliance upon an exemption from registration under the Securities Act of 1933, as amended, for offers and sales of securities that do not involve a public offering. No public or other market is available or will develop. Similarly, interests in an Alternative Investment are highly illiquid and generally are not transferable without the consent of the sponsor, and applicable securities and tax laws will limit transfers.

Alternative Investments may themselves invest in instruments that may be highly illiquid and extremely difficult to value. This also may limit your ability to redeem or transfer your investment or delay receipt of redemption or transfer proceeds.

Alternative Investments are not required to provide their investors with periodic pricing or valuation information.

Additional Information & Disclosures

HFRl AND HFRX SUB-STRATEGY RETURNS

HFRl Sub-Strategy Returns

2011	2012	2013	2014	2015	2016
0.15%	10.59%	14.28%	5.58%	-0.23%	10.57%
-3.30%	8.89%	12.51%	4.02%	-0.28%	7.67%
-4.16%	7.41%	8.96%	3.37%	-0.87%	5.47%
-5.72%	4.79%	7.07%	1.81%	-1.24%	1.03%
-8.38%	-0.06%	-0.44%	1.08%	-3.75%	0.51%

■ HFRl Equity Hedge ■ HFRl Event Driven ■ HFRl Relative Value
 ■ HFRl Macro ■ HFRl FoF

HFRX Sub-Strategy Returns

2011	2012	2013	2014	2015	2016
-4.00%	5.96%	13.87%	5.24%	-1.96%	11.08%
-4.88%	4.81%	11.14%	1.42%	-2.33%	2.50%
-4.90%	3.62%	6.72%	-0.58%	-3.10%	1.03%
-8.87%	3.51%	2.96%	-3.14%	-3.64%	0.10%
-19.08%	-1.00%	-1.79%	-4.06%	-6.94%	-2.93%

■ HFRX Equity Hedge ■ HFRX Event Driven ■ HFRX Macro/CTA
 ■ HFRX Relative Value Arbitrage ■ HFRX Global HF

For illustrative purposes only.

The returns represent past performance. Past performance does not guarantee future results, which may vary. Current performance may be lower or higher than the performance quoted.

Returns shown are annual returns for each of the indices listed above.

No assurance can be given that the investment objective may be achieved.

Source: Hedge Fund Research, Inc. www.hedgefundresearch.com, Bloomberg, Morningstar, Inc. As of June 30, 2017. The HFR indices included in this report, HFRl Equity Hedge, HFRl Event Driven, HFRl Relative Value, HFRl Macro, HFRl Fund of Funds, HFRX Equity Hedge, HFRX Event Driven, HFRX Macro/CTA, HFRX Relative Value Arbitrage, HFRX Global Hedge Fund, are being used under license from Hedge Fund Research, Inc., which does not approve of nor endorse the contents of this report.

Past correlations are not indicative of future correlations, which may vary.

General Disclosures

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BofA Merrill Lynch Convertible Bonds All Qualities Index consists of convertible bonds traded in the U.S. dollar denominated investment grade and non investment grade convertible securities sold into the U.S. market and publicly traded in the United States. The Index constituents are market value weighted based on the convertible securities prices and outstanding shares, and the underlying index is rebalanced daily.

BofA Merrill Lynch US High Yield Option-Adjusted Spread is the calculated spreads between a computed OAS index of all bonds in a given rating category and a spot Treasury curve. An OAS index is constructed using each constituent bond's OAS, weighted by market capitalization. The BofA Merrill Lynch High Yield Master II OAS uses an index of bonds that are below investment grade (those rated BB or below).

BofA Merrill Lynch US High Yield TR Index tracks the performance of US dollar denominated below investment grade corporate debt publicly issued in the US domestic market. Qualifying securities must have a below investment grade rating (based on average of Moody's, S&P, and Fitch), at least one year remaining term to final maturity as of the rebalancing date, a fixed coupon schedule and a minimum amount outstanding of \$100 million. Original issue zero coupon bonds, "global" securities (debt issued simultaneously in the eurobond and US domestic bond markets), 144a securities and pay-in-kind securities, including toggle notes, qualify for inclusion in the Index. Callable perpetual securities qualify provided they are at least one year from the first call date. Fixed-to-floating rate securities also qualify provided they are callable within the fixed rate period and are at least one year from the last call prior to the date the bond transitions from a fixed to a floating rate security. DRD-eligible and defaulted securities are excluded from the Index.

Bloomberg Barclays High Yield Municipal Index covers the high yield portion of the USD-denominated long-term tax exempt bond market. The index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds, and pre-refunded bonds.

Bloomberg Barclays US Aggregate Bond Index is a broad-based flagship benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities, MBS (agency fixed-rate and hybrid ARM pass-throughs), ABS and CMBS (agency and non-agency).

Bloomberg Barclays US Treasury TR Index measures US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury. Treasury bills are excluded by the maturity constraint, but are part of a separate Short Treasury Index.

CBOE Implied Correlation Index are the first widely disseminated, market-based estimate of the average correlation of the stocks that comprise the S&P 500 Index (SPX). Using SPX options prices, together with the prices of options on the 50 largest stocks in the S&P 500 Index, the CBOE S&P 500 Implied Correlation Indexes offers insight into the relative cost of SPX options compared to the price of options on individual stocks that comprise the S&P 500.

CBOE Volatility Index reflects a market estimate of future volatility, based on the weighted average of the implied volatilities for a wide range of strikes. 1st & 2nd month expirations are used until 8 days from expiration, then the 2nd and 3rd are used.

MSCI Emerging Markets NR Index is a free-float weighted equity index that captures large and mid cap representation across Emerging Markets (EM) countries. The index covers approximately 85% of the free float-adjusted market capitalization in each country.

MSCI Europe NR Index is a free-float weighted equity index designed to measure the equity market performance of the developed markets in Europe. It was developed with a base value of 100 as of December 31, 1998.

MSCI Japan NR Index is a free-float weighted equity JPY index. It was developed with a base value of 100 as of December 31, 1969.

MSCI World NR Index is a free-float weighted equity index which captures large and mid cap representation across 23 Developed Market countries including: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the UK and the US. With 1,645 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

Russell 2000 Index is a small-cap stock index of the bottom 2000 stocks in the Russell 3000 Index.

S&P GSCI Crude Oil TR Index is weighted based on world production and it uses spot prices to calculate the price.

S&P GSCI Gold Index is a sub-index of the S&P GSCI, provides investors with a reliable and publicly available benchmark tracking the COMEX gold future. The index is designed to be tradable, readily accessible to market participants, and cost efficient to implement.

S&P GSCI TR Index measures general price movements and inflation in the world economy by including the most liquid commodity futures. It is investable and world-production weighted.

S&P Health Care TR Index comprises those companies included in the S&P 500 that are classified as members of the GICS® health care sector.

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The Germany Generic Government 10-Year Yield is based on the bid side of the market; the rates are comprised of Generic German government bonds.

The US Dollar Spot Index is an index of the value of the US dollar relative to a basket of foreign currencies.

US Generic Government 10-Year Yield is yield to maturity and based on the ask side of the market. The rates are comprised of the Generic United States on-the-run government bill/note/bond indices.

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