

MSCI[®]

Index Methodology

INVESTABLE HEDGE FUND INDICES METHODOLOGY

OBJECTIVE AND GUIDING PRINCIPLES
INDEX CONSTRUCTION AND MAINTENANCE

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EXECUTIVE SUMMARY

Objective and Guiding Principles

The objective of the MSCI investable hedge fund indices is to reflect the aggregate performance of a diverse and representative sample of hedge fund strategies in such a way that they can serve as a basis for tradable and liquid investment products. The indices are constructed according to a series of broadly defined principles, which address issues such as replicability, tradability, representativeness, diversification across strategies, fund concentration, and transparency.

Index Design

To achieve the index objective, MSCI first derives an investable hedge fund “Reference Framework”. This Reference Framework, which is constructed independently of any hedge fund platform, identifies liquid and most significant (in terms of weight) investment processes and strategies in the approximated hedge fund universe, that are relevant for representation in an investable hedge fund index, and determines an appropriate weight for each. The weights at which investment processes and strategies are represented in the Reference Framework are referred to as Notional Weights. The Reference Framework is further supplemented by a series of index construction and maintenance rules and guidelines relating to strategy diversification, fund eligibility, fund concentration, management company concentration, fund investment capacity, and fund and strategy weight allocation. The Reference Framework and the index construction principles form MSCI’s general investable hedge fund index methodology, which is then applied to a given hedge fund platform in order to construct a specific investable hedge fund index.

Index Construction

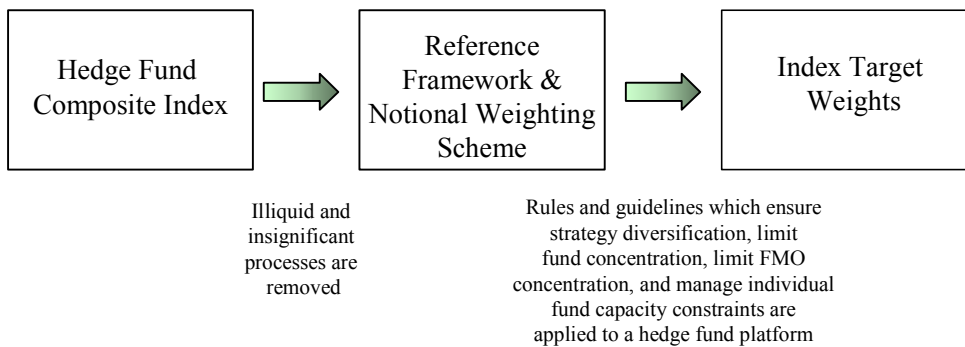
An investable hedge fund index is constructed in a two-step process (see Exhibit 1). The first step is the derivation of the Reference Framework and the associated Notional Weights of investment processes and strategies. The starting point of this derivation is the MSCI Hedge Fund Composite Index (“HFCEI”), which is used as a proxy for the hedge fund universe. MSCI considers the liquidity of each of the investment processes and strategies represented in the HFCEI and excludes those that may not be considered adequately liquid for representation in an investable and tradable hedge fund index. Once the relevant investment processes and strategies are identified, the weight of each strategy is determined based on the number and typical size of funds in each strategy.

In the second step of the index construction process, the Notional Weights and the general index construction rules and guidelines are applied to a specific hedge fund platform. Strategies that do not have any representation on the platform are excluded from the index. On the other hand, strategies that are represented on the platform but excluded from the Reference Framework due to a small

weight in the approximated hedge fund universe are included in the index. In the case of strategies where funds are not available on the platform, the weight of the strategy will be proportionally re-allocated to other strategies based on similarity of investment objective. Each fund on the platform is then assigned a provisional weight based on an equal weighting of the funds within its strategy. Finally, the weights of individual funds are adjusted in order to satisfy guidelines, which limit fund and management company concentration and ensure investment strategy diversification. These rules place limits on the percentage of an index which may be attributed to an individual fund or fund management organization. The mapping into the Reference Framework and the application of index construction rules and guidelines to a set of funds represented on a given platform leads to individual fund weights, which are referred to as Index Target Weights applicable to a given platform. These are the constituent weights that a tracker vehicle associated with the platform endeavors to replicate.

Exhibit 1

MSCI Investable Hedge Fund Index Construction



Index Maintenance

As a general rule, a full review of an investable hedge fund index takes place on a quarterly basis. At the quarterly index review, in addition to adding and deleting new funds and adjusting constituent weights for available investment capacity, strategy weights are also realigned to the Reference Framework and the Notional Weights and checked to ensure that they still comply with the general index construction and maintenance principles. Occasionally, a change in the status of a constituent, such as extremely binding investment capacity constraints, may lead to an intra-quarterly partial index review, and if necessary, a full index review.

1. INTRODUCTION

1.1 MSCI: A Leading Global Benchmark Provider

Morgan Stanley Capital International Inc. (“MSCI”) is a leading provider of equity, fixed income and hedge fund indices.

1.2 Equity Indices

MSCI provides global equity indices, which over the last 30 years have become the most widely used international equity benchmarks by institutional investors. Almost 2,000 organizations worldwide currently use MSCI global equity benchmarks. Sector, industry groups, and industry indices are calculated based on the Global Industry Classification Standard (GICS[®]), developed by MSCI and Standard and Poor’s. In addition, MSCI provides value and growth indices for developed and emerging markets based upon a two-dimensional, multifactor methodology for style definition and segmentation. Recently, MSCI has also launched a new family of US Equity Indices to provide broad and comprehensive coverage of the US equity market. This family of indices consists of a Broad Market Index and its various capitalization, style and sector sub-indices.

1.3 Fixed Income Indices

MSCI provides a wide range of global fixed income indices for the investment community, including indices for Sovereign, Investment Grade and High Yield debt markets, as well as the Interest Rate Swaps market. The MSCI Fixed Income Indices are unique in their emphasis on trader quotes as the basis for security pricing, as well as on their use of an industry classification system based on the GICS.

1.4 Hedge Fund Indices

In July 2002, MSCI launched a family of hedge fund indices based on a comprehensive classification system – The MSCI Hedge Fund Classification StandardSM – and a growing fund database, the MSCI Hedge Fund DatabaseSM.

MSCI’s Hedge Fund Indices provide the following benefits:

- Better understand the hedge fund opportunity set and the performance and risk of various strategies
- Perform superior peer group comparison and analysis as well as individual hedge fund

screening research based on multiple factors

- Conduct high level performance attribution for a portfolio of hedge funds using MSCI's building block index design

1.5. Investable Hedge Fund Indices

MSCI's Hedge Fund Indices aim to reflect the composition and performance characteristics of the entire hedge fund opportunity set and as such include open as well as closed funds. In parallel, MSCI has now developed an innovative index construction and maintenance methodology for investable hedge fund indices. The objective of MSCI is to create investable hedge fund indices that reflect the aggregate performance of a diversified range of hedge fund strategies. These indices are designed to be replicable and tradable. These objectives require that the investable hedge fund indices be based on well-diversified platforms of hedge fund investments offering more frequent pricing and trading than otherwise typically possible in the world of hedge funds.

1.6. Structure of the Methodology Book

The structure of this methodology book is as follows. Section Two outlines the index objective and guiding principles for index methodology, in addition to identifying the roles of MSCI and the platform providers. Section Three defines the strategy representation objectives, which drives the derivation of a reference framework for the investable hedge fund indices. Section Four lays out the index construction rules and guidelines. Section Five describes the methods by which the indices are maintained and calculated. Finally, Appendix 1 provides an illustration of the construction of an investable hedge fund index, while Appendix 2 provides additional detail on the MSCI Hedge Fund Classification Standard.

2. INDEX OBJECTIVE, GUIDING PRINCIPLES, AND MSCI AND PLATFORM PROVIDER'S ROLES

2.1 Index Objective

The objective of MSCI's investable hedge fund indices is to reflect the aggregate performance of a diverse and representative sample of hedge fund processes and strategies in such a way that they can serve as a basis for tradable and liquid investment products.

2.2 Guiding Principles

- **Investable:** The index is constructed such that its performance is replicable and achievable by investors through index-tracking vehicles, subject to the vehicles' size and capacity constraints.
- **Liquid and Tradable:** The index aims to represent hedge fund investments having relatively frequent liquidity that can be used to gain exposure to a range of hedge fund processes and strategies. The creation of such an index requires a platform of hedge funds, which provides the ability for investors to enter and exit hedge fund investments represented on the platform more easily and frequently than otherwise possible.
- **Representative:** The index aims to reflect the diversity and relative importance (weights) of processes and strategies in the universe of hedge funds, subject to platform and other index construction principles mentioned below. The index uses the family of MSCI Hedge Fund Indices as the proxy for the universe and as a reference for determining strategy diversity and representation.
- **Diversified:** The index methodology is designed to ensure that the index is diversified across strategies and not excessively concentrated in any single fund or strategy.
- **Neutral in Constituent Selection:** With respect to selection of funds on a given platform the index construction methodology is all inclusive, subject to the constituent eligibility criteria explained later. Additionally, constituents are equally weighted within a given strategy, subject to investment capacity and advising manager concentration constraints.
- **Transparent:** The methodology for index construction and maintenance, including constituent eligibility criteria, is objective, rules-based and fully disclosed. Constituent information is made available to qualified investors. Methodology and constituent additions, deletions and weight changes are announced in advance of their implementation.

2.3 Challenges of Creating Investable Hedge Fund Indices

Hedge funds are different from other asset classes in a number of ways. For example, in the hedge fund arena managers have discretion over whether to participate in a hedge fund index. This restricts the universe of constituents that are available for inclusion in a hedge fund index and introduces participation bias in hedge fund databases and indices. Other eligibility criteria may introduce selection biases. These biases may be expected to be more pronounced in the context of a relatively narrow hedge fund index.

Because a secondary market in hedge fund shares does not exist, an investable hedge fund index cannot be readily replicated unless a secondary market is simulated in the environment of an investment platform. The platform may be based on separate accounts with hedge fund managers and would typically involve a number of requirements to participate related to capacity, lock-up periods, reporting and so on. The platform may also provide a basis for creating an investment vehicle to track the investable hedge fund index.

2.4 MSCI and Platform Provider Roles

The index objective and guiding principles require that the index be derived from a relatively diverse platform of hedge funds. Moreover, the respective roles of MSCI and the platform provider should be clearly specified.

In this regard, the role of MSCI is to create and maintain an investable hedge fund index by:

- Establishing the index objective and associated guiding principles
- Designing an objective and transparent index methodology
- Classifying eligible constituents under the appropriate hedge fund strategy as defined by the MSCI Hedge Fund Classification Standard
- Applying the index methodology to a given platform
- Calculating and publishing index level and associated data
- Providing guidelines to the platform provider regarding the processes and strategies where new hedge funds should be added to the platform in order to better achieve the index strategy diversity and representation objectives

The role of the platform provider is to maintain and expand the universe of hedge funds represented on the platform by:

- Conducting due diligence on new funds for potential addition to the platform
- Negotiating capacity and liquidity with existing and new funds
- Maintaining sufficient investment capacity on the platform by pursuing new funds in processes and strategies that experience limited available investment capacity
- Monitoring and controlling of the investment mandate of each hedge fund manager

The platform provider may also conduct regular pricing of underlying positions and fund NAVs and may design and manage a vehicle that tracks the MSCI investable hedge fund index specifically associated with the platform.

3. DEFINING STRATEGY REPRESENTATION OBJECTIVES

3.1 Defining a Proxy for the Hedge Fund Universe

As mentioned earlier, MSCI's investable hedge fund indices aim to reflect the diversity and relative importance (weights) of liquid processes and strategies in the universe of hedge funds. To accomplish this, it is necessary to derive an Investable Hedge Fund Reference Framework ("Reference Framework"), which is used to determine the representation objectives by specifying the strategy weights and to calculate the investable hedge fund index from the specific set of constituent funds available on a platform.

To the extent that the composition of the universe of hedge funds is unknown, a proxy is used to develop the Reference Framework. This proxy provides the basis for defining hedge fund strategy diversity and representation. The MSCI Hedge Fund Composite Index is used as a proxy for the hedge fund universe. This index is based on the MSCI Hedge Fund Database and the MSCI Hedge Fund Classification Standard (please see Appendix II for more details). The MSCI Hedge Fund Composite Index is an equal weighted composite of funds in excess of \$15 million under management in the MSCI Hedge Fund Database. Columns 3 and 4 of Exhibit 2 show the composition of the MSCI Hedge Fund Composite Index as of the end of May, 2003.

3.2 Deriving the Investable Hedge Fund Reference Framework

The MSCI Hedge Fund Classification Standard defines strategies primarily in terms of investment process, asset class and geography. Strategies are grouped on the basis of a common investment process, which can be further decomposed into strategies sharing common geography or asset class (please refer to Appendix 2 for more details).

MSCI's investable hedge fund indices aim to represent the most significant and liquid investment processes and strategies within the MSCI Hedge Fund Composite Index. In order to achieve this objective, MSCI takes into account the relative significance (based on weight) of hedge fund strategies in the equally-weighted MSCI Hedge Fund Composite Index. As a general rule, liquid strategies that represent 1% or more of the MSCI Hedge Fund Composite Index are targeted for representation.

For instance, Directional Trading Multi-Process currently is not an explicit representation target for the investable hedge fund index because this investment process has an insignificant representation in the MSCI Hedge Fund Composite Index (please refer to Exhibit 2, Columns 2 and 4). In addition, Distressed Securities, Private Placements, Long-Short Credit and Specialist Credit Multi-Process processes are excluded because of their illiquid nature. These adjustments for significance and liquidity as of May 2003, result in 13 investment processes (please see Exhibit 2 below) from the

MSCI Hedge Fund Classification Standard comprising the basic design of the Reference Framework for the investable hedge fund index.

Exhibit 2

Column 1	Column 2	Column 3	Column 4
Process Group	Investment Process	HFCI Funds	HFCI Weight
Directional Trading	Discretionary Trading	44	6.1%
	Systematic Trading	80	11.1%
	Tactical Allocation	8	1.1%
	Multi-Process*	2	0.3%
Relative Value	Arbitrage	84	11.7%
	Merger Arbitrage	29	4.0%
	Statistical Arbitrage	42	5.8%
	Multi-process	17	2.4%
Security Selection	Long Bias	187	26.0%
	No Bias	68	9.5%
	Short Bias	8	1.1%
	Variable Bias	52	7.2%
Specialist Credit	Distressed Securities**	22	3.1%
	Long-Short Credit**	23	3.2%
	Private Placements**	5	0.7%
	Multi-Process**	3	0.4%
Multi-Process Group	Event-Driven	28	3.9%
	Multi-Process	17	2.4%
Total		719	100.0%

* Not included in the Investable Hedge Fund Indices because it accounts for a small proportion of the universe.

** Not included in the Investable Hedge Fund Indices because of relatively low liquidity of underlying assets.

These investment processes may be further decomposed into strategies by specifying the asset class or geography, and the relevant secondary characteristics, such as the fixed income sector or the capitalization focus for equities. The breakdown will occur when it is appropriate and significant, that is the resulting strategy weights account for a meaningful portion (i.e. 1% or greater) of the equally-weighted MSCI Hedge Fund Composite Index. This approach allows for a more granular level of target strategy representation for the investable hedge fund index. For example, the Arbitrage investment process is disaggregated into Convertible Arbitrage, Equity Arbitrage, and Fixed Income Arbitrage. Fixed Income Arbitrage, in turn, is further decomposed into two sub-strategies, namely Mortgage Backed Securities (MBS) Arbitrage and Ex-MBS Arbitrage. Similarly, within the Long Bias investment process, geographical focus is targeted for strategy representation. In the case of Long Bias – North America, sub-strategies based on size focus are also considered meaningful for representation.



Investable Hedge Fund Indices

The MSCI Hedge Fund Classification Standard is intended to organize the universe of hedge funds by defining and grouping hedge fund strategies with the objective of establishing appropriate peer groups. The Reference Framework for the investable index provides a different perspective by organizing investment processes and strategies into three investment objectives based on their directional bias and distinct aggregated risk-return profiles. These investment objectives are Non-Directional, Enhanced Equity, and Directional (see Exhibit 3).

Non-Directional strategies focus on exploiting inefficiencies in the relative pricing of securities. These strategies have typically little or no market exposure. Enhanced Equity strategies exhibit some directional bias and aim to benefit from superior security selection skills of hedge fund managers as well as their ability to employ more flexible trading and leverage policies than those found among traditional managers. Directional strategies exhibit a distinct directional bias, by actively trading currencies, commodities, equities, and bonds in the futures and cash markets.

The Reference Framework, represented in Exhibit 3, form the basis for process and strategy representation in an investable hedge fund index. The Reference Framework will be reviewed periodically to reflect the evolution of the sampled universe of hedge funds.

Exhibit 3

Investable Hedge Fund Index Reference Framework								
Non-Directional			Enhanced Equity			Directional		
Process	Asset Class or Geography	Secondary Characteristics	Process	Asset Class or Geography	Secondary Characteristics	Process	Asset Class or Geography	Secondary Characteristics
Relative Value			Security Selection			Directional Trading		
Arbitrage	Convertibles		Long Bias	North America	Small and Mid	Discretion.Trad Currencies		
Arbitrage	Fixed Income	MBS	Long Bias	North America	Mid and Large	Discretion.Trad Equities		
Arbitrage	Fixed Income	Ex-MBS	Long Bias	North America	No Size Focus	Discretion.Trad Diversified		
Arbitrage	Equity		Long Bias	Europe		Tactical Allocation		
Merger Arbitrage			Long Bias	Japan		System.Trading Currencies		
Statistical Arbitra	North America		Long Bias	Asia ex Japan		System.Trading Diversified		
Statistical Arbitra	Europe		Long Bias	Asia				
Multi-process			Long Bias	Emerging Markets				
			Long Bias	Diversified		Multi-Process Group		
Security Selection			Short Bias			Multi-process		
No Bias	North America		Variable Bias	North America				
No Bias	Europe		Variable Bias	Europe				
Multi-Process Group			Variable Bias	Diversified				
Event Driven								

Note: In the context of the investable hedge fund indices Ex-MBS includes the following fixed income sectors: Asset-Backed, Government-Sponsored, High Yield, Investment Grade, Sovereign, and No Focus. Asia includes Pacific ex Japan. Small and Mid is a combination of Small Capitalization Focus and Small and Mid Capitalization Focus. These categories are defined in Appendix II.

3.3 Determining Notional Weights at the Process and Strategy Level

To reflect the distribution of hedge fund strategies in the approximated universe, MSCI uses a median asset-weighting scheme. Usually one of two types of weighting scheme is used in hedge fund

index construction, namely equal-weighting or capitalization (or asset) weighting. However, neither of these weighting schemes, without adjustment, is fully adequate in capturing the relative importance of hedge fund processes and strategies within the universe.

An equal-weighting scheme, where each fund has the same weight, reflects exposure to hedge fund processes and strategies in terms of number of funds without considering the size of assets of particular funds. However, it may result in disproportionately increasing the relative importance of processes and strategies that have small asset requirements and low entry barriers and hence, a larger number of funds, than processes and strategies which have more significant entry barriers.

Asset-weighting overcomes this problem and better identifies the relative importance of hedge fund processes and strategies by taking size into account. However, the voluntary nature of hedge fund reporting, where managers have discretion to participate in a database, gives rise to sample bias and creates data issues. The decision of a few large managers to participate will skew asset-based weighting. One way to overcome this problem is to use an adjusted asset-weighting scheme where the assets are a reflection of the median assets per fund in a process or a strategy rather than representing the aggregate assets of all funds in that process or that strategy. Such a median asset-weighted scheme is less susceptible to the impact of participation bias or outliers and more effective in capturing the relative importance of processes and strategies by taking into account both the number and the 'typical' size of hedge funds within a strategy.

In order to provide further stability to index weights, six-month rolling averages of the number of funds and the median assets per fund are used. Additionally, the adjustment for median assets is carried out through the use of a set of Median Asset Factors. The Median Asset Factors are designed to capture in a simplified manner the relative median assets per fund in a strategy relative to the entire hedge fund sampled universe.

Specifically, the Median Asset Factor for each strategy is derived in the following way:

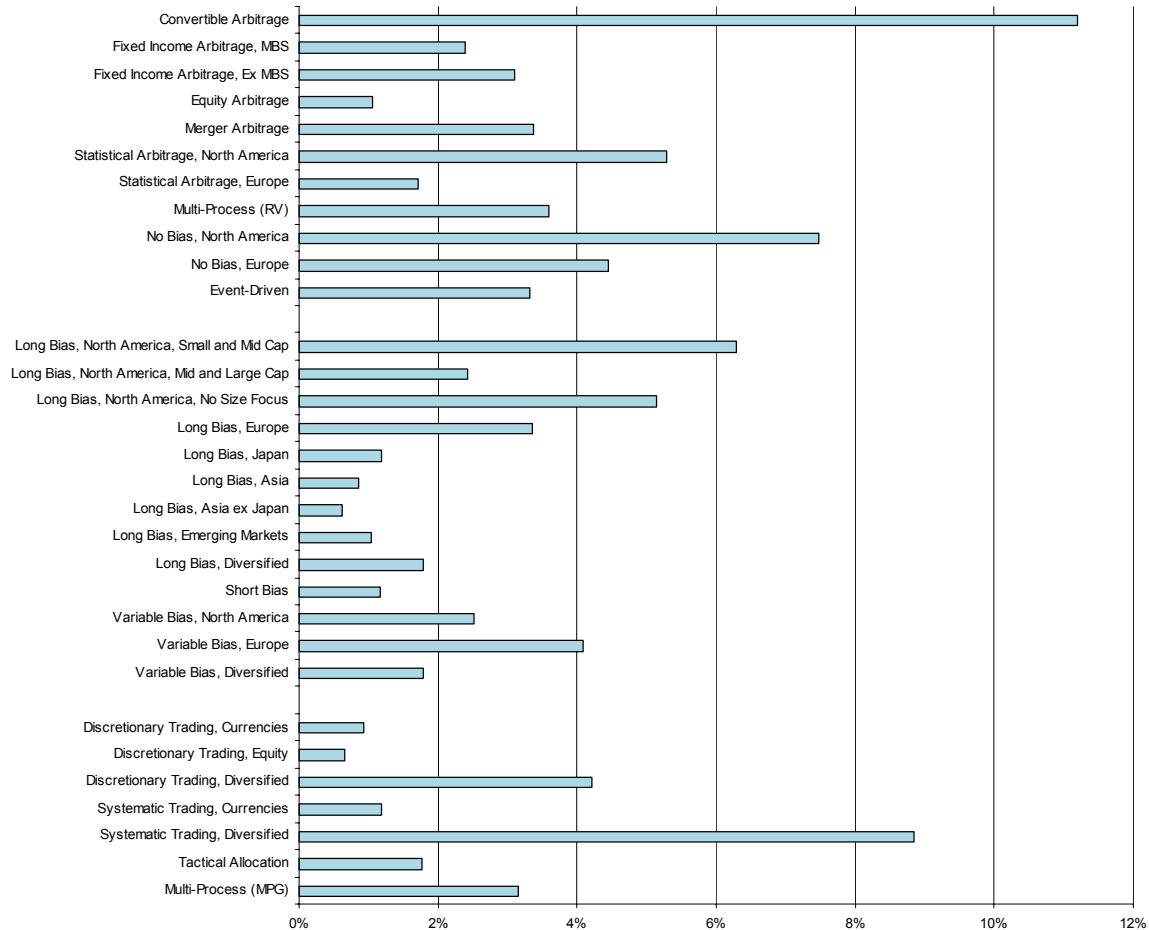
- The median of fund assets is calculated for each strategy. The median fund assets for the entire investable hedge fund reference universe is calculated as the six month rolling average of the median fund assets in each strategy weighted by the six month rolling average number of funds in the strategy.
- A Median Asset Ratio (MAR) is calculated for each hedge fund strategy by dividing the six month rolling average median fund assets in the strategy by the median fund assets in the investable hedge fund reference universe as a whole.
- The Median Asset Factors (MAFs) are derived by:
 - Bounding the MARs to 0.7 on the downside and 1.4 on the upside, and

- Rounding up the MARs below 1 to the nearest first decimal place, namely 0.7, 0.8, 0.9, and 1.0, and rounding down the MARs above 1 to the nearest first decimal place, namely 1.0, 1.1, 1.2, 1.3, and 1.4.

The Notional Weight of a strategy is then calculated as the product of the number of funds and the Median Asset Factor in that strategy, divided by the sum for all processes and strategies of the product of the number of funds in the strategy and the relevant strategy Median Asset Factors.

The following graph (Exhibit 4) shows the median-adjusted asset weights of processes and strategies in the Reference Framework as of the end of May, 2003. Note that the weight of strategies which are too small to be targeted individually is allocated to the targeted strategies within the same investment process.

Exhibit 4



3.4. Applying the Reference Framework to a Specific Platform

The Reference Framework depicted in Exhibit 3 and the Notional Weights shown in Exhibit 4 constitute the general methodology or framework which is applied to a specific platform of hedge funds in order to construct an investable hedge fund index. In general, the objective of index design is to allocate to the processes and strategies available on the platform in proportion to their Notional Weight in the sampled universe. However, this may not always be possible for the following reasons:

- Some strategies that are included in the Reference Framework are not available on the platform
- Some strategies that are available on the platform are not included in the Reference Framework

When such differences exist, the Notional Weights are modified to reflect the constraints of a given platform. The modified weights are called Platform-Adjusted Notional Weights. These weights, which result from the application of the Reference Framework to a given platform, are specific to that platform and are the weights that an investable hedge fund index linked to that platform endeavors to replicate, subject to the various strategy and fund concentration constraints.

For example, suppose that the weight of Long Bias – Europe is 3% in the Reference Framework. Now suppose that this strategy is not represented on a platform of hedge funds, called Platform A, but is represented on another platform of hedge funds, called Platform B. In this example, the Notional Weight of Long Bias – Europe is 3% for both cases. However, the Platform-Adjusted Notional Weight of Long Bias – Europe for the investable index linked to Platform A and Platform B is 0% and 3%, respectively.

The exact mechanism of applying the Reference Framework to a specific platform is illustrated through the use of a detailed example in Appendix I.

As indicated in section 2.4 above, MSCI provides guidelines to the platform provider on a regular basis regarding the processes and strategies in which new hedge funds need to be added to the platform in order to better achieve the strategy diversity and representation depicted by the Reference Framework.

4. INDEX CONSTRUCTION RULES AND GUIDELINES

This section describes the specific rules and guidelines which constitute the generic index construction methodology for MSCI's investable hedge fund indices. In particular, this section provides an explanation of the application of the rules relating to fund eligibility and fund and strategy weight allocation.

4.1 Constituent Eligibility and Classification

4.1.1 Constituent Eligibility

MSCI's investable hedge fund indices will include funds that have:

- Qualified under the platform provider's due diligence process
- Agreed to participate and provide frequent liquidity and sufficient investment capacity to the platform provider for index related products
- Reached agreement with MSCI on the appropriate classification of the fund in accordance with the MSCI Hedge Fund Classification Standard

In addition, the index will not include funds managed by advisors that do not already invest in that particular strategy, that is, the inclusion in the investable hedge fund index should not result in the tracking vehicle providing seed investment for such a fund. Furthermore, the inclusion of the fund in the index should not result in the index-tracker funds becoming the dominant investors in the fund. A fund should have other significant investors outside of those tracking the index.

4.1.2 Constituent Classification

The classification process undertaken by MSCI is intended to ensure that all funds are classified correctly according to the framework of the MSCI Hedge Fund Classification Standard. This classification process develops through several stages beginning with the platform provider's input. MSCI then reviews the manager's proposed classification together with supplementary documents submitted by the manager, and assesses whether the rules and guidelines of the classification system have been applied correctly. Classification changes are discussed with the fund manager to reach an understanding and agreement on the classification of the fund in question. In every instance, MSCI makes the final determination of the appropriate classification for a fund.

4.2 Constituent Allocation Rules

4.2.1 Neutrality in Constituent Selection and Allocation

The principle of neutrality in constituent selection is implemented by including in the index all eligible funds on a platform willing to participate in the investable hedge fund index.

The principle of neutrality in constituent representation is implemented by allocating an equal weight within a strategy to all funds belonging to that strategy, subject to capacity and management company limits explained below.

4.2.2 Constituent Fund Concentration Rules

The constituent fund concentration rules require that, at the time of index review no constituent fund will be allocated a weight greater than the lower of:

- 4.5% of the investable hedge fund index, or
- 2.5 divided by the number of funds represented in the investable hedge fund index but no less than 2.0%

This means that when there are 55 constituents or less in the investable hedge fund index the maximum fund weight is 4.5%. When there are 125 constituents or more represented on the platform, the maximum fund weight is 2.0%. The maximum weight will decrease on a sliding scale between 4.5% and 2.0% as the number of funds increases from 55 to 125.

Between two quarterly rebalancing dates, the index will be subject to the following diversification rules (10/40 rules):

- The weight of any constituent fund will not exceed 10% of the investable hedge fund index, and
- The combined weight of all constituent funds exceeding 5% of the investable hedge fund index will not be permitted continually to exceed 40% of the index

If the 10/40 diversification rules are violated between two rebalancing dates, prompt action is taken to reduce the weight of the relevant constituents. The weight of a fund in breach of the 10% limit is reduced to 8%. If the 40% rule is breached, the sum of the weights of all funds with weights in excess of 5% is reduced to 36%, by proportionally adjusting the respective fund weights. Moreover, MSCI reserves the right to conduct a review of the entire investable hedge fund index if the 10/40 breach is not driven by fund-specific performance, but rather by wider market conditions. If these adjustments are required, they will be implemented as soon as practicable, outside of a regular quarterly index review.

4.2.3 Management Company Concentration

To limit the overall exposure of the investable hedge fund index to a given management company, the total weight of all constituent funds advised by the same management company is limited to two times the maximum weight of an individual constituent fund in the investable hedge fund index.

If the aggregated unconstrained weight of the funds advised by the same management organization exceeds the maximum allocation, each fund's weight will be decreased proportionally.

4.2.4 Funds with Limited Available Capacity

Although a hedge fund platform should be managed with a view toward minimizing fund capacity constraints, it may still become necessary to reduce the weighting of a fund that is experiencing a lack of available investment capacity.

The constituents of the investable hedge fund index are expected to possess adequate capacity to be included in the index. Adequate capacity is defined as the ability to accept new investments, such that the weight of the fund in the index can be replicated smoothly in the context of regular increases of investments into the fund by tracker vehicles. Estimates of fund capacity and an associated recommended capacity inclusion factor are provided to MSCI by the platform provider, and if necessary, adjustments to the funds' weights are implemented through the use of Capacity Inclusion Factors (CIFs). Constituent funds experiencing capacity constraints are included in the index at reduced CIF levels of 0.75, 0.50 or 0.25, depending on the extent to which the capacity constraints are binding. Constituents that have adequate capacity are included in the index at their full weight with a CIF of 1.0.

4.3 Strategy Concentration and Allocation Rules

4.3.1 Strategy Concentration

The following concentration rules apply at the investment process and geography or asset class level.

- The weight at which a strategy with a common **geography or asset class** is represented in the investable hedge fund index cannot be more than 2.5 times its Platform-Adjusted Notional Weight. The strategies with secondary characteristics are not subject to this rule.
- The weight at which a strategy with a common **investment process** is represented in the investable hedge fund index cannot be more than the lower of:
 - 2.5 times its Platform-Adjusted Notional Weight, or
 - 5 percentage points above its Platform-Adjusted Notional Weight

4.3.2 Distribution of Un-Allocated Weights

When a strategy cannot be represented on a given platform at its full Platform-Adjusted Notional Weight, the un-allocated weight is distributed to other strategies in the Reference Framework in the following manner:

- Un-allocated weight is distributed first to other strategies in the same investment process in proportion to their Notional Weights and subject to the strategy diversification rules explained above;
- If the reallocation of weight among strategies within an investment process is not sufficient to absorb all the un-allocated weight, any excess weight is distributed on a proportional basis to other investment processes and within their process groups within the same investment objective;
- Finally, if some un-allocated weight still remains then it is proportionally distributed to all strategies in other investment objectives.

4.3.3 Strategies not included in the Reference Framework

Some strategies may appear on the platform when they have not been included in the Reference Framework because of their negligible weight.

Such strategies are included in the investable hedge fund index at the weight at which they are represented in the sampled universe, adjusted by the Median Asset Factor of the investment process to which they belong.

5. INDEX MAINTENANCE AND CALCULATION METHODOLOGY

This section describes the investable hedge fund index calculation and maintenance rules and guidelines. As a general rule, a full review of an investable hedge fund index takes place on a quarterly basis. At quarterly index rebalancing, in addition to adding new funds, strategy weights are realigned with the Reference Framework and Index Target Weights and constituent weights are reset in accordance with the fund allocation rules described in the previous section. Occasionally, a change in the status of a constituent may lead to a partial index review, outside of a regular quarterly index review, limited to a change in the weight of the fund in question and the impact of that weight change on other constituents.

5.1 Fund Pricing and Trading Characteristics and Associated Index Review Principles

5.1.1 Constituent pricing and trading on an unknown NAV basis

An investable hedge fund index is based on the pool of funds available for potential inclusion on a given platform. Therefore, the pricing frequency of the index depends on the liquidity and trading features offered by the platform. For example, suppose that a platform provides weekly pricing (NAVs) for the constituent funds and weekly liquidity for the vehicle tracking the investable hedge fund index. Typically, trading is conducted on the basis of orders placed in advance of the trade date and executed at a price struck at the end of that trade date. These prices will only become known, after the fact, some time later. In the example of weekly pricing where prices are determined as of every Tuesday, orders must be placed prior to the end of Tuesday of any given week and will be executed on the basis of prices struck at the end of that day. However, the price at which the trade was executed may not become known until a few days later, e.g., on the following Friday. This is a typical feature of hedge fund investing where trading orders to achieve certain exposures or weightings in funds are calculated on the basis of the last known NAVs which are not the NAVs at which the trades are executed.

The index review principles have been designed to reflect this reality, so as to ensure that the index is replicable. Therefore, the communication of changes to constituents' weights takes place as follows:

- Prior to the date at which the changes will take effect, the target weights of funds in the index are announced. These target weights reflect the intended weight of a fund after an index change has been made.
- When the NAVs, at which the the full index review was executed are made available, the final (i.e., official) index weights, are communicated. These official index weights differ from the target weights announced initially because of the performance of funds in the index during the period between the two relevant trading dates.

Specifically the achieved weight for any given fund will be determined by the following ratio:

$$\text{Fund weight in index at time } t = \frac{((\text{fund weight}_{(t-1)} \times (1 + \text{performance of fund in period})) + (\text{target weight} - \text{fund weight}_{(t-1)}))}{(1 + \text{index return for the period})}$$

where t is the trade date of the index change and $t-1$ is one period before that.

5.1.2 Constituent deletion

Trading based on unknown NAVs creates additional complexity in the case of deletion of an existing constituent. In such cases, the sell orders cannot be placed in dollar amounts and must be specified in terms of units to ensure liquidation of full positions in that fund. To the extent that the exact amount of sale proceeds is unknown at the time the sell order is placed, the execution of the trade may lead not only to a weight discrepancy but also to the emergence of a positive or negative cash residual. The investable hedge fund index methodology reflects this residual in the form of a long or short cash position in the index. This cash position is eliminated after one week. This treatment of the residual arising from the deletion of a constituent aims to ensure that the investable hedge fund index remains replicable in such circumstances.

5.2 Full Index Review

The investable hedge fund index is fully reviewed at the end of each quarter in order to ensure that it continues to meet its objectives and guidelines. The quarterly full index review incorporates the following:

- A re-alignment of the strategy exposure of the investable hedge fund index to that of the updated Notional Weights. Over time, these exposures may diverge due to the performance of the index constituents and due to composition changes in the Reference Framework.
- Additions to the investable hedge fund index of newly-introduced funds on the platform, which meet the constituent eligibility criteria.
- Deletions from the investable hedge fund index of existing constituents that no longer meet the ongoing eligibility criteria, such as:
 - Funds removed by the platform provider from the platform
 - Funds that wish to be withdrawn from the Index
 - Funds experiencing capacity constraints, that cannot be addressed by the

application of the minimum Capacity Inclusion Factor (CIF) which is 0.25

- Funds showing irreconcilable tracking error compared to the benchmark funds
 - Funds experiencing material change in personnel
 - Funds that do not have sufficient assets
 - Funds whose assets form a dominant portion of total assets managed in the same strategy by the same fund management organization
- Adjustment of existing constituent inclusion factors in the index to reflect any capacity constraints.
 - Adjustment of existing constituent inclusion factors in the index to reflect fund and management company diversification constraints.

Changes resulting from the full quarterly index review are announced in advance of their implementation.

In addition to the quarterly full index review, a full index review may take place intra-quarter if there is a breach of the 10/40 diversification rules attributable to market-wide conditions, rather than fund-specific performance.

5.3 Partial Index Review

In some instances, it may be necessary to delete a constituent or reduce its weight outside of a regularly scheduled quarterly index review. Such a circumstance would trigger an immediate partial review of the index resulting in the reallocation of the fund's weight to other funds in the same strategy or to other strategies, including in the following cases:

- Funds experiencing a reduction in capacity, which must be addressed immediately by changing the corresponding CIF
- Funds experiencing severe capacity constraints, which cannot be addressed by the application of the minimum CIF which is 0.25.
- Funds that no longer meet the ongoing eligibility criteria and need to be removed from the index immediately, such as

- Funds experiencing material change in personnel
- Funds for which index-linked investment accounts form a dominant portion of total assets under management.

5.4 Reflecting Changes in Investment Capacity, Fund Classification and Constituent Eligibility

MSCI will monitor and reconfirm fund classification based on periodic interviews with the trading advisor and regular reporting from the platform provider. A change in the classification of a fund, when identified and confirmed with the platform provider and the advising manager, will be communicated and implemented at the next quarterly review of the index. MSCI will also regularly monitor and review on-going eligibility of constituent funds.

Capacity limits are a characteristic of hedge fund investing. Negotiating adequate capacity and liquidity is the role of the platform provider, as part of its regular due diligence process. The platform provider is, therefore, required to monitor available capacity for constituent funds and to promptly communicate to MSCI any changes therein.

As mentioned earlier, the investable hedge fund index reflects investment capacity constraints through the use of CIFs, which can take the values of 1.00, 0.75, 0.50 or 0.25.

In cases where a capacity shortage must be urgently represented, the CIF of the constituent fund will be reduced immediately to alleviate available capacity constraints and maintain the replicability of the index. Where a capacity constraint is not immediately binding, reductions in CIFs are implemented at the next full quarterly index review.

When a fund's CIF is reduced at a full quarterly index review, its weight immediately prior to the review is multiplied by the ratio of the new CIF to the old CIF, and that value is used to constrain the amount allocated to the fund at that review. Likewise if a fund requires an immediate change in CIF i.e. not at the time of full index review, its weight prior to this change is multiplied by the change in CIF and the excess weight allocated to other funds in the index.

The reduction in weight caused by a decrease in the inclusion factor of a constituent is reallocated equally to the remaining constituents in the same strategy. If this weight can not be redistributed within the strategy, then it is reallocated proportionally to other strategies within the same investment process as depicted in Exhibit 2.

In cases where a fund with a reduced CIF makes additional investment capacity available, an upward readjustment to the CIF is required. Such upward adjustments to CIFs are implemented only at the next full quarterly index review. If a fund's CIF increases but does not return to 1.0, the change in the CIF is multiplied by the weight prior to full index review and the weight allocated to the fund at

that review is constrained by this amount. If the CIF returns to 1.0 i.e. there is no longer any capacity constraint on the fund the fund is allocated a full weight.

5.5 Treatment of Constituent Fund Liquidation

To the extent it is possible, a fund's liquidation is handled as a normal constituent deletion, according to the principles described under Section 5.1. When underlying fund positions can be liquidated immediately, fund deletions are implemented as soon as possible in the investable hedge fund index. For example, over a two-week period in the case of a platform providing weekly pricing and liquidity. This treatment ensures that there is no tracking error between the index and the index-tracking vehicle. However, in other instances, a fund is generally not removed from the index until all underlying positions can be liquidated.

If a full index review is scheduled while the liquidation of a constituent fund is taking place, MSCI may determine to potentially delay the full index review until the liquidation of the constituent fund's underlying positions is completed.

5.6 Corrections

Corrections relating to historical errors in the pricing of the constituents or other production-related errors may only be made to the most recently reported data, as the history of the index is not restated. However, any corrections pertaining to significant historical errors are disclosed and disseminated to clients as soon as possible.

5.7 Announcement Policy

For any investable hedge fund index it creates, subject to applicable regulation, MSCI will announce to clients on a regular basis:

- The performance of the investable hedge fund index
- The number of funds currently in the index, number removed and number added during the period
- The dates for the quarterly full index reviews
- The number of funds added or removed from the index as a result of the quarterly full index reviews
- Intra-quarterly changes to constituents

- Changes to the weights of constituents
- Constituent additions and deletions. MSCI will not give specific reasons for removal of any constituent fund
- Changes in CIFs
- Targeted fund and strategy weightings and effective index weights

All changes will be announced prior to their implementation.

5.8 Extraordinary announcements for fund removal

Deletions of constituents are announced with as much reasonable advance notice as possible. Typically, the index will be managed so that constituent changes coincide with a full quarterly index review. In these cases, announcements are made prior to their implementation. In extreme cases when a constituent fund must be removed intra-quarter MSCI will make an announcement as soon as possible

MSCI will not give specific reasons for removal of any constituent fund.



Investable Hedge Fund Indices

APPENDIX I: INVESTABLE HEDGE FUND CONSTRUCTION: AN ILLUSTRATION

In this appendix, we provide an illustration of the construction of an investable hedge fund index incorporating the aforementioned principles of the Reference Framework, index design, and index construction.

Step 1. Specifying the Reference Framework

As explained in Section 3 above, investable hedge fund index construction begins with the determination of the Reference Framework. This framework defines which hedge fund investment processes and strategies should be represented in the investable hedge fund index. The Reference Framework essentially consists of the significant and liquid investment processes represented in the equally-weighted MSCI Hedge Fund Composite Index (HFCI). In general, investment processes that have a weight in excess of 1% in the equally-weighted MSCI Hedge Fund Composite Index are included in the Reference Framework. Where meaningful the eligible investment processes are also broken down in terms of asset classes and geography, as well as some secondary characteristics such as fixed income sectors for fixed income processes or capitalization focus for equity processes. Such a Reference Framework was derived in Section 3 and is reproduced here in Exhibit 5 below.

Exhibit 5

Investable Hedge Fund Index Reference Framework								
Non-Directional			Enhanced Equity			Directional		
Process	Asset Class or Geography	Secondary Characteristics	Process	Asset Class or Geography	Secondary Characteristics	Process	Asset Class or Geography	Secondary Characteristics
Relative Value			Security Selection			Directional Trading		
Arbitrage	Convertibles		Long Bias	North America	Small and Mid	Discretion.Trad Currencies		
Arbitrage	Fixed Income	MBS	Long Bias	North America	Mid and Large	Discretion.Trad Equities		
Arbitrage	Fixed Income	Ex-MBS	Long Bias	North America	No Size Focus	Discretion.Trad Diversified		
Arbitrage	Equity		Long Bias	Europe		Tactical Allocation		
Merger Arbitrage			Long Bias	Japan		System.Trading Currencies		
Statistical Arbitra	North America		Long Bias	Asia ex Japan		System.Trading Diversified		
Statistical Arbitra	Europe		Long Bias	Asia				
Multi-process			Long Bias	Emerging Markets				
Security Selection			Long Bias	Diversified		Multi-Process Group		
No Bias	North America		Short Bias			Multi-process		
No Bias	Europe		Variable Bias	North America				
			Variable Bias	Europe				
			Variable Bias	Diversified				
Multi-Process Group								
Event Driven								

Step 2. Calculating the Notional Weights

Suppose that an investable hedge fund index was constructed for the first time at the end of December of 2002. Further suppose the MSCI Hedge Fund Composite Index contained an average of 639 funds during the second half of 2002, of which 599 were in the processes and strategies specified by the Reference Framework. The distribution of these 599 funds across the various investment processes is represented in Exhibit 6 below.

Exhibit 6

Column 1	Column 2	Column 3
Reference Framework Investment Objectives and Investment Processes	HFCI Funds**	HFCI Weight*
Non Directional	228	38%
Arbitrage	71	12%
Statistical Arbitrage	40	7%
Merger Arbitrage	33	6%
Multi-Process (Relative Value)	15	3%
No Bias	54	9%
Event-Driven (Multi-Process Group)	14	2%
Enhanced	236	39%
Long Bias	173	29%
Short Bias	9	2%
Variable Bias	54	9%
Directional	135	23%
Systematic Trading	67	11%
Tactical Allocation	7	1%
Discretionary Trading	42	7%
Multi-Process (Multi-Process Group)	19	3%
Total	599	100%

*HFCI adjusted to exclude processes and strategies that are not included in the Reference Framework.

**HFCI strategy weights and fund counts based on six month rolling average values.

Now let us illustrate the derivation of the Notional Weights for the various investment processes and strategies and sub-strategies reflected in the Reference Framework, using the Arbitrage investment process as an example. As shown in Exhibit 7, the Arbitrage investment process represents a large number of funds and hence can be broken down by asset class (convertible, equity, and fixed income) and fixed income sectors (MBS and ex-MBS) to target a more granular level of representation. In this example, the Convertible Arbitrage strategy is represented by 44 funds (Column 2) during the period under consideration, out of 599 funds in total. Therefore, Convertible Arbitrage has a rolling six-month average equal weight of 7.4% (44 divided by 599, Column 3).

Let us assume that the six-month rolling average median size for Convertible Arbitrage funds is \$94 million. The weighted average median asset size for the universe represented by the Reference Framework is derived by taking the median asset size of funds in each strategy in the Reference Framework and weighting by the number of funds in each strategy. Let us assume that in our example the weighted average median asset size for the universe is \$60 million. The Median Asset Ratios are then derived by dividing the strategy median by the universe median. The Median Asset Ratios are bound by 0.7 on the downside and 1.4 on the upside to derive the Median Asset Factors. The Median Asset Factors below 1 are rounded up to the nearest first decimal place, namely 0.7, 0.8,

0.9, and 1.0. The Median Asset Factors above 1 are rounded down to the nearest first decimal place, namely 1.0, 1.1, 1.2, 1.3, and 1.4. In the case of Convertible Arbitrage the Median Asset Ratio is 1.57 (94 divided by 60). This ratio is capped at 1.4, which is the MAF for Convertible Arbitrage. Similarly, the Median Asset Factors for the various strategies and sub-strategies in the Arbitrage investment process are calculated and are shown in Column 6 of Exhibit 7.

The next step is to multiply the number of funds representing a strategy in the HFCI by the Median Asset Factor of that strategy. In the case of Convertible Arbitrage this produces a median adjusted-number of funds of 62.1 (Column 7). Finally, the Notional Weight for each strategy is obtained by dividing the median adjusted-number of funds (62.1 for Convertible Arbitrage) by the sum of the median adjusted number of funds for each strategy in the investable hedge fund universe (577 at the bottom of Column 7, Exhibit 8). This calculation yields a Notional Weight for Convertible Arbitrage of 10.8% (Column 8, Exhibit 7).

Exhibit 7

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Name	HFCI Funds	HFCI Weight	Six-month Median Value (in \$ mm)	Strategy Median / Universe Median	Median Asset Factor	HFCI Funds x Median Factor	Notional Weights
Non Directional							
Relative Value							
Arbitrage							
Convertibles	44	7.4%	94.1	1.57	1.4	62.1	10.8%
Equity	8	1.4%	43.8	0.73	0.8	6.5	1.1%
Fixed Income							
MBS	12	1.9%	132.2	2.21	1.4	16.2	2.8%
Ex MBS	7	1.2%	64.7	1.08	1.0	6.9	1.2%

The above procedure is repeated for each of the processes and strategies and sub-strategies identified for representation in the Reference Framework. The results are shown in Exhibit 8.

Exhibit 8

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Name	HFCI Funds	HFCI Weight	Six-month Median Value (in \$ mm)	Strategy Median / Universe Median	Median Asset Factor	HFCI Funds x Median Factor	Notional Weights
Non Directional							
Relative Value							
Arbitrage							
Convertibles	44	7.4%	94.1	1.57	1.4	62	10.8%
Equity	8	1.4%	43.8	0.73	0.8	6	1.1%
Fixed Income							
MBS	12	1.9%	132.2	2.21	1.4	16	2.8%
Ex MBS	7	1.2%	64.7	1.08	1.0	7	1.2%
Statistical Arbitrage							
Europe	12	2.1%	39.2	0.65	0.7	9	1.5%
North America	27	4.6%	74.7	1.25	1.2	33	5.7%
Merger Arbitrage	33	5.5%	52.4	0.87	0.9	30	5.2%
Multi-Process	15	2.6%	67.6	1.13	1.1	17	2.9%
Security Selection							
No Bias							
Europe	19	3.2%	79.5	1.33	1.3	25	4.4%
North America	28	4.6%	60.5	1.01	1.0	28	4.8%
Diversified	7	1.2%	63.5	1.06	1.0	7	1.2%
Multi-Process Group							
Event-Driven	14	2.3%	67.1	1.12	1.1	15	2.7%
Enhanced							
Security Selection							
Long Bias							
North America							
Mid and Large Cap	20	3.3%	30.1	0.50	0.7	14	2.4%
Small and Mid Cap	48	8.0%	32.3	0.54	0.7	34	5.8%
No size Focus	40	6.7%	38.6	0.64	0.7	28	4.9%
Diversified	17	2.8%	50.4	0.84	0.9	15	2.6%
Europe	23	3.8%	79.7	1.33	1.3	29	5.1%
Japan	7	1.2%	38.1	0.63	0.7	5	0.8%
Emerging Markets	8	1.3%	40.3	0.67	0.7	6	1.0%
Global Markets Asia	7	1.2%	47.0	0.78	0.8	6	1.0%
Asia ex Japan	4	0.7%	42.5	0.71	0.8	3	0.6%
Short Bias	9	1.5%	48.3	0.81	0.9	8	1.4%
Variable Bias							
Europe	18	3.1%	144.3	2.41	1.4	26	4.4%
North America	26	4.3%	34.8	0.58	0.7	18	3.1%
Diversified	10	1.7%	75.3	1.26	1.2	12	2.1%
Directional							
Directional Trading							
Systematic Trading							
Currencies	6	1.1%	65.2	1.09	1.0	6	1.1%
Diversified	60	10.1%	50.5	0.84	0.9	54	9.4%
Tactical Allocation	7	1.2%	181.6	3.03	1.4	10	1.8%
Discretionary Trading							
Currencies	9	1.5%	23.9	0.40	0.7	6	1.1%
Equity	6	1.0%	28.2	0.47	0.7	4	0.7%
Diversified	27	4.5%	46.4	0.77	0.8	22	3.7%
Multi-Process Group							
Multi-Process	19	3.2%	45.9	0.77	0.8	15	2.7%
Total	599	100.0%	59.9			577	100.0%

Step 3. Deriving Strategy Platform-Adjusted Notional Weights

Once the Reference Framework is specified and the Notional Weights are calculated, they are applied to a given set of funds available on a platform in order to derive the Platform-Adjusted Notional Weights, which serve as the basis for constructing an investable hedge fund index from a given

platform. Suppose that the platform chosen to construct an investable hedge fund index comprises 100 hedge funds. Further suppose that, of those 100 funds, 75 funds meet the eligibility criteria, have been classified by MSCI into appropriate strategies, and have adequate remaining investment capacity. The distribution of these funds across strategies is as shown in Column 2 of Exhibit 8. For example, on this hypothetical platform, Convertible Arbitrage and Short Bias strategies are represented with 7 and 2 funds, respectively. On the other hand, Discretionary Trading – Currencies is not available on the platform. Furthermore, No Bias – Japan, a strategy which is not included in the Reference Framework, appears on the platform.

The index construction process then begins by converting the Notional Weights into Platform-Adjusted Notional Weights, which reflect the availability of various processes and strategies on the platform.

a) Processes and strategies included in the Reference Framework and available on the platform

The Platform-Adjusted Notional Weights and Notional Weights are identical for processes and strategies included in the Reference Framework and available on the platform. Convertible Arbitrage is one such example, in Exhibit 9, Columns 2 and 5.

b) Processes and strategies included in the Reference Framework but NOT available on the platform

In instances where a strategy is not represented on a given platform, its Notional Weight is allocated to other strategies in the Reference Framework according to the guidelines for the distribution of un-allocated weights mentioned in Section 4. For example, the Notional Weight of 2.1% for Variable Bias – Diversified cannot be achieved with the given platform and needs to be distributed to other strategies. This un-allocated Notional Weight is first distributed to other strategies within the same investment process. Thus, the un-allocated Notional Weight of Variable Bias – Diversified is proportionally distributed to Variable Bias – Europe and Variable Bias – North America. As a result, the Platform-Adjusted Notional Weight of Variable Bias – Europe is 1.2% higher than its Notional Weight of 4.4% and the Platform-Adjusted Notional Weight of Variable Bias – North America is 0.8% higher than its Notional Weight of 3.1% (Column 5, Exhibit 7). Similarly, the Notional Weight of 1.2% for Fixed Income-Ex MBS cannot be achieved with the given platform. This weight is, therefore, distributed to the other sub-strategy in the investment process, namely Fixed Income – MBS. This results in a Platform-Adjusted Notional Weight for Fixed Income – MBS of 4.0%.

The amount of un-allocated weight distributed to other strategies may be constrained by the process and strategy diversification rules mentioned in Section 4. These diversification rules require that a strategy's Platform-Adjusted Notional Weight cannot be more than 2.5 times its Notional Weight. In the case of Variable Bias – Europe, Variable Bias – North America, and Fixed Income – MBS this

constraint is not breached and no further redistribution of weights is necessary at this stage.

c) Processes and strategies NOT included in the Reference Framework but available on the platform

Funds available on a platform and engaged in strategies that are not a part of the Reference Framework require a special treatment in the index construction process. No Bias – Japan, is one such strategy in our example.

Two funds following this strategy are available on the hypothetical platform. MSCI would include these funds in the investable hedge fund index, as this is congruent with the index objective of representing strategy diversity. The equal-weighted average weight of the No Bias – Japan strategy in the MSCI HFCI, the sampled universe, is 0.5% (Column 3, Exhibit 9). Because this strategy is outside the Reference Framework, a specific Median Asset Factor for this strategy is not calculated. Instead, the Median Asset Factor for the No Bias investment *process* is used to adjust the equal-weight for the No Bias – Japan strategy. Since the Median Asset Factor for the No Bias investment process is 1.0, the Platform-Adjusted Notional Weight for No Bias – Japan is 0.5% (though its Notional Weight is zero).

In deriving the Notional Weights of the various strategies represented in the Reference Framework, the weight of the No Bias investment process is proportionally attributed to three strategies, namely No Bias-North America, No Bias-Europe and No Bias-Diversified. In this example, the weight of No Bias – Japan will also be incorporated in the No Bias investment process by proportionally reducing the Notional Weights of No Bias-North America, No Bias-Europe and No Bias-Diversified. This gives rise to the Platform-Adjusted Notional Weights for these strategies as shown in Column 5 of Exhibit 9.

Exhibit 9

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Name	Notional Weights	Added Strategies	Subtracted Strategies	Platform Adjusted Notional Weights	Platform Funds	Index Target Weights	Index Target Weight per Fund
Non Directional					35	44.6%	1.3%
Relative Value							
Arbitrage							
Convertibles	10.8%			10.8%	7	10.7%	1.5%
Equity	1.1%			1.1%	1	1.1%	1.1%
Fixed Income							
MBS	2.8%			4.0%	3	4.0%	1.3%
Ex MBS	1.2%		1.2%				
Statistical Arbitrage							
Europe	1.5%			1.5%	1	1.5%	1.5%
North America	5.7%			5.7%	2	5.6%	2.8%
Merger Arbitrage	5.2%			5.2%	6	5.1%	0.9%
Multi-Process	2.9%			2.9%	1	2.9%	2.9%
Security Selection							
No Bias							
Europe	4.4%			4.1%	3	4.3%	1.4%
North America	4.8%			4.6%	5	4.8%	1.0%
Diversified	1.2%			1.2%	2	1.2%	0.6%
Japan		0.5%		0.5%	2	0.5%	0.3%
Multi-Process Group							
Event-Driven	2.7%			2.7%	2	2.7%	1.3%
Enhanced					24	35.0%	1.5%
Security Selection							
Long Bias							
North America							
Mid and Large Cap	2.4%			2.4%	2	2.6%	1.3%
Small and Mid Cap	5.8%			5.8%	2	6.3%	3.2%
No size Focus	4.9%			4.9%	5	5.3%	1.1%
Diversified	2.6%			2.6%	1	2.8%	
Europe	5.1%			5.1%	1	3.3%	3.3%
Japan	0.8%			0.8%	1	0.9%	0.9%
Emerging Markets	1.0%			1.0%	1	1.1%	1.1%
Global Markets Asia	1.0%			1.0%	1	1.1%	1.1%
Asia ex Japan	0.6%			0.6%	1	0.6%	0.6%
Short Bias	1.4%			1.4%	2	1.4%	0.7%
Variable Bias							
Europe	4.4%			5.7%	4	5.6%	1.4%
North America	3.1%			4.0%	3	3.9%	1.3%
Diversified	2.1%		2.1%				
Directional					16	20.4%	1.3%
Directional Trading							
Systematic Trading							
Currencies	1.1%			1.1%	2	1.1%	0.5%
Diversified	9.4%			9.4%	9	9.4%	1.0%
Tactical Allocation	1.8%			1.8%	1	1.8%	1.8%
Discretionary Trading							
Currencies	1.1%			1.1%	1	1.3%	1.3%
Equity	0.7%			0.7%	1	0.9%	0.9%
Diversified	3.7%			3.7%	1	3.3%	3.3%
Multi-Process Group							
Multi-Process	2.7%			2.7%	1	2.7%	2.7%
Total	100.0%	0.5%	3.3%	100.0%	75	100.0%	100.0%

Step 4. Determining Individual Constituent Fund Allocations

a) Applying Constituent Fund Concentration Rules

At this stage all strategies represented on the hypothetical platform have been assigned Platform-Adjusted Notional Weights (Column 5, Exhibit 9). In accordance with the principle of neutrality in

constituent selection, the weight of each strategy is equally allocated to the funds within that strategy. For example, the seven funds in Convertible Arbitrage with a target weight of 10.7% will each receive a weight of 1.5%.

However, the allocation of weight to an individual fund is subject to the Constituent Fund Concentration Rules mentioned in Section 4. These rules specify that a single fund cannot have a weight greater than the smaller of a) 4.5% and b) 2.5 divided by the number of funds on the platform but no less than 2.0%. In this illustration, therefore, the maximum weight per constituent fund is 3.3% (2.5/75). The weight per fund within each strategy is shown in Column 8 of Exhibit 9. In this example, there are several cases where funds breach the concentration constraint.

In the case of Convertible Arbitrage, the maximum fund weight constraint is not breached and the Platform-Adjusted Notional Weight for the strategy equals its Target Weight in the investable hedge fund index. But for several other strategies that is not the case. Consider for instance Discretionary Trading – Diversified with just one available constituent fund and a Platform-Adjusted Notional Weight of 3.7% (Column 5, Exhibit 9). The single fund in this strategy receives the maximum weight allocation of 3.3%. The un-allocated strategy weight of 0.4% is then proportionally distributed to other strategies in the same investment process. As a result, the Index Target Weight of Discretionary Trading - Currencies of 1.3% is higher than the Notional Weight of 1.1% and the Target Weight of Discretionary Trading - Equities of 0.9% is higher than the Notional Weight of 0.7% (Column 5, Exhibit 9). Similarly, Long Bias – Europe has just one available constituent fund and a Notional Weight of 5.1%. Again, the single fund in this strategy receives the maximum weight allocation of 3.3% and the un-allocated strategy weight of 1.7% is then proportionally distributed to other strategies in the same investment process.

b) Adjusting for Capacity Inclusion Factors

After applying constituent fund concentration rules, the next consideration is the adjustment for remaining investment capacity of individual funds. If a constituent fund is subject to capacity constraints, then an adjustment is made through the use of Capacity Inclusion Factors, as explained in Section 4.2.4. For example, suppose that out of the seven funds represented in Convertible Arbitrage two have some investment capacity constraints, which are reflected through a CIF of 0.5. Therefore, the 5 funds with no capacity constraints (CIF equals 1) get the equal weight allocation of 1.5%. The two funds with capacity constraints see their equal weight allocation reduced by half to 0.75%, (derived as $1.5\% \times 0.5$). This weight reduction produces an unallocated strategy weight of 1.7% (derived as $10.8\% - 1.5\% \times 5 + 0.8\% \times 2$), which would be proportionally allocated to other funds in Convertible Arbitrage as long as the appropriate strategy and fund level concentration constraints are not breached.

c) Applying Management Company Concentration Rules

The allocation to individual funds is also subject to management company concentration rules, as



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outlined in Section 4.2.3. According to these rules, the total weight of all constituents belonging to the same management company is limited to a maximum of two times the maximum weight of an individual constituent fund.

Suppose a fund management company has three different eligible funds available through the platform, as shown in Exhibit 10. Also suppose that the maximum constituent fund weight is determined to be 3.0%. Therefore, the total weight of the three funds shown in Exhibit 10 cannot exceed 6.0%. However, their total weight based on equal-weighting within each strategy, in this example, is 7.3% (Column 5). Therefore, the total weight of the three funds is proportionally reduced to 6.0% (Column 6). This gives rise to an un-allocated weight of 1.3%, which is distributed to other funds in each of the strategies where the reduction occurred in the first place, provided these funds can absorb the additional weight without breaching any concentration or other constraints. Beyond that, the un-allocated weight is distributed to other strategies in the same investment process and eventually to other investment processes in the same investment objective.

Exhibit 10

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Fund Name	Strategy	Notional Weights	Eligible Constituents	Fund Weight	Adjusted Weight
Fund 1	Merger Arbitrage	9.0%	3	3.0%	2.5%
Fund 2	Convertible Arbitrage	14.0%	5	2.8%	2.3%
Fund 3	Event-Driven	6.0%	4	1.5%	1.2%
Total			12	7.3%	6.0%

The combination of constituent fund, investment capacity, and management company constraints determine in the end the actual strategy and constituent weights that are actually achieved in the investable hedge fund index constructed from a specific platform.

APPENDIX II. THE MSCI HEDGE FUND CLASSIFICATION STANDARD

Hedge fund classification schemes attempt to define strategies and then classify and combine funds into meaningful groupings. This task, however, is complicated by the heterogeneity of hedge fund investing, whereby hedge fund strategies cannot be readily compartmentalized. The great diversity of hedge fund practices implies that one should not expect that all strategies would fit into a formal system and that any classification method, when put into practice, is subject to some degree of subjectivity. Therefore, the key objective of a hedge fund classification scheme is to allow for enough specificity to accurately define the investment categories, while at the same time providing a reasonable structure for navigating among the categories.

The MSCI Hedge Fund Classification Standard captures the multi-dimensional nature of hedge fund investing by considering the primary and secondary characteristics that shape the risk-return profiles of strategies. This approach provides a more accurate and effective way of identifying and defining strategies than a uni-dimensional approach. This classification system also enables the establishment of a flexible and comprehensive framework of peer groups, comprising strategy and process indices, and other performance indicators, which may be relevant and useful for performance attribution and other research purposes.

The MSCI Hedge Fund Classification Standard strives to offer an appropriate balance between a level of detail which permits an accurate classification of a large number of strategies, and the ease and intuitive nature of a classification system that facilitates its implementation.

Hedge fund managers generally design their investment processes, including the use of investment management tools, such as derivatives, to capture the returns specifically attributable to their investment skills by limiting or eliminating market sources of return. Thus, in analyzing and classifying hedge funds, the investment process needs to be recognized as one of the primary strategy characteristics, along with asset class and geography. In addition, while the impact of asset class and geography may vary from strategy to strategy, the effect of the investment process on the risk-return profiles of hedge fund strategies is more pronounced, and can be viewed as the dominant characteristic. At its core then, a fund's strategy needs to be defined by the investment process and, depending on their relevance, by asset class and geography.

The overall framework of the MSCI Hedge Fund Classification Standard is depicted in Exhibit 11.

Exhibit 11

Primary characteristics				Secondary characteristics			
Investment process		Asset Class	Geography		GICS Sector	Fixed-Income Sector	Capitalization Size
Process Group	Process		Area	Region			
Directional Trading	Discretionary Trading Tactical Allocation Systematic Trading Multi-process	Commodities Convertibles Currencies Equity Fixed Income Diversified	Developed Markets	Europe Japan North America Pacific ex Japan Diversified	Consumer Discretionary Consumer Staples Energy Financials Health Care Industrials Information Technology Materials Telecom. Services Utilities No Industry Focus	Asset-Backed Gov. Sponsored High Yield Investment Grade Mortgage-Backed Sovereign No Sector Focus	Small Small and Mid Cap Mid and Large Cap No Size Focus
Relative Value	Arbitrage Merger Arbitrage Statistical Arbitrage Multi-process		Emerging Markets	EMEA Asia Pacific Latin America Diversified			
Security Selection	Long Bias No Bias Short Bias Variable Bias		Global Markets	Europe Asia ex Japan Asia Diversified			
Specialist Credit	Credit Trading Distressed Securities Private Placements Multi-process						
Multi-Process Group	Event-driven Multi-process						

1. Directional Trading

Directional Trading strategies are based upon speculating on the direction of market prices of currencies, commodities, equities, and bonds in the futures and cash markets. Typical investment horizons vary considerably, but a key characteristic of all the strategies is that managers can quickly reverse their market view as they see a situation unfold. Some traders rely on model-based systems to generate buy and sell signals. Others use a more subjective approach, ultimately relying on their own discretionary judgment in implementing trades. The investment processes used by Commodity Trading Advisors (CTAs) are generally included within Directional Trading (under Systematic Trading).

1.1. Discretionary Trading

Discretionary traders seek to opportunistically participate in price changes of the market or security in which they trade, regardless of what is driving the price action. Short-term supply and demand factors are often analyzed in order to anticipate short-term price direction. Discretionary traders may use fundamental analysis or technical analysis or a combination of both to identify profitable trades.

Portfolio turnover is often very high, with positions being held for short periods of time. Though their positions are generally unhedged, Discretionary Traders often have a disciplined approach to risk management, e.g., significant use of stop-losses, and capital allocation rules.

The key difference between Discretionary Trading and Systematic Trading is that Discretionary Trading fund managers use their discretion to make the final investment decision, and include qualitative assessments. The main difference between Discretionary Trading and Security Selection is that position selection for Discretionary Trading is not necessarily based on finding mispriced securities or fundamental security valuation.

A hedge fund investment approach is Discretionary Trading if the profitability of trades is based upon participation in market-driven price action, as opposed to security valuation, and the manager is willing to take a position, where there is opportunity, either long or short.

1.2. Systematic Trading

Systematic traders use rule-based trading models implemented in a systematic fashion to identify trading opportunities, usually in the futures and currency markets. The models may also determine the size of positions and the risk control. The models are designed to track movements in asset prices and look for recurring patterns in the behavior of the prices, or to pick up the leading indicators that will dictate broad price movements. Most systems traders implement trend-following systems, though a significant number implement fundamental models designed to forecast future movements. Portfolios tend to contain a diverse range of assets by market and geography although trading is limited to the most liquid instrument in the asset class, e.g., exchange-traded futures contracts for most commodities.

Systematic Trading differs from Statistical Arbitrage in that each position is essentially an independent directional (or intermarket) trade intended to produce a profit. By contrast, Statistical Arbitrage is based upon building market neutral portfolios in which the profit or loss of an individual position is unimportant; the portfolio performance is generated from the relative outperformance of longs versus shorts.

A hedge fund investment approach is Systematic Trading if positions are opened and closed primarily on the basis of systematic models, and manager intervention is limited to selecting trades and applying risk management disciplines.

1.3. Tactical Allocation

Tactical Allocation is a process of opportunistically allocating capital among a wide range of strategies and markets, often to the extent that a sizeable portion of the portfolio is allocated to a single opportunity or theme. The strategies or themes that may be allocated to can be directional or non-directional, traditional or hedged. There is little that is outside the investment brief of this process. The nature of Tactical Allocation is such that it is often practiced by the largest funds in the industry (often referred to as Global Macro), as increasing size often leads to diversification of approach and a necessity to move capital to where opportunity is perceived. This also typically means

that the most liquid markets and opportunities are sought.

Traders often take a top-down, thematic approach to investing and are typically opportunistic in nature, moving between economies, markets and instruments based on the manager's forecasts of changes in factors such as interest rates, exchange rates and liquidity.

Tactical Allocation differs from other hedge fund processes in that it is a top-down, thematic approach to investing and the implementation can be in any process, without limitation. Tactical Allocation strategies tend to maintain research and execution capabilities pertaining to several investment processes but they shift capital among them to rapidly take advantage of opportunities wherever they are perceived. For instance, an approach stemming from a single investment process but changing its relative allocation based on the view of the manager, who then has a choice of instruments to express this view, is characterized as Discretionary Trading. A Tactical Allocation fund, on the other hand, relies on multiple profit centers or processes and allocates capital among them.

An approach is considered Tactical Allocation if capital is allocated to a number of different trading strategies opportunistically in response to identified opportunities, and the manager is willing to take a position, where there is opportunity, either long or short.

2. Relative Value

Relative Value strategies focus on spread relationships between pricing components of financial assets or commodities. They seek to avoid assuming any outright market risk, although spread risk may be significant. Frequently they employ mathematical and statistical techniques and models to identify and hedge a Relative Value trading opportunity, particularly where hedging requires frequent trading in order to maintain market neutrality.

The opportunities being exploited typically have relatively low risk and commensurately low return, so many managers use leverage to amplify the returns to attractive levels. Managers aim for market neutrality and actively hedge risks using a variety of instruments.

2.1. Arbitrage

Arbitrage focuses on capturing movements or anomalies in the price spreads between related or similar instruments. The rationale for Arbitrage trades is the ultimate convergence of the market price relationship to a known, theoretical or equilibrium relationship.

The particular assets in which trades are made, and their pricing peculiarities, make the implementation very different depending on the choice of asset class. The assets most frequently traded include Convertibles, Equities, and Fixed Income.

Returns are generated from elimination or partial elimination of the pricing anomalies, and there may also be significant positive carry from the trades. Typically spreads are narrow and returns are marginal, and leverage is often used to amplify these small returns to attractive levels, especially when the expected downside of positions is relatively low. Because many funds rely on borrowing, strong sources of financing and ample lines of credit are crucial to the implementation of this process. A typical example of Arbitrage is Convertible Arbitrage.

Convertible Arbitrage involves taking positions in convertible bonds and hedging the equity risk. This strategy is employed in situations in which the manager discerns that the market price reflects a lower level of stock volatility than the manager anticipates will actually be the case for the underlying stock over some specific time horizon. This means that the manager anticipates the convertible bond to be more valuable than its current market price. The equity risk is hedged by shorting the underlying stock to realize a profitable cash flow as the stock's price changes. The hedging process, in effect, realizes the cheapness of the convertible bond. The credit risk of the convertibles is either explicitly hedged, or actively mitigated (either by investing in a very diversified portfolio of convertibles, or by finding convertibles with high hedge ratios trading far above their bond floor, thus having little or no credit spread risk).

A hedge fund investment approach is considered to be Arbitrage if each position in the portfolio attempts to isolate and capitalize upon a feature of an asset or combination of assets which is mispriced according to theoretical fair value (a position may be made up of several assets but is designed to capture a single pricing element), and all pricing factors other than the identified element are fully hedged or managed, first within the position and then also within the portfolio overall.

2.2. Merger Arbitrage

Merger arbitrageurs seek to capture the price spread between current market prices of securities and their value upon successful completion of a takeover, merger, restructuring or similar corporate action. Normally, the principal determinant of success of a merger arbitrage trade is the consummation of the transaction. Typically, Merger Arbitrage managers wait until a merger is announced before taking a Merger Arbitrage position; they do not generally speculate on stocks that are expected to become takeover targets, or trade in instruments that are mispriced relative to others.

In mergers involving an offer of stock in the acquiring company, the spread is the difference between the current values of the target company stock and the acquiring company stock. Capturing this spread typically involves buying the stock of the target company and shorting an appropriate amount of the acquiring company's stock. In straight stock-for-stock deals, the relationship between the two companies' stock prices is linear. In collared stock-for-stock transactions, the cash value of the amount of stock to be exchanged within the transaction has upper and/or lower limits. This means that the relationship between the two companies' stock prices is non-linear, and the manager will often make use of options or actively manage the short stock position to retain an appropriate



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hedge. The probability of success directly influences the size of positions, as realizing a profit from the trade relies on success of the merger.

In mergers involving cash-only transactions, the spread is the difference between the current market price and the offered price. Capturing the spread in these transactions is possible by just purchasing the stock of the target company; the manager may or may not take a short position in the stock of the acquiring company.

A hedge fund investment approach is considered Merger Arbitrage if at least 80% of positions not based upon cash deals are entered into in a hedged manner, replicating the contemplated transaction (e.g., in a stock for stock deal, the trade is long the stock being purchased in the transaction and short the stock being received in the ratio the transaction will pay out).

2.3. Statistical Arbitrage

Statistical Arbitrage is a model-based investment process, which aims to build long and short portfolios whose relative value is currently different from a theoretically or quantitatively predicted value. The investment process is systematized, but implementation may differ substantially in terms of the underlying models and the frequency of trading.

The models are central to Statistical Arbitrage and serve two purposes. First to identify securities (individually or in baskets) that are mispriced against an internal benchmark, and second to construct a portfolio which is market neutral. All models assume that the time series involved (representing an individual security's price or fundamental data, or other market data, or a group of similar securities) contain information relevant to the future performance of the security that has not been discounted in the current market price. The methodologies used to identify this information are quantitative and trading is generally automated. The portfolio performance depends on future security prices converging to model equilibrium prices.

Statistical Arbitrage differs from Arbitrage because perceived mispricing is not so readily identifiable or based on economic fundamentals and the price of the security is measured against an internalized and often abstract model-driven benchmark. In the case of Arbitrage the benchmark is external, such as the market price of a similar security (e.g., the price of an off-the-run treasury against the price of an on-the-run treasury); or the theoretical price of the security (e.g., the present value of the defined cash flows of a bond).

Statistical Arbitrage differs from No Bias Security Selection because Statistical Arbitrage involves systematically finding portfolios of securities whose overall relative valuation is different from forecast future values. No Bias Security Selection is based on finding individual securities (or sectors) which are expected to appreciate or decline in absolute value, and does not involve a systematized process.

A hedge fund investment approach is considered to be Statistical Arbitrage if positions are entered into on the basis of systematic models designed to find opportunities where the relative value of two or more assets is currently different from a theoretically or quantitatively predicted value.

3. Security Selection

Security Selection managers combine long positions and short sales with the aim of benefiting from their ability in selecting investments while offsetting systematic market risks. Market exposure can vary substantially, leading to a wide range of risk and return profiles. Security Selection funds are primarily, though not exclusively, equity-based.

Managers attempt to find opportunities that they consider to be undervalued and overvalued, and then buy and sell positions appropriately before the market reacts to the mispricing. In general, managers seek to generate positive returns in any market environment by hedging their portfolios, but some managers maintain significant market exposure to reflect their view of anticipated market direction.

While some managers use short sales only to reduce market exposure, others seek to generate positive returns from both long positions and short sales. Managers may attempt to remove all market exposure by balancing long positions and short sales to achieve cash or beta neutrality, or deliberately maintain market exposure and use short sales to reduce net exposure to desired levels. Managers also may take views regarding the future direction of individual sectors and the overall market, and their portfolios will be structured to take advantage of these expectations. The portfolio's net market exposure may also be managed using financial derivatives.

3.1. Long Bias

Long Bias portfolios have net long exposure to the underlying market in all conditions. These funds do not have zero betas to the overall market (they are not market neutral), but they are generally aiming to provide a higher beta in rising markets and a lower beta in falling markets. The fund's portfolio must be at least partially hedged or use short sales to be considered Long Bias, as long-only investment strategies are not hedge fund strategies (due to the absence of hedging) and are beyond the scope of the Hedge Fund Indices. A typical long biased manager may hold \$80 of long positions and \$20 of short positions for each \$100 invested.

A fund is considered Long Bias if the portfolio's average net exposure over any 90-day period is always positive, the portfolio is never intentionally more than 10% net short at the end of any trading day, and shorts (either stock or derivatives) representing greater than 10% of portfolio net assets are used in any 90-day period.

3.2. No Bias

No Bias managers are trying to generate the majority of their returns purely from their security selection and sector exposure processes. They differ from Statistical Arbitrage managers by using a bottom up approach to selecting positions, with each position having individual investment merit. A portfolio has No Bias if it consistently has a near-even balance between long and short positions.

A typical No Bias equity manager may run \$50 of long positions and \$50 of short positions for each \$100 invested. They are generally either dollar or beta neutral, though they can range up to 20% long or short biased for brief periods. Some may leverage their assets considerably, but are still considered No Bias due to the level of their net exposure.

A hedge fund investment approach is considered No Bias if the average portfolio net exposure measured over any 90-day period is between 20% short and 20% long and the portfolio net exposure is never intentionally more than 50% long or 50% short at the end of any trading day.

3.3. Short Bias

Short Bias portfolios maintain a significant net short market exposure. Short Bias managers specialize in short selling opportunities, and are not necessarily bearish about the market. Few will use leverage and most have large cash positions from the proceeds of short selling. This designation also includes short-only funds, where the portfolio is not required to contain any long positions.

A typical Short Bias manager will hold \$100-\$120 of short positions and \$0-\$40 of long positions for each \$100 of capital. And the portfolio's average net exposure over any 90-day period will always be negative.

3.4. Variable Bias

Variable Bias is the designation for Security Selection funds that do not conform to a constant specific market exposure, but are still focused on individual security selection. Some Variable Bias managers will alter the fund's market exposure dramatically in response to perceived opportunities, moving from a large net long position to substantially net short within a short period of time. They are generally looking to "time" the market and make money from both their timing ability and their security selection skill. Others will allow their net market position to be dictated by the balance of security and sector ideas they have. In Variable Bias shorts (either securities or derivatives) representing more than 10% of portfolio net assets are used in any 90-day period.

3.5. Note on Measuring Net Exposure

In classifying Security Selection funds into the various biases, the net market exposure should be

considered. Net market exposure should be measured by determining the difference between the gross long and gross short exposures. For classification purposes, the gross market exposures should be calculated on a beta-adjusted basis, i.e., the market exposure of a position is the product of the value of the investment and the beta of the investment. Futures should be valued at face value, and options should be valued at face value multiplied by their delta. The historical net market exposure over the last two years, as well as future expectations, should be examined when classifying the fund's process as Long Bias, No Bias, Short Bias or Variable Bias.

4. Specialist Credit

Specialist Credit seeks to lend to credit-sensitive (generally below investment-grade) issuers. The investment edge comes from the manager's ability to perform a high level of due diligence and to take advantage of what the manager discerns to be relatively inexpensive securities. The securities may be inexpensive due to regulatory anomalies or other constraints on traditional lenders (e.g., speed of decision-making process, disclosure rules). Because hedge funds pursuing this approach are generally providing credit in some form, it may be difficult to distinguish them from private equity investors and other non-hedge fund credit providers.

Returns are generated from credit-sensitive investments through capital appreciation, positive carry, or both. Among the distinguishing features of Specialist Credit managers are the high level of due diligence performed, timing of investments and assumption of credit risk. Additionally, credit sensitivity may offer managers opportunities to negotiate extremely favorable terms.

4.1. Distressed Securities

Distressed Securities funds invest in the securities of firms in or near bankruptcy. Bankrupt firms will typically have defaulted on their debt and may have also filed for protection from their creditors under bankruptcy laws. Firms near bankruptcy may be approaching these situations through severe operating and/or financial difficulties. Investors in Distressed Securities are seeking capital appreciation rather than high yields.

Distressed Securities managers differ from each other in terms of the level of the capital structure in which they invest, the stage of the restructuring process at which they invest, the degree to which they become actively involved in negotiating the terms of the restructuring, and the level of diversification and strictness of the risk management disciplines employed.

4.2. Long-Short Credit

Long-Short Credit funds take exposure to credit-sensitive securities, long and short. Trades are based around credit analysis of the issuer and security, and may incorporate credit market views, and may be based either on anticipated price movement or positive carry. The manager assumes credit risk

either long or short as a core part of the investment strategy, but interest rate risk is not a significant exposure, being either explicitly hedged or simply far less significant than credit risk.

4.3. Private Placements

Private Placements managers make short-term or medium-term privately placed investments typically issued by companies that are in need of rapidly available capital. The private placement is usually explicitly or implicitly hedged to protect its price from direct equity market risk. In the United States markets the private placement is primarily implemented through Regulation D. These deals typically involve investment in debt instruments with a significant equity “kicker”, usually in the form of free options to buy the company’s stock at a low price. An example would be a “floating convertible” instrument, which the holder is able to convert into the underlying equity at a guaranteed discount to the company’s price after a minimum holding period.

An approach is Private Placements if positions consist of structured privately placed securities, with any market price risk hedged (possibly dynamically) with a portfolio of publicly listed securities, investments are in listed companies, and 80% of positions are hedged against direct equity market risk.

5. Multi-Process Group

The Multi-Process Group comprises funds, which practice a strategy whereby a single investment process does not account for more than 80% of their risk capital. Although gradual shifts may occur over time in response to economic or market trends, these funds tend to have relatively stable allocations to a combination of processes, e.g., 50% Systematic Trading and 50% Statistical Arbitrage.

By contrast, Tactical Allocation strategies tend to maintain research and execution capabilities pertaining to several investment processes but they shift capital among them to rapidly take advantage of opportunities wherever they are perceived.

To add granularity to this category, certain combinations of investment processes may be identified as sub-categories of multi-process group, such as Event-driven.

5.1. Event-Driven

Event-Driven encompasses a combination of investment processes targeting securities which experience a change in valuation due to corporate transactions. For instance, a strategy focusing on acquisitions and bankruptcies combines elements of two investment processes: Merger Arbitrage and Distressed Securities.

In general, the triggers are announced events and may include mergers and acquisitions, bankruptcy announcements, proxy battles, corporate restructurings, spin-offs, litigation outcomes, leveraged buyouts, share buybacks, leveraged recapitalizations. The decision making process typically involves assessing the expected return of an investment in relation to the probability of the event occurring.

Pure merger arbitrage funds are separately classified in the Relative Value process group. Event-Driven funds will often have a significant portion in merger arbitrage although it does not exceed 80% of their risk capital. Unlike pure merger arbitrage, participation in other event driven transactions may involve taking positions of a more directional nature, potentially without a direct hedge.

6. Asset Class

Asset class describes the broad categories of securities in which a fund makes investments. There are five asset class category designations, with distinct risk-return characteristics: Equity, Convertibles, Fixed Income, Commodities, Currencies, and Diversified.

- *Commodities* are physical commodities and exchange-traded and OTC physical commodity derivatives.
- *Convertibles* are securities convertible into the equity of their issuer; these include convertible bonds, convertible preferred, warrants and other hybrid equity-linked securities.
- *Currencies* are currencies and derivatives traded on exchanges or in the OTC market; these include spot and forward transactions, currency futures and options.
- *Equity* is defined as equity securities and derivatives thereof; these include common shares, preferred shares, ADRs, GDRs, contracts for differences, share options, equity index futures and options.
- *Fixed Income* includes bonds, money-market instruments, and other debt of a variety of issuers with different types of risk. These include sovereign bonds, government-sponsored, investment grade and high yield corporates, asset-backed and mortgage-backed securities, as well as options and futures.

7. Geography

Geography describes where the fund's return-generating investments originate, typically the home market of the company issuing the securities. The MSCI Hedge Fund Classification Standard uses a first level of separation between Developed and Emerging Markets and one Global category. Similar to other MSCI indices, the Developed Markets and Emerging Markets areas can be organized into several regions.

- *Developed Markets* (encompassing Europe, North America, Japan, Pacific ex Japan)
- *Emerging Markets* (encompassing Europe, Middle East and Africa (EMEA), Asia Pacific, Latin America).
- *Global* (encompassing Developed and Emerging Markets, with the regional groupings of Europe, Asia, Asia Ex-Japan)

8. Secondary Characteristics

To provide additional accuracy in strategy definition, secondary characteristics may be used in combination with the three primary characteristics discussed above. These secondary characteristics are discussed below.

8.1. Industry Focus: GICS Sectors

Some hedge fund investment strategies involve specializing in securities from particular industries or economic sectors. This characteristic provides a means of identifying funds that have a particular industry focus, and typically only applies to equity-based strategies. The MSCI Hedge Fund Indices will use the Sectors of the Global Industry Classification Standard (GICS) developed by MSCI and Standard & Poor's as Industry Focus designations. Funds without a distinct GICS focus fall into the "No Industry Focus" category.

8.2. Fixed Income Focus

Some hedge fund investment strategies involve specializing in fixed income securities from particular sectors. This characteristic provides a means of identifying funds that have a particular fixed income sector focus, and applies only to fixed income-based strategies. The classification includes six areas in Fixed Income—related to those represented in the MSCI Fixed Income Indices—that typically correspond to specialized hedge fund strategies. Funds without a distinct Fixed Income focus fall into the "No Fixed Income Focus" category.

8.3. Capitalization Focus

Capitalization Focus designates strategies that specialize in selecting investments in issuers of a particular market capitalization range. For example, a hedge fund may choose to specialize in small-cap stocks, or avoid them, based on a view of the manager's experience, perceived efficiency and research coverage available in this sector. This characteristic provides a means of identifying funds that have a particular capitalization focus, and typically only applies to equity-based strategies. The capitalization buckets are as follows. Companies below US\$1.5 billion in market capitalization define Small Cap. Mid Caps are companies in the range between US\$1.5 and US\$6.0 billion and Large Caps exceed US\$6.0 billion in market capitalization. Funds without distinct capitalization focus fall into the "No Size Focus" category.



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