Second engine

Liquid Alternative Indices

Methodology guide

A division of Picton Mahoney Asset Management.

Overview of Second engine Liquid Alternative Indices

The Indices consist of an aggregate index representing the overall liquid alternative market, along with a series of strategy-based and goal-based indices, for a total of 11 benchmarks.

Key features:

- Designed to measure the performance of an investment segment that is increasingly popular and difficult to track
- Equal-weighting to minimize overconcentration risk
- Adhere to the CFA best practices for benchmarking
- Rebalanced quarterly and reconstituted semi-annually

Family of indices:

Second engine
Liquid Alternative 35 Index™

Strategy-based

Equity	Bond	Multi-Strategy	Specialty
Second engine **Equity Long Short Index™**	Second engine **Alternative Fixed Income Index™**	Second engine **Multi-Strategy Index™**	Second engine **Event-Driven Index™**
Second engine **Equity Market Neutral Index™**	Second engine **Absolute Return Index™**		Second engine **Global Macro Index™**

Goal-based

- Second engine **Equity Enhancer 10 Index™**
- Second engine **Fixed Income Enhancer 10 Index™**
- Second engine **Diversifier 10 Index™**

Overall market:

The Second engine Liquid Alternative 35 Index serves as an aggregate benchmark, encompassing the top 35 liquid alternative funds by assets under management (AUM). This index represents a diverse array of strategies, providing a comprehensive view of overall market performance.

Indices:

Strategy-based indices are based on distinct investment strategies as described in the appendix. Funds are classified into specific strategy groups based on information including but not limited to 1) the stated investment objectives and 2) historical risk/return profile.

By constructing appropriate peer groups for fund comparison, these strategy-based indices effectively isolate performance differentials to evaluate managers' ability to generate alpha.

Goal-based indices are designed to prioritize investors' needs, placing their goals front and centre in making portfolio construction decisions. These indices categorize funds based on the distinct roles that alternative strategies play in portfolio construction, catering to specific investment objectives. Each index comprises the 10 largest constituents within its category, striking a balance between being investable and representative.

Eligibility criteria:

Constituents included in the Second engine Liquid Alternative Indices must:

- Meet the definition of an alternative mutual fund as defined in National Instrument 81-102

- Report monthly returns and AUM data to Morningstar
- Be open to new investments
- Have at least six months of track record
- Be denominated in Canadian dollars
- Be categorized as an alternative investment strategy by Picton Mahoney Asset Management (PMAM)
- Meet AUM minimum eligibility criteria:
  - Index inclusion: having at least C$20 million AUM on the last reported month prior to the semi-annual rebalance
  - Index maintenance: having at least C$10 million AUM on the last reported month prior to the semi-annual rebalance

Any funds managed by PMAM that are eligible based on the criteria above would also be included in the Indices.

Index construction

Weighting and rebalancing

The Indices are equal-weighted indices. Unlike asset-weighting, the equal-weighting of indices presents a more general picture of performance. It reduces any favoritism towards larger funds that may arise from alternative weightings, particularly in strategies with only a few funds available for index inclusion.

The Indices are rebalanced quarterly.

Constitution changes

The constituents of the indices will be reviewed semi-annually in June and December based on criteria fulfillment in April and October month-end. Constitution changes will be implemented on the last day of June and December.

In addition to the scheduled reconstitution dates, any issue that fails to meet one or more of the index eligibilities is removed from the index in the month that the issue occurs, for example if a fund stops reporting performance or AUM data to Morningstar.

Share class treatment

A hierarchy that places a bias toward fee-based series is used to determine the share classes for index inclusion. In the case that a fee-based series is not the one with the longest track record, the latter will be used as the baseline for evaluation up until the inception date of the fee-based series.

Index NAV calculation

NAV of the index for month t is calculated as:

$$NAV_t = NAV_{t-1} \text{ x } (1 + R_t)$$

where, R_t is the index return for month t.

Index Return Calculation

Index return (%) for month t is calculated as:

$$R_t = \sum_{i=1}^{n} w_{t-1.i} \times (1 + R_{t.i}) - 1$$

where, $W_{t-1.i}$ is the weight of fund i at month t-1, $W_{t.i}$ is the return of fund i for the current month, and n is the number of constituents in an index.

$$w_{t.i} = \frac{1}{n}$$

where, n is the number of constituents in an index.

On non-rebalancing date t, a “buy-and-hold” approach is used for weight calculation. $W_{t.i}$ is calculated as:

$$w_{t.i} = \frac{w_{t-1.i} \times (1 + R_{t.i})}{\sum w_{t-1.i} \times (1 + R_{t.i})}$$

Goal-based index classification

We evaluate a fund's goal category based on a combination of quantitative evaluation and qualitative judgments. This section outlined the five key steps involved in classifying funds and constructing goal-based indices in addition to the eligibility criteria mentioned previously.

Step 1 – Correlation assessment

Within the quantitative aspect, a fund's category is determined based on its correlation with the broad equity and bond markets.

Equity market correlation is calculated using the previous 125 business days' correlation with the three equity indices that vary in geographical focus. We then take the highest reading. This approach accounts for the differing geographical emphases of all the liquid alternative funds. The indices used are:

1. MSCI World Index
2. Dow Jones US Total Stock Market Index
3. S&P/TSX Composite Index

Similarly, fixed income market correlation is calculated using the previous 125 business days' correlation with various bond indices, which encompass different geographical and instrument focuses. The highest correlation reading is selected. The indices used are:

1. ICE BofA Global High Yield Index
2. ICE BofA Global Corporate Index
3. Bloomberg Canada Aggregate Index
4. Bloomberg Global Aggregate Index

Step 2 – Inclusion and maintenance criteria

After assessing correlations in Step 1, we classify funds into distinct goal-based categories using specific criteria for both initial index inclusion and subsequent reconstitution.

Inclusion criteria:

	Equity enhancer	**Fixed income enhancer**	**Diversifier**
Criteria	$\rho_{eq} \geq 0.6$ and $\rho_{eq} > \rho_{fi}$	$\rho_{fi} \geq 0.6$ and $\rho_{fi} > \rho_{eq}$	$\rho_{eq} < 0.5$ and $\rho_{fi} < 0.5$

where ρ_{eq} represents the correlation with the equity market, and ρ_{fi} represents the correlation with the fixed income market.

Maintenance criteria:

An existing Equity Enhancer may get reclassified if the following criteria are met:

Updated category	**Unchanged**	**Fixed income enhancer**	**Diversifier**
Criteria	$\rho_{eq} \geq 0.5$ and $\rho_{eq} > \rho_{fi}$ and	$\rho_{fi} > 0.66$ and $\rho_{fi} > \rho_{eq}$	$\rho_{eq} < 0.5$ and $\rho_{fi} < 0.5$

An existing Fixed Income Enhancer may get reclassified if the following criteria are met:

Updated category	Unchanged	Fixed income enhancer	Diversifier
Criteria	$\rho_{fi} > \rho_{eq}$ and $\rho_{fi} \geq 0.5$	$\rho_{eq} > 0.66$ and $\rho_{eq} > \rho_{eq}$	$\rho_{fi} < 0.5$ and $\rho_{eq} < 0.5$

An existing Diversifier may get reclassified if the following criteria are met:

Updated category	Unchanged	Fixed income enhancer	Diversifier
Criteria	$\rho_{eq} \leq 0.66$ and $\rho_{fi} \leq 0.66$	$\rho_{eq} \geq 0.66$ and $\rho_{eq} > \rho_{fi}$	$\rho_{fi} > 0.66$ and $\rho_{eq} > \rho_{fi}$

Step 3 – Quantitative assessment

During each reconstitution cycle, we evaluate all constituents' rolling category classification over the preceding 21 business days by following the process described in Step 1 and 2. The objective is to perform data smoothening and determine the most frequently observed category, which becomes a fund's goal category.

Should the category classification remain the same as before, Step 4 will be skipped, indicating no change in classification.

Step 4 – Qualitative considerations and overall category classification

In this step, a comprehensive review of all funds will be conducted by PMAM for which the quantitative framework suggests a potential classification change. PMAM makes the final decision based on a holistic evaluation that considers both quantitative and qualitative factors. All decision factors will be documented for record keeping purposes.

Common qualitative factors taken into account may include:

- The current state of the broad markets
- The fund's historical category
- The intended goals that the fund aims to achieve.

By integrating these qualitative elements, our goal is to construct indices that effectively fulfill their intended purposes while aligning with the principles detailed in the "Best Practices for Benchmarking" section of this document.

Step 5 – Index construction

With all fund categories determined through the preceding steps, the final phase is to construct the goal-based indices. We first rank all funds based on AUM, and then include the ten largest constituents from each category in their respective indices.

Strategy descriptions

Strategy-based index categories

- **Equity Long Short** strategies focus primarily on the equity and equity derivative markets, and managers can take both long and short positions. A wide variety of investment processes can be employed to arrive at an investment decision, including both quantitative and fundamental techniques. Strategies can range broadly in terms of regions, levels of net exposure, amount of leverage employed, holding periods, concentration of market capitalizations and valuation ranges of typical portfolios. Long short equity managers typically maintain a net long position in the equity market.
- **Equity Market Neutral** strategies focus primarily on the equity and equity derivative markets, and managers can take both long and short positions while seeking to reduce exposure to the systematic risk of the market (i.e., beta of zero). Equity market neutral funds typically seek to exploit investment opportunities unique to a specific group of stocks, while maintaining a neutral exposure to broad groups of stocks defined by sector, industry, market capitalization, country or region. Managers often apply leverage to enhance returns.
- **Alternative Fixed Income** strategies can take both long and short positions across a range of debt securities. Funds can range broadly in terms of portfolio duration, credit quality and liquidity. Funds often seek to limit volatility by hedging exposure to the market and interest rate risk. Managers of this strategy aim to generate income and capital gain from the relative performance of various credit instruments.
- **Multi-Strategy** managers focus on building a portfolio of diversified alternative strategies. Multi-strategy funds typically are characterized by their ability to allocate capital based on perceived opportunities among several alternative strategies. Underlying strategies are either managed as a sub-sleeve of the overall portfolio or as fund-of-fund (FoF) structures.
- **Absolute Return** strategies can invest in a broad range of asset classes, maintain both long and short positions, and/or use a diversified set of strategies. Managers of this category aim to generate consistent positive returns through market cycles regardless of the directional movements in equity or fixed income markets. Underlying strategies are either managed as a sub-sleeve of the overall portfolio or as FoF structures.
- **Event-Driven** strategies aim to capitalize on price inefficiencies resulting from events such as mergers and acquisitions, corporate restructuring, shareholder buybacks, financial distress or other corporate events. The type of securities traded can range from the most senior in the corporate capital structure to common shares, and may involve additional derivative securities. Investment theses are typically centred on predicting fundamental characteristics, with investment returns being more idiosyncratic and less dependent on the broad markets.
- **Global Macro** strategies typically take a top-down approach, focusing on predicting movements in underlying economic variables and the impact on equity, fixed income, currency and/or commodity markets. Managers employ a variety of techniques, including both discretionary and systematic analysis. Global macro funds tend to offer a differentiated return, with low correlation to broad markets.

Goal-based index categories

- **Equity enhancers** are a category of alternative strategies that take similar risk exposure as traditional equities, but aim to deliver better outcomes by either amplifying returns or mitigating risks through active portfolio management. These strategies primarily focus on equity or equity derivative markets.
- **Fixed Income enhancers** are a category of alternative strategies that take similar risk exposure as traditional fixed income securities, but aim to deliver better outcomes by either amplifying returns or mitigating risks through active portfolio management. These strategies primarily focus on fixed income or fixed income derivative markets.
- **Diversifiers** are a category of alternative strategies that aim to deliver returns in excess of cash without exposing investors to risks of traditional equities and fixed income securities, thus offering great diversification benefits to traditional portfolios. These strategies can take positions across different markets.

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Disclosure

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This material has been published by PMAM on Jan. 5, 2024.

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