

# Hartford Multifactor Index Methodologies

Hartford Multifactor Large Cap Index

LROLCX

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This document details the rules-based methodologies that govern the above-listed Hartford Multifactor Index.

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## Overview

### Hartford Multifactor Indices

The Hartford Multifactor Index outlined in this document is designed to capture the performance potential of US large-cap equities by seeking the enhanced return potential of multiple risk factors while maintaining targeted ranges of exposures across size and sector dimensions.

The rules-based, proprietary methodology employs a multi-layered risk-controlled approach that seeks to de-concentrate position size risks relative to capitalization-weighted universes while selecting companies exhibiting favorable risk premia factors.

While the index methodologies for each of Hartford Funds' multifactor products follow substantially similar approaches, each was designed to address the risks and opportunities inherent to each capitalization class or equity region. Thus, there are important distinctions between different index strategies.

The Index's Provider (Lattice Strategies LLC ("Lattice Strategies" or "Lattice"), a wholly owned subsidiary of Hartford Funds Management Company, LLC ("HFMC")) is responsible for the methodology and selection of each index component. The Index is calculated and distributed by Solactive AG. The Index is calculated as a price and total return index.

### Eligible Securities

Eligible securities for this index are derived from universes composed of companies within the following general parameters:

Hartford Multifactor Index	Eligible Universe
Large Cap	Includes the 1,000 largest US companies by estimated free-float market capitalization

*See Appendix for itemized list of eligible countries for each index*

### Overview of Index Construction Methodology

Hartford Multifactor Indices deploy an integrated process that seeks to deliberately allocate risk and maximize exposure to companies exhibiting positive exposure to value, momentum, and quality factors.

- **Risk-First Portfolio Construction** – Establishes risk parameters for the index by setting volatility as well as company-, size-, and sector- diversification objectives. The index targets up to a 15% reduction in volatility over a complete market cycle as part of the index design.
- **Multifactor Security Selection** – Seeks to select companies exhibiting a favorable combination of value, momentum and quality factors in an attempt to enhance return potential.

## Hartford Multifactor Large Cap Index (LROLCX)

### Index Overview

Hartford Multifactor Large Cap Index (LROLCX or the “Index”) seeks to enhance return potential available from investment in the initial capitalization-weighted universe while reducing volatility by up to 15% over a complete market cycle. The Index methodology seeks to enhance return potential through multifactor security selection while applying a comprehensive risk framework to overall Index construction. The rules-based, proprietary methodology utilizes an optimization process to help achieve the desired composition and targeted characteristics, including reduced volatility, relative sector and size constraints, and positive value, momentum, and quality relative factor scores at the portfolio level.

### Composition of the Index

#### A. Selection of Index Components

The initial composition of the Index, as well as any ongoing adjustment, is based on the following rules:

##### 1. Equity Universe

All companies included in the Index must pass the following screening criteria:

- A. The company must be domiciled in the United States. Country of domicile classification is determined by the Hartford Funds Index Committee using criteria such as:
  1. Country of incorporation
  2. Country of primary exchange listing
  3. Country of headquarters
- B. The average daily trading volume (ADTV) over the last 6 months exceeds 1MM USD
- C. The company is a large cap company that is within the largest 1000 US companies using estimated free float market capitalization as determined by Hartford Funds.
- D. Limited Partnerships, business development companies, closed-end funds, UBITs and SICAVs are excluded

##### 2. Establishing the Index Constituents

Upon determination of the companies to be included in the universe, an optimization process is applied to determine which stocks are held and how they are weighted. The objectives and constraints of the process are discussed below.

##### ▪ Strategy Risk Controls

The Index includes multi-layered risk controls, including:

1. Active sector allocation limitations are set at  $\pm 2\%$  from each sector’s representation in the initial capitalization-weighted universe.
2. Based on the cumulative estimated free-float market capitalization of the entire US equity universe (mega-cap to micro-cap), the eligible companies are allocated across size categories and subject to the following active parameters:

Size Category	Size Definition	Upper/Lower Limitation
Mega	Largest 40%	$\pm 15\%$
Large	Next 30%	$\pm 15\%$
Mid	Next 15%	$\pm 15\%$
Small	Next 13%	$\pm 15\%$
Micro	Bottom 2%	$\pm 15\%$

3. Size and liquidity caps: Max position sizes are applied within the size categories and are based on the lesser of 1.5% or 1x ADTV

4. Minimum effective number of equities must be at least 200
5. Seek up to 15% reduction in volatility over a complete market cycle (based on historical standard deviation of the capitalization-weighted candidate universe's 3-year return).

- **Factor Enhancement**

The security selection process seeks to identify and assign weightings to companies with attractive factor characteristics. In this analysis, factors covering the traditional dimensions of value, momentum and quality are utilized. Companies are selected with an aim to enhance the overall factor characteristics of the index while also meeting the strategy risk controls outlined above.

**Creating Aggregated Factor Scores**

Once the Valuation, Momentum and Quality scores have been calculated, combined factor scores are assigned and based on the following weighting: Value 50%, Momentum 30% and Quality 20%. Combined scores for financial and real estate sector companies are assigned weightings of 65% Value and 35% Momentum.

Through an optimization process, the strategy selects from eligible companies with the highest combined factor scores while also seeking positive portfolio-level exposure to multiple factors relative to the initial capitalization-weighted universe. Considered factors in this step are defined below:

**Hartford Value Factor**

The Hartford Value Factor equally weights multiple valuation metrics to arrive at an aggregated valuation metric. Valuation metrics include: Earnings Yield, EBITDA/Enterprise Value (EV), Operating Cash Flow/EV, Revenue/EV, Dividend Yield, and Book Value (used only in financials and real estate as a replacement to EBITDA/EV).

**Hartford Momentum Factor**

The Hartford Momentum Factor equally weights Last 12 ex-1 monthly returns and last 6 ex-1 monthly returns to arrive at an aggregated momentum metric.

**Hartford Quality Factor**

Gross profitability / total assets is used to measure quality in the Index. Where the factor is not available (i.e. for financial and real estate companies), quality is excluded from the factor mix.

- The principle of "neutralization" is applied in the calculation of factor scores. Neutralization is deployed to remove biases between companies and securities of different classifications. In particular, the neutralization employed seeks to jointly mitigate biases by geographic (e.g. country, region) and economic (e.g. sector, industry) exposures.

**B. Determining the Final Risk-Optimized Index**

With the above inputs in place, the Index is constructed using a proprietary optimization process. The optimization uses the initial starting universe of eligible companies as the baseline and the optimization objectives and constraints determine the composition of the Index during each reconstitution and rebalance period. The process layer determines a suitable combination of companies that allows for the greatest expression of index objectives, including factor expression, diversification goals and volatility targets.

- **Turnover Reduction**

The optimization process seeks to mitigate unnecessary and counterproductive turnover while maintaining index attributes and other risk controls.

**C. Reconstitution and Rebalancing**

The composition of the Index is reconstituted and reweighted on the second Wednesday in March and on the second Wednesday in September. The composition of the Index is reviewed on each Selection Day and the necessary adjustments are announced. The Inception Date of the Index is June 30, 2019.

*See Appendix for definitions of terms.*

## Appendix: Index Publishing and Calculation

### General Information

#### Hartford Multifactor Index Tickers and ISINs

Index Name	Total Return		Price Return	
	Ticker	ISIN	Ticker	ISIN
Hartford Multifactor Large Cap Index	LROLCX	DE000SLA8GY3	LROLCP	DE000SLA8G41

#### Distribution

The Indices are published via the price marketing services of Boerse Stuttgart AG and are distributed to all affiliated vendors. Each vendor decides on an individual basis as to whether the vendor will distribute/display each Hartford Multifactor Index via the vendor's information systems.

#### Prices and calculation frequency

The price of the Indices are calculated on each Business Day based on the prices on the respective Exchanges on which the Index Components are listed. The most recent prices of all Index Components are used. Prices of Index Components not listed in the Index Currency are translated using spot rates (London 4pm) as quoted by Thomson Reuters. Should there be no current price available on Reuters, the most recent price or the Trading Price on Reuters for the preceding Trading Day is used in the calculation.

The Indices are calculated every U.S. Business Day from 12:00am to 10:50pm, CET. The Index price is calculated continuously in 15-second intervals during these hours. In the event that data cannot be provided to Reuters or to the pricing services of Boerse Stuttgart AG, the Index cannot be distributed.

Any incorrect calculation is adjusted on a retrospective basis.

Lattice Strategies engages with and pays a fee to Solactive AG for index calculation and distribution services. Lattice Strategies is responsible for the methodology and selection of the index components. The Indices are calculated as price and total return indices in USD.

#### Decision-making bodies

A committee, composed of members as determined by Lattice Strategies LLC, is responsible for decisions regarding the application of any amendments to the rules (in this document referred to as the "Committee" or the "Index Committee"). The Committee shall decide if any Extraordinary Events should occur and on the implementation of any necessary adjustments.

Members of the Committee can recommend changes to the index methodology rules and submit them to the Committee for approval at any time. Refinements to methodology will be communicated in advance of pre-established rebalance and reconstitution periods via updates to the methodology document and noted in the Index Notices section of the Appendix.

#### Publication

All specifications and information relevant for calculating the Index are available via the following link: [https://www.solactive.com/wp-content/uploads/2019/12/Equity-Index-Methodology-1.1\\_29\\_11\\_2019.pdf](https://www.solactive.com/wp-content/uploads/2019/12/Equity-Index-Methodology-1.1_29_11_2019.pdf)



**Licensing**

Licenses to use the Indices as the underlying value for derivative instruments are issued to stock exchanges, banks, financial services providers and investment houses by Lattice Strategies LLC.

**Extraordinary adjustment**

If a company included in any of the Indices is removed from an Index between two Adjustment Days due to an Extraordinary Event, or is otherwise deemed by the index committee to have experienced an Extraordinary Event that impacts its qualification for inclusion in the Index as determined by the Methodology, if necessary, the index committee shall designate a successor company or otherwise determine a course of action to bring the impacted company position back into alignment with the Methodology. The new Index composition would be communicated to Solactive AG once determination is made by the index committee, and any such change would be published by Solactive AG as soon as practicable thereafter, normally after the close of the US markets on the following business day. To the extent any such index committee determination is made within 45 days of the next Adjustment Day, the index committee may elect to wait until such next Adjustment Day to make the adjustment to the Index.

## Appendix: Definitions

### Definitions

**Adjustment Days** – An adjustment date is the date on which financial adjustments will be made to a contract or transaction as agreed by all the parties involved in the transaction.

**Book Value** – The book value of an asset is the value at which the asset is carried on a balance sheet and calculated by taking the cost of an asset minus the accumulated depreciation.

**Debt-to-GDP** – Debt-to-Gross Domestic Product (GDP) is the ratio of a country's public debt to its gross domestic product and can be interpreted as the number of years needed to pay back debt if GDP is dedicated entirely to debt repayment.

**Dividend Yield** – Dividend Yield is the weighted average dividend yield of the companies in the index (including cash). The number is not intended to demonstrate income earned or distributions made by a portfolio.

**Earnings Yield** – The net income (before extraordinary items and discontinued operations) for the most recent four-quarter period divided by the current total public equity value of the company.

**EBITDA/Enterprise Value (EV)** – EBITDA is an acronym for Earnings Before Interest Taxes Depreciation and Amortization. EBITDA/EV is a metric that is used as a valuation tool to allow investors to compare the value of a company, debt included, to the company's cash earnings less noncash expenses.

**Extraordinary Event** – Includes, but is not limited to, a corporate takeover, merger, spin-off, special dividend, or delisting, which may alter the manner in which the company's securities are valued and/or traded.

**Free Float Market Capitalization** – Free float market capitalization is another method of calculating market capitalization that requires taking the equity's price and multiplying it by the number of shares readily available in the market.

**Gross Domestic Product (GDP)** – Gross domestic product is the monetary value of all finished goods and services produced within a country's borders in a specific time and is used as a broad measurement of a nation's overall economic activity.

**Gross Profitability** – Gross profitability is the profit a company makes after deducting the costs associated with making and selling its products, or the costs associated with providing its services.

**Gross Profits/Total Assets** – Gross profit/total assets is a profitability measure that allows investors to compare the gross profits of a company to the company's total assets.

**Index Component** – Security within an Index

**Index Calculator** – Agent responsible for calculating the value of each index (Solactive AG or any other appropriately appointed successor in this function.)

**Index Currency** – The US dollar.

**Index Provider** – Lattice Strategies LLC.

**Market Cap** – Market cap or market capitalization refers to the total dollar market value of a company's outstanding shares and is calculated by multiplying a company's shares outstanding by the current market price of one share.

**Market Disruption Event** – Market disruption events are situations where markets cease to function in a regular manner, typically characterized by rapid and large market declines.

**Operating Cash Flow/EV** – Operating Cash Flow/EV is the ratio of estimated cash generation to the entire economic value of a company. Cash production is calculated by taking the net income (before extraordinary items and discontinued operations) plus amortization and depreciation plus preferred dividends.

**Rebalance** – Rebalance is the process of realigning the weightings of a portfolio of assets by periodically buying or selling assets in a portfolio to maintain an original desired level of asset allocation.

**Reconstitution** – Reconstitution is the re-setting of an index that involves adding and removing companies as well as re-ranking existing companies so that the composition of the index reflects the application of systematic rules.

**Revenue/EV** – Revenue/EV is a measure of the value of a company that compares a company's enterprise to value to its revenue and is an indicator that investors use to determine whether a company is priced well.

**Spot Rate** – The price quoted for immediate settlement on a commodity, a security or a currency.

**Standard Deviation** – Standard Deviation is a statistical measure of the extent to which returns of an asset vary from its average return over a certain period.

## **Appendix: Country Eligibility by Index** (as of April 2021)

### **Hartford Multifactor Large Cap Index**

United States

## Appendix: Index Notices

The Index Committee is responsible for all decisions regarding methodology and application of Hartford Multifactor Indices. As part of its mandate, the Index Committee regularly reviews the tools and techniques employed by the team responsible for applying index methodology rules toward the calculation of security weights (i.e. achieving objectives stated in the methodology).

From time to time, the tools, program, and procedures employed in applying the index methodologies may be refined and enhanced.

Data Sources used in the development of Hartford Multifactor Indices include:

S&P Capital IQ/Compustat

FactSet Research Systems Inc.

Bloomberg L.P.

International Monetary Fund (Country Eligibility)

Organisation for Economic Co-Operation and Development

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