



Index Methodology Guide

HORIZON KINETICS ISE GLOBAL WEALTH INDEX

Issue 1.3

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Chapter 1. Introduction

This document summarizes the methodology and rules used to construct, calculate, and maintain the **Horizon Kinetics ISE Global Wealth Index**.

The **Horizon Kinetics ISE Global Wealth Index** provides a benchmark for investors interested in tracking the performance of exchange-listed, publicly-held companies that are managed by some of the wealthiest individuals in the world.

These individuals generally have a high degree of management skill and specific industry knowledge, which is manifested through the superior share price performance of their companies. In many cases, these individuals have used their respective companies as the primary means of accumulating substantial personal wealth. By virtue of this vested interest factor, the creation of shareholder value tends to be prioritized over shorter-term considerations of typical corporate managements. The use of wealth as a predictive index variable—rather than traditional index classifications—has been demonstrated to provide meaningful excess returns over time versus the MSCI ACWI Index.

Chapter 2. Index Description

The **Horizon Kinetics ISE Global Wealth Index** has been created to provide investors with a product allowing them to track the performance of exchange-listed, publicly-held companies that are managed by some of the wealthiest individuals in the world.

The Index uses an equal weighted allocation methodology for all components in the Index. Index components are reviewed quarterly for eligibility, and the weights are reset accordingly.

Companies may not apply, and may not be nominated, for inclusion in the Index. Companies are added or removed by the ISE based on the methodology described herein. Whenever possible, ISE will publicly announce changes to the Index on its website at least five trading days in advance of the actual change.

The Index is calculated and maintained by STRUCTURED SOLUTIONS based on a methodology developed by Horizon Kinetics and the International Securities Exchange.

The **Horizon Kinetics ISE Global Wealth Index** is calculated on a price and total return basis. The price index is calculated in real-time and disseminated via the Options Price Reporting Authority (OPRA) and market data vendors every day the U.S. equity markets are open. The total return index is calculated on an end-of-day basis. Both sets of values are freely available on ISE's website, www.ise.com.

Chapter 3. Index Construction

This chapter outlines and defines the key steps in constructing and calculating the Index, including: eligibility requirements, formulas, initial component selection, and special adjustments.

3.1. Base Date and Value

The **Horizon Kinetics ISE Global Wealth Index** has the following base dates and values:

Index	Base date	Base value
Horizon Kinetics ISE Global Wealth Index	December 31, 2006	100

3.2. Component Eligibility Requirements

All of the following requirements must be met in order for a company to be eligible for inclusion:

1. The component security must have a wealthy individual in a control position, defined as a senior management position that allows for substantial decision making authority (e.g., Chief Executive Officer, Chairman of the Board, President). A wealthy individual is defined as a person whose level of personal assets generally exceeds \$1 billion, as measured by public data, although this minimum threshold is subject to change based on market conditions, which can greatly impact the value of personal assets (e.g., public stock holdings).
2. The component security must be listed on an exchange.
3. In the case of initial public offerings the component security must have been publicly-listed for at least two years.
4. The component security must be an operating company and not a closed-end fund or an exchange-traded fund (ETF).
5. The component security cannot be a limited partnership.

The following market capitalization and weighting concentration requirements must also be satisfied:

1. Each component security must have a market capitalization of at least \$200 million.
2. No single component stock may represent more than 24% of the weight of the Index, and the cumulative weight of all components with an individual weight of 5% or greater may not, in the aggregate, account for more than 50% of the weight of the Index. This particular requirement will be satisfied at the conclusion of each of the quarterly rebalance periods.
3. The trailing 3-month average daily value traded, as calculated on a trimmed basis whereby 10% of the daily observations are eliminated from the sample, must be greater than \$2,000,000 at the time of rebalancing in order to be included. For the purposes of exclusion, the trimmed trailing 3-month average daily value traded must either i) be below \$1,000,000, in which case such constituents are removed in conjunction with the periodic rebalancing process, or ii) be greater than \$1,000,000 and below \$2,000,000 for four consecutive quarters, in which case such constituents are removed in conjunction with the periodic rebalancing process.

The ISE and Horizon Kinetics will, in most cases, use the quantitative ranking and screening system described herein. However, subjective screening based on fundamental analysis or other factors may be used, if in the opinion of the ISE and Horizon Kinetics certain components should be included or excluded from the Index. Questions of interpretation or possible exceptions to rules are considered by the Horizon Kinetics Index Committee.

3.3. Dividend Treatment

The price indexes do not take normal dividend payments into account. Dividends are accounted for by reinvesting them on a daily basis as a separate total return index. The **Horizon Kinetics ISE Global Wealth Index** uses the ex-dividend date to determine the total daily dividends for each day. Special dividends require an index divisor adjustment (as described in Chapter 4) to prevent such distributions from distorting the price index.

3.4. Index Equations

The price indexes are calculated using the following basic equations:

$$\text{Index Value} = \frac{\text{Combined Market Value of Assigned Shares of All Components}}{\text{Divisor}}$$

$$\text{or } I_{(t)} = \frac{\sum_{i=1}^n P_{i(t)} \times S_{i(t)}}{D_{(t)}}$$

where:

$I_{(t)}$ = Index value at time (t)

$D_{(t)}$ = Divisor at time (t)

n = Number of stocks in the index

t = The time the index is calculated

$P_{i(t)}$ = Price of stock (i) at time (t)

$S_{i(t)}$ = Number of assigned shares of stock (i) at time (t)

The initial index divisor is determined using the following equation:

$$D_{(0)} = \frac{\sum_{i=1}^n P_{i(0)} \times S_{i(0)}}{I_{(0)}}$$

where:

$I_{(0)}$ = Base index value at base date

$D_{(0)}$ = Initial divisor at base date

n = Number of stocks in the index

$P_{i(0)}$ = Closing price of stock (i) at base date

$S_{i(0)}$ = Number of assigned shares of stock (i) at base date

Assigned shares are the number of shares needed for each component such that the component conforms to the weighting distribution outlined in Chapter 3.5.

Changes to index composition require divisor adjustments in order to retain index continuity before and after specific events (as outlined in Chapter 4 – Index Maintenance). Divisor changes are made according to the following formula:

$$D_{(t+1)} = D_{(t)} \times \frac{\sum_{i=1}^n P_{i(t+1)} \times S_{i(t+1)}}{\sum_{i=1}^n P_{i(t)} \times S_{i(t)}}$$

where:

$D_{(t+1)}$ = Divisor after changes are made to the index

$P_{i(t+1)}$ = Price of each stock after index changes

$S_{i(t+1)}$ = Number of assigned shares of each stock after index changes

$D_{(t)}$ = Divisor before changes are made to the index

$P_{i(t)}$ = Price of each stock prior to index changes

$S_{i(t)}$ = Number of assigned shares of each stock prior to index changes

3.5. Initial Component Selection

The following steps are taken to select the initial components for the **Horizon Kinetics ISE Global Wealth Index**:

1. Establish population of companies that do meet the Component Eligibility Requirements of Chapter 3.2.
2. If a component has multiple share classes, include the most liquid issue for that company (using average daily value traded during the prior six-month period) and remove the remaining classes.
3. Adjust each component's weighting to an equal weight using the following equation:

$$W_i = \frac{1}{n}$$

where:

W_i = Weight of each component

n = The number of components

The index portfolio does not have a fixed number of stocks and attempts to include every stock that meets the eligibility requirements contained herein.

The index component list is provided in Appendix A.

Chapter 4. Index Maintenance

This chapter describes the circumstances that require index changes, as well as the details on performing those changes.

4.1. Divisor Changes

Changes to index composition due to corporate actions or component eligibility changes will require Index Divisor adjustments, as follows:

Component change	Adjustment
Spinoff*	Subtract the following from the price of the parent company: $\left(\frac{\text{Spinoff stock price}}{\text{Share exchange ratio}} \right)$ Adjust the assigned shares such that component's weighting is not changed as a result of the spinoff.
Special Cash Dividend	Subtract special dividend from share price
Rights Offering	Subtract the following from the price of the parent company: $\left(\frac{\text{Price of rights}}{\text{Rights ratio}} \right)$ Adjust the assigned shares such that component's weighting is not changed as a result of the rights offering.

Divisor changes are usually made on the date the corporate action becomes effective. For example, the **Horizon Kinetics ISE Global Wealth Index** uses the ex-dividend date rather than the payment date to determine when making divisor adjustments.

*Special note on Spin-offs: If a company being spun off is only trading on a "when-issued" basis, the "when-issued" price will be used to adjust the parent company's closing price.

4.2. Details of Share Changes

Stock splits and reverse splits do not require Index Divisor adjustments because the corresponding change to the stock price equally offsets the number of assigned shares, therefore not affecting the component's influence in the Index.

4.3. Scheduled component changes and review

The **Horizon Kinetics ISE Global Wealth Index** has a quarterly review in March, June, September and December of each year. Component changes are made after the close on the last trading day of March, June, September and December, and become effective at the opening on the next trading day.

1. Develop pool of all eligible stocks using the requirements of Chapter 3.2.
2. Adjust the assigned shares of the component stocks to achieve the weighting distribution outlined in Chapter 3.5.

4.4. Interim component changes

Component changes may occur between review periods if a specific corporate event makes an existing component ineligible. The following events may require a component's replacement:

Event	Action
Merger or acquisition	If a merger or acquisition results in one component absorbing another, the resulting company will remain a component and the absorbed company will be replaced. If a non-component company absorbs a component company, the original component will be removed and replaced.
Spin-off	If a component company splits or spins off a portion of its business to form one or more new companies, the resulting company with the highest market value will remain a component as long as it meets the eligibility requirements. The remaining companies will be evaluated for eligibility and possible addition to the Index.
Bankruptcy	A component company will be removed and replaced immediately after bankruptcy filing. Exceptions are made on a case-by-case basis. For example, a security might not be removed immediately when a bankruptcy filing is not a result of operating or financial difficulties.
Delisting	A component company will be removed and replaced immediately after being delisted from its primary market.

4.5. Unscheduled component weight adjustments

Unscheduled component weight adjustments may occur between review periods if any component accounts for more than 24% of the index weight. The market capitalization of any component representing more than 24% of the index weight will be adjusted such that its new weight is no more than 20%. Even though the weighting limit is 30% for a single component, all components accounting for over 24% of the index market value are adjusted to 20% to avoid future unscheduled rebalancing events.

Chapter 5. Index Calculation and Dissemination

This chapter summarizes calculation and dissemination practices, quality assurance practices, and the circumstances requiring calculation corrections.

5.1. Price Calculation

Price and total return indexes for the **Horizon Kinetics ISE Global Wealth Index** are calculated by STRUCTURED SOLUTIONS. The price index is calculated on a real-time basis, and the total return index is calculated and disseminated on an end-of-day basis. The **Horizon Kinetics ISE Global Wealth Index** is calculated using the last traded price for each company in the Index from the relevant exchanges and markets.

Index values are rounded to two decimal places and divisors are rounded to 6 decimal places.

5.2. Calculation Frequency and Dissemination

The **Horizon Kinetics ISE Global Wealth Index** is calculated on a real-time basis beginning when the first traded price of any of the index components is received by STRUCTURED SOLUTIONS. Prices are delivered to ISE every 15 seconds and subsequently published to the Options Price Reporting Authority at that frequency. Total return index values are posted on ISE's publicly available website, www.ise.com.

If trading in a stock is suspended prior to the market opening, the stock's adjusted closing price from the previous day will be used in the index calculation until trading commences. If trading in a stock is suspended while the relevant market is open, the last traded price for that stock will be used for all subsequent index calculations until trading resumes.

5.3. Input Data

STRUCTURED SOLUTIONS uses various quality assurance tools to audit, monitor, and maintain the accuracy of its input data. While every reasonable effort is taken to ensure high standards of data integrity, there is no guarantee against errors. Please refer to the Data Correction section for more detail.

The index closing price is calculated using the closing prices issued by the primary exchange for each component stock in the Index. If the primary exchange changes the closing price of a component stock, the new price will be used to calculate the index closing price. A final check of closing prices is done between one hour and one and one half hours after the close of markets. This timeframe may be expanded at STRUCTURED SOLUTIONS's discretion on days where trading volume is unusually large at the close. For example, futures and options expiration dates, and large index rebalancing dates often result in unusually large volume. Only changes received prior to this final check are used in the closing price calculation.

5.4. Data Correction

Incorrect index component data, corporate action data, or Index Divisors will be corrected upon detection. If such errors are discovered within five days of occurrence, they will be corrected that same day. If discovered after five days, adjustments will be handled on a case-by-case basis depending on the significance of

the error and the feasibility of a correction. Announcements will be made on ISE's publicly available website prior to the change becoming effective.

Incorrect intraday index tick data will not be corrected. However, incorrect opening and closing values will be corrected as soon as possible after detection.

Appendices

This section provides additional information related to the **Horizon Kinetics ISE Global Wealth Index** as well as changes to this document.

Appendix A. Document Change History

A history of significant changes to this document is shown in the table below.

Issue	Date	Change
0.1	August 31, 2012	First draft
1.0	September 28, 2012	Update
1.1	June 27, 2013	Update liquidity requirements
1.2	September 25, 2014	Clarify liquidity requirements
1.3	November 28, 2014	Update section 3.2



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