

## THE INDEX

The Pacer NASDAQ-100 Trendpilot™ Index (USD) (the “**Index**”) was created by Index Design Group (the “**Index Sponsor**”). The Index was established on June 3, 2015 with an Index closing level equal to 253.31.

The Index uses an objective, rules-based methodology to implement a systematic trend-following strategy that directs the Index’s exposure to either 100% NASDAQ-100® Index (the “NASDAQ-100”), or 50% NASDAQ-100® and 50% 3-Month US Treasury bills, or 100% 3-Month US Treasury bills as of the most recent weekly auction rate.

When the NASDAQ-100® Total Return Index is above its 200 day simple moving average for five consecutive business days the Index will track 100% NASDAQ-100®. When the NASDAQ-100® Total Return Index falls below its 200 business day simple moving average for five consecutive business days the first signal occurs. This indicates a negative trend has been established and the Index will track 50% NASDAQ-100® and 50% 3-Month US Treasury bills. A second signal is established when the direction of the simple moving average changes from positive to negative. Confirmation of the second signal is determined when the most recent closing price of the NASDAQ-100® Total Return Index 200 business day simple moving average falls below its closing price from five days prior. When the second signal is confirmed the Index will track 100% 3-Month US Treasury bills. Once the Index is tracking 100% 3-Month Treasury bills it will have no exposure to the NASDAQ-100® until the NASDAQ-100® Total Return Index is above its 200 business day simple moving average for 5 consecutive business days. When this positive trend is established the Index will track 100% NASDAQ-100®.

In the event the NASDAQ-100® Total Return Index closes 20% above or 20% below its 200-day simple moving average, the Index will change exposures effective at the end of the following business day to 50% NASDAQ-100® Total Return Index and 50% U.S. Treasury Bills. This new exposure (the “Special Exposure”) will remain in place until the traditional rules trigger a new exposure change. For example, if the NASDAQ-100® Total Return Index closes 20% above its 200-day simple moving average, the Index will move to the Special Exposure of 50% NASDAQ-100® Total Return Index and 50% U.S. Treasury Bills. In order for the Special Exposure to be nullified, the NASDAQ-100® Total Return Index would need to close below its moving average for 5 consecutive trading days. This would then revert the index back to its normal ruleset.

When the Index changes exposure the change will be effective on the second business day. Following the signal the Index aims to mitigate, to some extent, the volatility of the NASDAQ-100® by tracking 3-Month US Treasury bills (instead of the NASDAQ-100®) when the NASDAQ-100® Total Return Index is in a negative trend.

It is possible for both negative trends to occur at the same time. When this happens the index will go from tracking 100% NASDAQ-100® to tracking 100% 3-month US Treasury Bills.

### ***Simple Moving Average***

A simple, or arithmetic, moving average that is calculated by adding the closing price of the security for a number of time periods and then dividing this total by the number of time periods. Short-term averages respond quickly to changes in the price of the underlying, while long-term averages are slow to react.

### ***The NASDAQ-100 Index***

The NASDAQ-100® Index includes 100 of the largest non-financial securities listed on The NASDAQ Stock Market based on market capitalization. The NASDAQ-100® Index comprises securities of companies across major industry groups, including computer, biotechnology, healthcare, telecommunications and transportation. However, it does not contain securities of financial companies, including investment companies. The NASDAQ-100® Index was developed by NASDAQ OMX.

### ***The 3-month US T-Bill Index***

On July 13, 2015 the Index Committee adopted a more formal approach to be utilized in the Pacer NASDAQ-100<sup>®</sup> Trendpilot<sup>™</sup> Index. In doing so, it created a separate index that will replace the original rules. Below is a description of the new formal index rules.

The 3-month US T-Bill Index is designed to act as a US dollar-denominated cash position through the use of nine 3-month US Treasury-Bills (T-Bills) ranging from 30-91 days in duration.

The 3-month US T-Bill Index is an equal weighted index. The value of the Index equals the aggregate value of the Index share weights, also known as the Index Shares, of each of the Index Securities multiplied by each security's Last Sale Price, and divided by the divisor of the Index. The divisor serves the purpose of scaling such aggregate value to a lower order of magnitude, which is more desirable for Index reporting purposes. The Index began on July 13, 2015 at a base value of 100.00.

The Indexes are calculated and disseminated once per day in USD. The closing value of the Indexes may change up until 17:15:00 ET due to corrections to the Last Sale Price of the Index Securities.

### **Eligibility Criteria**

Index eligibility is limited to active 3-month United States Treasury Bills with duration greater than 30 days and less than 91 days.

### **Index Evaluation**

The Index Securities are evaluated on a weekly basis, except as outlined below under the Holiday Exceptions section.

- 1) Up to nine 3-month US T-Bills with maturities between 30 and 91 days remaining will be selected for Index inclusion at the launch.
- 2) Each Thursday, at the open of trading, the Index will be reviewed to determine the Index Security with the last amount of maturity remaining. This Index Security will be removed from the Index and will be replaced with a new Index Security that has up to 90 days of maturity remaining. The new Security will be replaced at the same weight as the removed Index Security.
- 3) The Index change will become effective prior to market open on the following Monday.

### **Holiday Exception**

- 1) In the event Thursday is a US trading holiday, the review will be conducted on the next US trading day. In the event Monday is a US trading holiday, the Index changes will become effective on the next US trading day.

### **Index Rebalance**

The Index employs an equal-weighted methodology and will be set to equal weighted at the Index launch. At each weekly Evaluation, the removed Index Security will be replaced at the same weight as the new Index Security.

If the weight of any individual security deviates by more than 20% from a target equal weight percentage, the Index will undergo a rebalance back to equal weight at the next Weekly Evaluation.

#### Detailed Calculation of Index Level

$$I_t = I_{t-1} \times [Z_{t-2} \times PN1R_t + (1 - Z_{t-2}) \times (1 + CR_t)^d]$$

Where  $PN1R_t = \frac{PN1_t}{PN1_{t-1}}$

$$CR_t = \left[ \frac{1}{1 - \frac{91}{360} \times Bill_{t-1}} \right]^{1/91} - 1$$

$$Z_t = \begin{cases} 1 & \text{if, for all } B = 4,3,2,1,0, PN1_{t-B} > PN1MA_{t-B} \\ 0.5 & \text{if, for all } B = 4,3,2,1,0, PN1_{t-B} < PN1MA_{t-B}, \text{ and } PN1MA_t > PN1MA_{t-5}, \text{ and } Z_{t-1} \neq 0 \\ & \text{or if } \left| \frac{PN1_{t-2}}{PN1MA_{t-2}} - 1 \right| \geq 20\% \\ 0 & \text{if, for all } B = 4,3,2,1,0, PN1_{t-B} < PN1MA_{t-B}, \text{ and } PN1MA_t < PN1MA_{t-5} \\ Z_{t-1} & \text{Otherwise} \end{cases}$$

$$PN1MA_t = \frac{1}{200} \times \sum_{t-199}^t PN1_t$$

And:

$I_t$  = the Index Level on Index business day t, where on the Index Base Date, the Index Base Value is 100.

$Z_t$  = the value of the trend indicator for Index business day t (with a value of “1” indicating that the Reference Index Trend is positive for such Index business day, a value of “0.5” indicating that the Reference Index Trend is negative for such Index business day, a value of “0” indicating that the Reference Index Trend is negative for such Index business day, and a value of “ $Z_{t-1}$ ” indicating that the Reference Index Trend is the same as the immediately preceding Index business day).

$PN1R_t$  = the return on the Index Pricing Index for Index business day t.

$CR_t$  = the Cash Rate for Index business day t.

d = the number of calendar days that have elapsed between Index business day t-1 and Index business day t.

$PN1_t$  = the Reference Index Closing Level on Index business day t.

$Bill_t$  =

DATE|INDEX TICKER|EOD LEVEL

20150811|NQCASH|99.998768

DATE	CUSIP	SHARES	EOD PRICE	EOD MV
20150811	912796GE3	1111.156668	99.995842	111111.046611
20150811	912796EX3	1111.126666	99.99747	111109.85545
20150811	912796GF0	1111.137778	99.99697	111110.411053
20150811	912796GG8	1111.135556	99.996176	111109.306618
20150811	912796GJ2	1111.186583	99.995675	111113.852418
20150811	912796FB0	1111.194384	99.993303	111111.996731
20150811	912796GK9	1111.214443	99.988657	111108.839795
20150811	912796GL7	1111.282583	99.984297	111110.80783
20150811	912796GM5	1111.218888	99.981712	111101.566829

$PN1MA_t$  = the Reference Index Simple Moving Average for Index business day t.

Reference Index: NASDAQ-100<sup>®</sup> Total Return Index

Tracking Index: Pacer NASDAQ-100<sup>®</sup> Trendpilot<sup>™</sup> Index which allocates between *The NASDAQ-100<sup>®</sup> Index* and the *The 3-Month US T-bill Index*

Index Pricing Index: Pacer NASDAQ-100<sup>®</sup> Trendpilot<sup>™</sup> Total Return Index which allocates between *The NASDAQ-100<sup>®</sup> Total Return Index* and *The 3-Month US T-bill Index*

## Index Calculation Agent

NASDAQ or another party designated by the Index Sponsor (as defined below), will act as the calculation agent for the Index (the “**Index calculation agent**”) and will be responsible for calculating the level of the Index using the Index Methodology published by the Index Sponsor. The Index Sponsor will be the final authority on the Index and the interpretation of the Index Methodology.

The Index calculation agent will calculate the Index Level for each Index business day. The Index Level will be displayed on Bloomberg by no later than 6:00 p.m. (New York City time) on each Index business day. Intraday Index levels will be published by the Index calculation agent under ticker symbol “XNDXTRND” The Index Level will not be published on any day on which the Index Level is not calculated, whether because such day is a disrupted day (as defined under “—Index Disruption Events” below) or otherwise. All numerical values for the Index will be rounded to fifteen decimal places.

In the event that the Index calculation agent or the Index Sponsor determines that a material error has occurred in the calculation of the Index, the Index calculation agent, having consulted, or having been consulted by, the Index Sponsor, will endeavor to correct such error on a date agreed to by the Index Sponsor. If a material error is corrected, the Index Sponsor will apply the correction from the relevant date forward.

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## Index Disruption Events

If, in the opinion of the Index Sponsor, any Index business day is a disrupted day (as defined below), the Index Level will not be published on such Index business day and will instead be calculated and published by the Index calculation agent on the next succeeding Index business day that is not a disrupted day, as determined by the Index Sponsor in good faith and subject to the index disruption fallbacks described under “—Index Disruption Fallbacks” below.

A “**disrupted day**” means any Index business day on which:

- any Exchange fails to open for trading during its regular trading session;
- an index disruption event (as defined below) occurs; or
- an Index adjustment event (as defined under “—Index Adjustment Events” below) occurs.

An “**index disruption event**” means the occurrence or existence of any of the following events if, as determined by the Index Sponsor, it has a material impact on the Index:

- it becomes impossible, on a certain Index business day, to obtain a closing level or any other price level for any component of, or instrument that is referenced by, the Index (a “**price disruption**”);
- any suspension of, or limitation imposed on, trading by any Exchange or otherwise, and whether by reason of price movements exceeding limits permitted by such Exchange or otherwise (a “**trading disruption**”);
- any event (other than an early closure, as defined below) during the one hour period that ends at the regularly scheduled close of trading for the securities comprising the Benchmark Index that disrupts or impairs (as determined by the Index calculation agent and/or Index Sponsor) the ability of market

participants to effect transactions in, or obtain market values for, any component of or instrument that is referenced by the Index (an “**exchange disruption**”); or

- on any Index business day and in respect of any instrument or component referenced by the Index, the closure of any Exchange prior to its scheduled closing time, unless such earlier closing is announced by such Exchange at least one hour prior to the earlier of (a) the actual closing time for the regular trading session on such Exchange on such Index business day, and (b) the submission deadline for orders to be entered into the Exchange’s dealing system for execution on such Index business day (an “**early closure**”).

### **Index Adjustment Events**

The Index Methodology may be adjusted, amended, deleted or otherwise altered by the Index Sponsor at any time, acting in good faith and with the consent of the Index calculation agent, if the Index is no longer calculable in accordance with the Index Methodology (any event or condition giving rise to the right to so adjust, amend, delete or alter the Index, an “**Index adjustment event**”). Such adjustments may include, but are not limited to, adjustments required for clarification or for minor or technical reasons (including, without limitation, to correct any manifest or proven error or to cure, correct or supplement any ambiguity or defective provision contained in the Index Methodology).

### **Index Disruption Fallbacks**

If (a) five consecutive Index business days are disrupted days, or (b) the Index Sponsor determines that (i) there is a discontinuation in the publication of prices for any component of or instrument referenced by the Index, (ii) the use of any component of or instrument referenced by the Index has become prohibited, (iii) the sponsor of any component of or instrument referenced by the Index has changed the specifications of such instrument or component, (iv) any component of or instrument referenced by the Index is modified or changed in any other way (except for a previously announced modification), or (v) any component of or instrument referenced by the Index has been or is likely to become terminated, then the Index Sponsor will, in consultation with the Index calculation agent, have the right to:

- accept the closing level of any component of or instrument referenced by the Index published on any alternative price source;
- if no alternative price source is available, select a substantially similar component for the Index or instrument to which the Index can be linked;
- if no alternative price source or similar instrument or component is available, adjust, amend or otherwise alter this description of the Index; and
- if none of the foregoing will achieve the objective of the Index as set forth above, permanently cease to calculate and/or disseminate levels for the Index.

### **Termination of the Index**

The Index Sponsor may, at any time and without notice, terminate publication of the Index and proceed to ask the Index calculation agent to cease the calculation and dissemination of the Index.

### **Change in Index Methodology**

No assurance can be given that fiscal, market, regulatory, juridical, financial or other circumstances (including,

without limitation, any changes to, or any suspension or termination of any components for which values must be determined in relation to the Index) will not arise that would, in the determination of the Index Sponsor, necessitate or make desirable a modification of, or change to, the Index Methodology.

Any change to, or modification of, the Index Methodology may be outside the technology employed by the Index calculation agent, and thus the Index calculation agent may not be able to calculate the Index following such change or modification. In such event the Index Sponsor may, in its sole and absolute discretion, appoint a successor Index calculation agent.

## **Disclaimer**

Although the Index Sponsor obtains price and return data from sources that it considers reliable, for example for the Benchmark Index, the Index Sponsor will not independently verify such data, and neither does it guarantee the accuracy and/or completeness of any data included in this description of the Index, nor the accuracy of any Index Levels.

The Index Sponsor is under no obligation to advise any person or entity of any error in the Index (but may do so in its sole and absolute discretion). References to the Benchmark Index and the 3-month US Treasury bills are included only to describe the components upon which the Index is based. The Index is not in any way sponsored, endorsed or promoted by NASDAQ or any Exchange.

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## **Background on the Index Components**

### *Benchmark Index*

We have derived all information contained in this index methodology regarding The Pacer NASDAQ-100® Trendpilot™ Index and the NASDAQ-100® (the “**Benchmark Index**”), including, without limitation, their make-up, method of calculation and changes in their components, from publicly available information. Such information reflects the policies of, and is subject to change by, NASDAQ.

The Benchmark Index is widely distributed under the ticker symbol NDX.

The table below summarizes the types of Index Maintenance adjustments and indicates whether or not an Index Divisor adjustment is required.

<u>Type of Corporate Action</u>	<u>Comments</u>	<u>Divisor Adjustment</u>
Company added/ deleted	Net change in market value determines divisor adjustment.	Yes
Change in shares outstanding	Any combination of secondary issuance, share repurchase or buy back – share counts revised to reflect change.	Yes
Stock split	Share count revised to reflect new count. Divisor adjustment is not required since the share count and price changes are offsetting.	No
Spin-off	If the spun-off company is not being added to the index, the divisor adjustment reflects the decline in index market value (i.e., the value of the spun-off unit).	Yes
Spin-off	Spun-off company added to the index, no company removed from index.	No
Spin-off	Spun-off company added to the index, another company removed to keep number of names fixed. Divisor adjustment reflects deletion.	Yes
Change in IWF due to a corporate action or a purchase or sale by an inside holder.	Increasing (decreasing) the IWF increases (decreases) the total market value of the index. The divisor change reflects the change in market value caused by the change to an IWF.	Yes
Special dividend	When a company pays a special dividend the share price is assumed to drop by the amount of the dividend; the divisor adjustment reflects this drop in index market value.	Yes
Rights offering	Each shareholder receives the right to buy a proportional number of additional shares at a set (often discounted) price. The calculation assumes that the offering is fully subscribed. Divisor adjustment reflects increase in market cap measured as the shares issued multiplied by the price paid.	Yes

Stock splits and stock dividends do not affect the Index Divisor, because following a split or dividend, both the stock price and number of shares outstanding are adjusted by NASDAQ Indices so that there is no change in the Market Value of the NASDAQ Component Stock. All stock split and dividend adjustments are made after the close of trading on the day before the ex-date.

Each of the corporate events exemplified in the table requiring an adjustment to the Index Divisor has the effect of altering the Market Value of the NASDAQ Component Stock and consequently of altering the aggregate Market Value of the NASDAQ Component Stocks (the “Post-Event Aggregate Market Value”). In order that the level of the Pacer NASDAQ Index (the “Pre-Event Index Value”) not be affected by the altered Market Value (whether increase or decrease) of the affected Component Stock, a new Index Divisor (“**New Divisor**”) is derived as follows:

$$\frac{\text{Post-Event Aggregate Market Value}}{\text{New Divisor}} = \text{Pre-Event Index Value}$$

$$\text{New Divisor} = \frac{\text{Post-Event Aggregate Market Value}}{\text{Pre-Event Index Value}}$$

A large part of the Index Maintenance process involves tracking the changes in the number of shares outstanding of each of the NASDAQ Index companies. Four times a year, on a Friday close to the end of each calendar quarter, the share totals of companies in the NASDAQ Index are updated as required by any changes in the number of shares outstanding. After the totals are updated, the Index Divisor is adjusted to compensate for the net change in the total Market Value of the NASDAQ-100® Index. In addition, any changes over 5% in the



current common shares outstanding for the NASDAQ-100® Index companies are carefully reviewed on a weekly basis, and when appropriate, an immediate adjustment is made to the Index Divisor.

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