

## THE INDEX

The Pacer Trendpilot US Large Cap Index (USD) (the “**Index**”) was created by the Index Design Group (the “Index Sponsor” or “IDG”).

### ***Summary***

The Index uses an objective, rules-based methodology to implement a systematic trend-following strategy that directs the Index’s exposure to either 100% S&P 500 Index, 50% S&P 500 Index and 50% S&P US Treasury Bill 0-3 Month Index, or 100% S&P US Treasury Bill 0-3 Month Index .

When the S&P 500 Total Return Index is above its 200 business day simple moving average for five consecutive business days the Index will track 100% S&P 500 Index. When the S&P 500 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% S&P 500 Index and 50% S&P US Treasury Bill 0-3 Month Index. The index’s weights will float with the market until the next signal triggers.

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 S&P 500 Total Return Index 200 business day simple moving average falls below its closing price from 5 days prior. When the second signal is confirmed the Index will track 100% S&P US Treasury Bill 0-3 Month Index.

It is possible for both negative trends to occur at the same time. When this happens the index will go from tracking 100% S&P 500 Total Return Index to tracking 100% S&P US Treasury Bill 0-3 Month Index.

Once the Index is tracking 100% S&P US Treasury Bill 0-3 Month Index it will have no exposure to the S&P 500 Index until the S&P 500 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 move directly to tracking 100% S&P 500 Index. The Index can only move to tracking 100% S&P 500 Index from the 100% S&P US Treasury Bill 0-3 Month Index position.

When any trigger changes Index exposure, the change will be effective on the opening of the second business day after the signal. The Index aims to mitigate, to some extent, the volatility of the S&P 500 by tracking S&P US Treasury Bill 0-3 Month Index (instead of the S&P 500) when the S&P 500 Total Return Index is in a negative trend.

### ***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 S&P 500 Index***

The S&P 500 index includes 500 leading companies and captures approximately 80% coverage of available market capitalization. The index is computed by weighted average market capitalization.

### ***The S&P U.S. Treasury Bill 0-3 Month Index***

The S&P U.S. Treasury Bill 0-3 Month Index is designed to act as a US dollar-denominated cash position. The S&P U.S. Treasury Bill 0-3 Month Index is designed to measure the performance of U.S. Treasury bills maturing in 0 to 3 months.

### ***Currency versions, calculation frequency, desired ticker, name and description.***

#### **1. Price Return**

- a. Index Name = Pacer Trendpilot US Large Cap Index
- b. EOD or Real-time? Real-time
- c. Desired Ticker (8 character max) = **PTLC**
- d. Index Description (for BBG it can only be 300 characters including spaces) = The Pacer Trendpilot US Large Cap Index utilizes a systematic trend-following strategy that provides exposure to either the S&P 500 Total Return Index, the S&P U.S. Treasury Bill 0-3 Month Index, or 50 percent of each, depending on the relative performance of the S&P 500 Total Return Index on a simple historical, 200-day moving average.
- e. Currency = USD
- f. Hedged PR, if so hedged from what current into what currency (please note for hedged indices we need to know points i-iv specific for the hedged level too)? Not Hedged

## 2. Total Return

- a. Index Name = Pacer Trendpilot US Large Cap Total Return Index
- b. EOD or Real-time? Real-time
- c. Desired Ticker (8 character max) = **PTLCTR**
- d. Index Description (for BBG it can only be 300 characters including spaces) = The Pacer Trendpilot US Large Cap Total Return Index utilizes a systematic trend-following strategy that provides exposure to either the S&P 500 Total Return Index, the S&P U.S. Treasury Bill 0-3 Month Index, or 50 percent of each, depending on the relative performance of the S&P 500 Total Return Index on a simple historical, 200-day moving average.
- e. Currency = USD
- f. Hedged TR, if so hedged from what current into what currency (please note for hedged indices we need to know points i-iv specific for the hedged level too)? Not Hedged

## 3. Net Total Return

- a. Index Name = Pacer Trendpilot US Large Cap Net Tax Index
- b. EOD or Real-time? EOD
- c. Desired Ticker (8 character max) = **PTLCNT**
- d. Index Description (for BBG it can only be 300 characters including spaces) = The Pacer Trendpilot US Large Cap Net Tax Index utilizes a systematic trend-following strategy that provides exposure to either the S&P 500 Total Return Index, the S&P U.S. Treasury Bill 0-3 Month Index, or 50 percent of each, depending on the relative performance of the S&P 500 Total Return Index on a simple historical, 200-day moving average.
- e. Currency = USD
- f. Hedged NTR, if so hedged from what current into what currency (please note for hedged indices we need to know points i-iv specific for the hedged level too)? Not Hedged
- g. Withholding Tax (WHT)
  - i. Follow S&P DJI's Standard WHT rates. In S&P Dow Jones Indices' context, this refers to the tax that non-residents are subject to, when the country in which the company paying the dividends is incorporated is not where the shareholder resides. In most countries, domestic shareholders are not required to pay this tax. Tax treaties between countries may reduce the amount of withholding tax required. Visit <http://us.spindices.com/resource-center/index-policies/> to view the latest withholding tax rates by markets.

## ***Index Purpose***

1. Product

## ***History***

1. Length of history to be calculated by SPDJI:
  - a. PTLC: 17.76 years
  - b. PTLCTR: 17.76 years
  - c. PTLCNT: 17.76 years
2. Calculation Start Date:
  - a. PTLC: 12/31/99
  - b. PTLCTR: 12/31/99
  - c. PTLCNT: 12/31/99
3. Base Value: 100

## ***Index Holiday Schedule***

1. Exchange Holidays - the index will be calculated every trading day if at least one component is open for trading. If all components' exchanges are closed, the index will not be calculated.

## ***Rebalance Schedule***

The **systematic trend-following strategy** is determined by the S&P 500 Total Return Index 200 business day simple moving average. When the SPXT Index is above its 200 business day SMA for five consecutive business days, this signals the Index to track 100% SPXT. When the SPXT Index falls below its 200 business day SMA for five consecutive business days, this signals the index to track 50% SPXT and **50% S&P U.S. Treasury Bill 0-3 Month Index**. When the most recent closing price of the SPXT Index 200 business day SMA falls below its closing price from 5 days prior, this signals the index to track 100% S&P U.S. Treasury Bill 0-3 Month Index.

It is possible for both negative trends to occur at the same time. When this happens the index will go from tracking 100% SPXT to tracking S&P U.S. Treasury Bill 0-3 Month Index.

When the index is tracking 100% S&P U.S. Treasury Bill 0-3 Month Index, the index can only move back into the 100% SPXT position. The index will not return to track 100% SPXT until it is signaled by the SPXT Index being above its 200 business day SMA for 5 consecutive business days.

### **Examples**

If the S&P 500 Total Return Index is below the 200 business day SMA for 5 days consecutively starting Monday through Friday, the index rebalances to 50% SPXT and 50% S&P U.S. Treasury Bill 0-3 Month Index. This is effective at the following Monday close for Tuesday open.

If on this Friday the S&P Total Return Index 200 business day SMA falls below its closing price on the prior Friday, the index rebalances to 100% S&P U.S. Treasury Bill 0-3 Month Index instead of 50%. This is effective at the following Monday close for Tuesday open.

## Selection rules

**Index of indices.** For selection rules see the section *Detailed Calculation of Index Level*.

### Weighting rules (applied at rebalance)

Pacer will use S&P's weighting rules for stocks while its 100% in SPXT. When the SPXT Index falls below its 200 business day SMA for five consecutive business days, the index will be reweighted to track 50% SPXT and 50% S&P U.S. Treasury Bill 0-3 Month Index. When the most recent closing price of the SPXT Index 200 business day SMA falls below its closing price from 5 days prior, this signals the index to track 100% S&P U.S. Treasury Bill 0-3 Month Index..

1. Intra-rebalance weighting rules (i.e. capping) if applicable: Holdings float intra-rebalance.

### Estimated (or actual) number of stocks

It is an index of indices, but the underlying constituent data of the S&P 500 and the S&P U.S. Treasury Bill 0-3 Month Index are needed

1. Exchange listing of stocks: NYSE, NYSE MKT, NASDAQ

### Detailed Calculation of Index Level

$$I_t = I_{t(r)} \times \left[ Z_{t(r)} \times \frac{PLC_t}{PLC_r} + (1 - Z_{t(r)}) \times \frac{TBill_t}{TBill_r} \right]$$

$$Z_{t(r)} = \begin{cases} 1 & \text{if, for all } B = 4,3,2,1,0, PLC_{t-2-B} > PLCMA_{t-2-B} \\ 0.5 & \text{if, for all } B = 4,3,2,1,0, PLC_{t-2-B} < PLCMA_{t-2-B}, \text{ and } PLCMA_{t-2} > PLCMA_{t-2-5}, \text{ and } Z_{t(r)} \neq 0 \\ 0 & \text{if, for all } B = 4,3,2,1,0, PLC_{t-2-B} < PLCMA_{t-2-B}, \text{ and } PLCMA_{t-2} < PLCMA_{t-2-5} \\ Z_{t(r)} & \text{Otherwise} \end{cases}$$

$$PLCMA_t = \frac{1}{200} \times \sum_{t-199}^t PLC_t$$

And:

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

$I_{t(r)}$  = the Index Level as of the close of the most recent rebalance date.

$Z_{t(r)}$  = the value of the trend indicator for the most recent rebalance date (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 “ $Z_{t(r)}$ ” indicating that the Reference Index Trend stays the same.)

$PLC_t$  = the Reference Index Closing Level for Index business day t.

$PLC_r$  = the Reference Index Closing Level as of the close of the most recent rebalance date.

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

$TBill_t$  = the T Bill Index Closing Level for Index business day t.

$TBill_r$  = the T Bill Index Closing Level as of the close of the most recent rebalance date.

Reference Index: S&P 500 Total Return Index

Equity Pricing Index: *The S&P 500 Total Return Index*

T Bill Index: S&P U.S. Treasury Bill 0-3 Month Index Average Price

Tracking Index: Pacer Trendpilot US Large Cap Index which allocates between the *S&P 500 Index* and *The S&P U.S. Treasury Bill 0-3 Month Index*.

## Index Calculation Agent

S&P Dow Jones Indices 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 page “X” (or on any successor page) on each Index business day. Intraday Index levels will be published by the Index calculation agent under ticker symbol “PTLC” 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 S&P U.S. Treasury Bill 0-3 Month Index 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 S&P Dow Jones Indices 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 Trendpilot US Large Cap Index and the S&P 500 Total Return Index (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, S&P Dow Jones Indices.

The Benchmark Index is widely distributed under the ticker symbol **SPXT**.

**Corporate Actions and Events**

A Corporate ‘Action’ is an action on shareholders with a prescribed ex-date. The share price will be subject to an adjustment on the ex-date. The index will be adjusted in line with the ex-date.

A Corporate ‘Event’ is a reaction to company news (event) that may impact the index depending on the index rules. For example, a company announces a strategic shareholder is offering to sell their shares (secondary share offer) – this could result in a free float weighting change in the index.

For corporate actions, S&P rulings will be the default option. Pacer will also have the option to change these corporate action rules by notifying S&P 2 days in advance of the event on actions to take.

Full details of changes to constituent companies due to corporate actions and events can be accessed in the embedded excel attached.



SPDJI Custom Equity Index questionnaire.)

**Corporate action rules (see attached excel document)**

***Whenever PTLC is 100% or 50% exposed to SPXT, the exposed portion will follow the parent index’s corporate actions treatment.***

Options (click on cell A4 to see options):	Comments	
Option 1, Standard corporate actions treatment	Always follow the parent index corporate actions treatment (this requires matching all adds/drops & composition changes of the parent).	<b>*Select approach (click on cell A4 to see options)</b>

***For corporate actions, S&P rulings will be the default option. Pacer will also have the option to change these corporate action rules by notifying S&P 2 days in advance of the event on actions to take.***



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