

# Police & Public Safety Index

Methodology Guide

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# Table of Contents

<b>Table of Contents</b>	<b>2</b>
<b>Introduction</b>	<b>3</b>
Indexone	3
<b>Index Constitution</b>	<b>4</b>
Rebalancing Schedule	4
Eligibility Criteria	4
Issue Type	4
Trading Status	4
Trading Venue	4
Market Capitalization	4
Free Float	4
Trading Volume	4
Ranking	5
Ad-hoc Inclusion	5
Weighting	5
<b>Calculation Methodology</b>	<b>6</b>
Index Values	6
<b>Corporate Actions</b>	<b>7</b>
Dividends	7
Ex-date Adjustment	7
<b>Payment-date Adjustment</b>	<b>7</b>
Splits	7
Spin-offs	7
Eligible Companies	7
Ineligible Companies	8
Mergers & Acquisitions	8
Constituent acquires non-constituent	8
Non-constituent acquires constituent	8
New entities	8
Bankruptcy, Liquidation, Delisting, and Nationalization	8
<b>Correction Policy</b>	<b>9</b>
<b>Denotation</b>	<b>10</b>
<b>Changelog</b>	<b>11</b>

# Introduction

The methodology identifies 'pure-play' firms, defined as those deriving more than 50% of their revenue from the relevant industries, as well as 'quasi-play' firms which derive between 20% and 50% of their revenue from the police and public safety industries.

The number of constituents in the index will vary from time-to-time depending on the number of eligible companies in the index universe. The index represents a theoretical portfolio with zero tax, transaction costs, or slippage. Index values are denominated in USD.

Any index values or constituents dated prior to the index launch date are backtested, and are therefore considered more error prone due to a number of potential biases or errors in the available data.

## Indexone

Indexone is the trading name of Index One Limited. Indexone offers indexing solutions for a variety of financial and non-financial use cases. Indexone is the administrator, calculation agent, and primary disseminator of the index.

# Index Constitution

The base universe for the index is constructed from the universe of securities included in the indexone database at any given point in time. The final index composition is determined by filters and weighting methodology applied to the base universe.

## Rebalancing Schedule

The index is rebalanced quarterly on the first day of each quarter.

## Eligibility Criteria

Index constituents must meet the following eligibility criteria in order to be included in the index. Existing index constituents may temporarily violate the eligibility criteria without suffering immediate exclusion from the index. Each index filtering criteria below is applied in order to calculate the final index universe.

### Issue Type

Only issuances of common stock, ADRs, GDRs, are eligible for inclusion in the index. Issuances of preferred stock are ineligible for inclusion in the index.

In the event where multiple share classes exist for any given company, the most liquid share class is selected for inclusion in the index.

### Trading Status

The security must have traded on 90% of the eligible trading days in the last 6 months. In case a security does not have a trading history of 6 months (only IPOs), such a security must have started trading at least 3 months before the start of the Reconstitution /Rebalancing Process and should have traded on 90% of the eligible trading days for the past 3 months.

Index components must not be going through bankruptcy proceedings or be suspended from trading at the time of inclusion.

### Trading Venue

The index will only include primary listings on U.S. National Exchanges, including but not limited to exchanges run by:

- NYSE
- NASDAQ
- CBOE

### Market Capitalization

Eligible securities must have a market capitalization of at least \$200 million at the time of inclusion

### Free Float

Eligible securities must have a minimum free float equivalent to 10% of shares outstanding.

### Trading Volume

A 6-month average daily turnover greater than or equal to \$2 million

## Ranking

The index first selects all pure-play securities (defined as companies generating 50% or more of their revenue from the relevant industries). If fewer than 30 stocks comprise the index, the top quasi-play companies (defined as companies generating 30% or more of their revenue from the relevant industries) by revenue attribution are included until the count is reached. In the scenario that all quasi-play companies are selected and the count is still below 30, the index may also include other defense and security themed stocks linked to the policing & public safety theme. In this scenario a company that has any business related to products and services focused on policing & public safety is considered eligible. All selection is based on market capitalization.

## Ad-hoc Inclusion

In case of a Significant IPO, a security must have an average daily turnover greater than or equal to \$2 million since the IPO launch date.

In case a security does not have a trading history of 6 months (only IPOs), to be considered for inclusion the IPO must have been listed at least 3 calendar months prior to the rebalance date

## Weighting

Index constituents are equally weighted according to the below formula

$$w_{i,t} = 1/n$$

No free float adjustments or liquidity adjustments are made in the weighting scheme.

# Calculation Methodology

## Index Values

Values for each point in time for the index are obtained by multiplying the price and weight and dividing by the index divisor, for each constituent in the index.

$$iv_t = \sum_{i=1}^n \frac{p_{i,t} \cdot w_{i,t} \cdot FX_{i,t} + R_{i,t}}{D_t}$$

Index values are calculated using real-time data for each updated constituent price over a 1-second rolling window. Values are rounded to a maximum of 18 decimal places.

# Corporate Actions

The index composition, values, or specifications may change as a result of corporate actions undertaken by constituent or non-constituent companies. The index is adjusted in accordance with relevant actions in order to best meet the index objective.

## Dividends

Dividends issued by companies in cash, stock, or other instruments result in the creation of a receivable instrument on the dividend ex-date, and a divisor adjustment on the dividend payment date.

### Ex-date Adjustment

On the dividend ex-date, a receivable security is added to the index, the amount of which is determined by the dividend per share and the weight of the index constituent.

$$R_{i,t} = d_{i,t} \cdot w_{i,t}$$

### Payment-date Adjustment

On the dividend payment date, the receivable security is removed from the index, and redeployed into the index with the current index weighting, which is achieved by making an adjustment to the index divisor.

$$R_{i,xd} = 0 \quad , \quad D_t = \frac{D_{t-1} \cdot iv_t - R_{i,t}}{iv_t}$$

## Splits

The index is adjusted for stock splits by multiplying the relevant index constituent weightings by the split factor. The index split factor is obtained by dividing the split “from factor” by the split “to factor”. Splits which are issued as stock dividends are handled using the same methodology under the condition that the payment date is equal to the ex date.

$$sf_i = \frac{sf_i}{stf_i} \quad , \quad w_{i,t} = w_{i,t-1} \cdot sf_i$$

## Spin-offs

Spun-off companies from index constituents are either included or excluded from the index depending on the index eligibility criteria.

### Eligible Companies

The spun-off company is added to the index using the base weighting formula, no adjustments are made to the parent company.

## Ineligible Companies

The index divisor is adjusted to reflect a liquidation and reinvestment of the spun-off company. In the event where the spun-off company is traded on an exchange, the opening price at trading day  $t$  is used to determine the spun-off company value. In the event of where the spun-off company is privately held, or otherwise not priced on an open exchange, the value is determined by the difference between the parent company value at the spin-off ex-date and the following days opening

$$sv_{i,t} = sp_{i,t} \oplus sv_{i,t} = p_{i,t} \cdot w_{i,t} - p_{i,t+1} \cdot w_{i,t+1}$$

$$D_t = \frac{D_{t-1} \cdot iv_t - sv_{i,t}}{iv_t}$$

## Mergers & Acquisitions

M&A activity is handled differently based on if the acquiring company is or is not an index constituent, becomes eligible for inclusion, remains ineligible for inclusion, creation of a new entity, or any combination of such factors. Handling of M&A in this index aims to minimize exposure to index non-constituents whenever possible, while remaining theoretically investable and accounting for all value transfers.

### Constituent acquires non-constituent

No adjustments are made to the index

### Non-constituent acquires constituent

In the case where the surviving entity becomes eligible for the index the surviving entity is added to the index. In all other cases, the acquired constituent is removed from the index at the last traded value.

$$D_t = \frac{D_{t-1} \cdot iv_t - p_{i,t} \cdot w_{i,t} \cdot FX_{i,t} + R_{i,t}}{iv_t} \wedge w_{i,t} = 0$$

## New entities

M&A activity leading to creation of new entities which the owners of an index constituent retain ownership rights to, the newly created entity will be included or excluded from the index depending on if it fills the index eligibility criteria. In the event where the index constituent is ineligible, it will be removed from the index, adjusting the index divisor by the market value of the entity.

## Bankruptcy, Liquidation, Delisting, and Nationalization

Events where an index constituent is removed from the investable universe through bankruptcy, liquidation, delisting, nationalization, or other comparable means, the index constituent is removed from the index at the effective time of such an event. The value reinvested back into index constituents is equal to the last traded value of the index constituent.



In events where any form of value is provided to shareholders as a result of the action, either in cash, shares, or other instruments, such value is reinvested back into the index at first available market rate, or rate quoted in the transaction, resulting in an adjustment to the index divisor and removal of the index constituent.

$$D_t = \frac{D_{t-1} \cdot iv_t - p_{i,t} \cdot w_{i,t} \cdot FX_{i,t} + R_{i,t}}{iv_t}$$

## Correction Policy

Indexone aims to calculate and distribute index values on a timely basis according to the index methodology. Under circumstances where either indexone or a user of the index detects errors in values or delivery, indexone may issue a correction to the index values, constitution, or corporate action adjustments.

As a rule of thumb, indexone will issue a correction in cases where the price impact of the error is larger than 1 basis point. Indexone will also consider the impact of constituent changes on stakeholders as a result of corrections.

# Denotation

$w$	Weight of the index component.
$S$	Total shares outstanding of the index component.
$FX$	Exchange rate.
$iv$	Index value.
$p$	Price of the index component in the components primary currency.
$D$	Index divisor value.
$R_i$	Receivable amount of instrument i.
$d$	Dividend amount per share.
$sff$	Split from factor.
$stf$	Split to factor.
$sf$	Split factor.
$sv$	Spin-off value

# Changelog

V 1.0	Inception
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