

## **Consultation Results Regarding Methodology Enhancements for the Cboe S&P 500 Dividend Aristocrats Target Income Indices**

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### **OVERVIEW**

**February 27, 2024:** Cboe Global Indices, LLC (“CGI”) conducted a [consultation](#) with members of the financial community regarding a series of proposed enhancements to the methodology and calculations of the Cboe S&P 500 Dividend Aristocrats Target Income Indices (“the Indices”).

The consultation closed on **February 2, 2024**, and two responses supportive of proposed changes number 2-4 were received. CGI has received feedback regarding proposed change number 1, suggesting to modify rather than remove the secondary goal from the index objectives.

The Index Committee has determined proposed changes 2-4 will be adopted and become effective on **April 19, 2024**. Additionally, the index objectives will be modified in line with the received consultation feedback, also per April 19, 2024. Please refer to the final draft methodology document available via this [link](#) for details. The Methodology [webpage](#) will be updated to reflect the changes, shortly before the effective date.

### **IMPACTED INDICES**

Index Name	Index Ticker	Methodology Document
Cboe S&P 500 Dividend Aristocrats Target Income Index Monthly Series	SPATI	<a href="#">Cboe S&amp;P 500 Dividend Aristocrats Target Income Index Monthly Series</a>
Cboe S&P 500 Dividend Aristocrats Target Income Index	SPAI	<a href="#">Cboe S&amp;P 500 Dividend Aristocrats Target Income Index</a>

### **SUMMARY OF PROPOSED CHANGES**

#### **1. Modification to the Indices’ Objectives**

**Summary:** CGI will modify the objectives of the Indices to better reflect the construction and methodologies of the Indices.

**Changes:**

Index	Current Index Objective	New Index Objective
Cboe S&P 500 Dividend Aristocrats Target Income Index Monthly Series (SPATI)	The Cboe S&P 500 Dividend Aristocrats Target Income Index Monthly Series (SPATI) is designed with the primary goal of generating an annualized level of income that is approximately 8.0% over the annual dividend yield of the S&P 500 Index and a secondary goal of generating price returns that are proportional to the price appreciation of the S&P 500 Index.	The Cboe S&P 500 Dividend Aristocrats Target Income Index Monthly Series (SPATI) is designed with the primary goal of generating an annualized level of income that is approximately 8.0% over the annual dividend yield of the S&P 500 Index and a secondary goal of generating limited capital appreciation based on the returns of the equity components of the Index.

Index	Current Index Objective	New Index Objective
Cboe S&P 500 Dividend Aristocrats Target Income Index (SPAI)	The Cboe S&P 500 Dividend Aristocrats Target Income Index (SPAI) is designed with the primary goal of generating an annualized level of income that is approximately 10.0% over the annual dividend yield of the S&P 500 Index and a secondary goal of generating price returns that are proportional to the price appreciation of the S&P 500 Index.	The Cboe S&P 500 Dividend Aristocrats Target Income Index (SPAI) is designed with the primary goal of generating an annualized level of income that is approximately 10.0% over the annual dividend yield of the S&P 500 Index and a secondary goal of generating limited capital appreciation based on the returns of the equity components of the Index.

## 2. Clarification on the Treatment of Option Components within the Indices

**Summary:** Currently, the methodologies do not specify the treatment of the options component of each respective equity-option pair related to events such as, but not limited to: Periodic rebalances, mergers/acquisitions, spin-off and other extraordinary corporate events impacting the underlying S&P 500 Dividend Aristocrats Index (the underlying index). The updated methodology will clarify the treatment of the option component of the respective equity-option pair when such events occur.

### New Methodology:

- Additions to the S&P 500 Dividend Aristocrats Index (e.g., due to periodic rebalance) are added to the Indices at a weight that proportionally mirrors their weights in the S&P 500 Dividend Aristocrats Index. The options counterparts to the new equity components are included in the Indices during the Indices' next scheduled rolls (i.e., weekly for SPAI and monthly for SPATI).
- Deletions from the S&P 500 Dividend Aristocrats Index are removed from the Indices, and their corresponding options positions are closed, or "bought back", on the date the equity component is removed.
- Equity-option pairs are reweighted daily to reflect the weights of the equity components in the S&P 500 Dividend Aristocrats Index. The daily reweighting captures both price movements of equity components and/or periodic re-weightings in the S&P 500 Dividend Aristocrats Index.
- Spun-off companies are included and/or removed/excluded from the Indices in alignment with their inclusion/removal/exclusion in the S&P 500 Dividend Aristocrats Index. During a spin-off event, the options position of the parent company will be closed on the effective date of the spin-off within the S&P 500 Dividend Aristocrats Index and the spun-off company will be added with the same effective date. The options counterparts for both will be reflected during the Indices' next scheduled rolls (i.e., weekly for SPAI and monthly for SPATI).
- Cboe Global Indices, LLC ("CGI") will generally apply corporate events and other index changes in line with the timing communicated within the S&P 500 Dividend Aristocrats Index. CGI reserves the right to communicate, with notice, any extraordinary index changes through normal channels.

## 3. Clarification to Sourcing of Option Prices in the Cboe S&P 500 Dividend Aristocrats Target Income Index (SPAI)

**Summary:** Currently, the methodology does not specify the targeted effective snap-timing of the theoretical options pricing used in the calculation of Cboe S&P 500 Dividend Aristocrats Target Income Index (SPAI). The updated methodology will have clarifying language to indicate the effective snap timing to be 4:00 PM ET.

### New Methodology:

Parameter	SPAI
Option valuation	Theoretical options pricing
Option Closing Value Determination	The theoretical value of the written call option on day t at 4:00 p.m. ET for SPAI.

#### 4. Modification to the Daily Weight Calculation for each Equity-Option Pair

**Summary:** Currently, the weight calculation is a product of the previous day's weight and the return of each Equity-Option Pair. Under the new methodology, each Equity-Option Pair will be reweighted daily (before the open of trading) based on the indicative opening weight in the underlying index.

### New Methodology:

## Non-Roll Date Calculations

The non-roll date return of the Indices is calculated as:

$$(1 + R_t) = \sum_{i=1}^n \omega_{iot}(1 + R_{it})$$

$$1 + R_{it} = (S_t + Div_t - PO_i C_t) / (S_{t-1} - PO_i C_{t-1})$$

where:

- $n$  is the number of components in the S&P 500 Dividend Aristocrats Index on day  $t$ ;
- $\omega_{iot}$  is the weight of the stock in the S&P 500 Dividend Aristocrats Index on day  $t$ ;
- $R_{it}$  is the return of the stock at time  $t$ ;
- $S_t$  is the closing value of the stock at date  $t$ ;
- $S_{t-1}$  is the closing value of the stock at date  $t-1$ ;
- $Div_t$  represents the ordinary cash dividend payable on the stock if the stock has traded "ex-dividend" at date  $t$ ;
- $PO_i$  is the percentage of the portfolio overwritten set on the previous roll date;
- $C_t$  is the closing value of the written call option on day  $t$ ;
- $C_{t-1}$  is the closing value of the written call option on day  $t-1$ .

## Roll Date Calculations

The roll date return of the Indices is calculated in the same way as the non-roll date:

$$(1 + R_t) = \sum_{i=1}^n \omega_{iot}(1 + R_{it})$$

On roll dates, the return for each stock is equal to:

$$1 + R_{it} = (S_t + Div_t - PO_i C_t) / (S_{t-1} - PO_i C_{t-1})$$

$$PO_i = \text{Min}[100\%, [\text{TargetIncomePercentage} + E(Div_{SP}) - AD_T] / AP_{Roll}]$$

$$AD_T = 4 * \sum_{i=1}^n \omega_{it-1} Div_{iRoll}$$

$$Div_{Roll} = \frac{\text{Next expected Quarterly Dividend}}{S_{Roll}}$$

$$AP_{Roll} = NrRollsPerYear * \sum_{i=1}^n \omega_{it-1} CP_{Roll}$$

$$CP_{Roll} = \frac{\text{Premium received from written call option}}{S_{Roll}}$$

where:

- *TargetIncomePercentage* is the target % of annualized income generated over the annual dividend yield of the S&P 500 Index, as specified in section 2.3.
- $E(Div_{SP})$  is annualized expected dividend yield of the S&P 500 Index between the previous reconstitution date T and the next reconstitution date T+1;
- $AD_T$  is the annualized dividend level for the portfolio obtained from expected quarterly dividend level;
- $AP_{Roll}$  is the annualized premium from written call options;
- *NrRollsPerYear* is the number of rolls per year, as specified in section 2.3.
- $CP_{Roll}$  is the premium received from written call options divided by the underlying index level; and
- $Div_{Roll}$  is the next expected Quarterly Dividend level for stock *i* divided by the underlying index level.

## **ADDITIONAL INFORMATION**

Please contact the Cboe Operations Support Center with technical questions, or the Cboe Index Data Group with market data questions.

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