

SECURITIES AND EXCHANGE COMMISSION  
(Release No. 34-80147; File No. SR-OCC-2017-001)

March 3, 2017

Self-Regulatory Organizations; The Options Clearing Corporation; Order Approving Proposed Rule Change Concerning The Options Clearing Corporation's Margin Coverage During Times of Increased Volatility

On January 4, 2017, The Options Clearing Corporation ("OCC") filed with the Securities and Exchange Commission ("Commission") the proposed rule change SR-OCC-2017-001 pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 ("Act"),<sup>1</sup> and Rule 19b-4 thereunder.<sup>2</sup> The proposed rule change was published for comment in the Federal Register on January 25, 2017.<sup>3</sup> The Commission received one comment letter on the Notice.<sup>4</sup> This order approves the proposed rule change.

I. Description of the Proposed Rule Change

A. Background

OCC protects itself against potential losses that could result from the default of a clearing member by requiring margin to be posted in connection with each member's positions. The amount of margin calculated and collected from OCC's clearing members, along with mutualized clearing-fund resources, is intended to make available to OCC sufficient financial resources for the orderly transfer or liquidation of a defaulting clearing member's positions.

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<sup>1</sup> 15 U.S.C. 78s(b)(1).

<sup>2</sup> 17 CFR 240.19b-4.

<sup>3</sup> Securities Exchange Act Release No. 79818 (January 18, 2017) 82 FR 8455 (January 25, 2017 (SR-OCC-2017-001) ("Notice").

<sup>4</sup> See comment from Tressifa S. Moore (January 19, 2017). The comment appears to be an excerpt from the EDGAR Filer Manual, available at [www.sec.gov/info/edgar/edmanuals.htm](http://www.sec.gov/info/edgar/edmanuals.htm), and does not have any substantive relevance to the proposed rule change.

OCC's proprietary risk management system, the System for Theoretical Analysis and Numerical Simulations ("STANS"), calculates each clearing member's margin requirement by utilizing Monte Carlo simulations to forecast price movements related to the positions in each clearing member's portfolio. The STANS margin requirement is intended to be sufficient to collateralize the member's losses across its portfolio over a two-day period, under normal market conditions.

To determine margin requirements, STANS utilizes time-series data, including pricing data on assets underlying the options contracts that OCC clears, and performs calculations related to, among other things, the volatilities of these underliers. The margin amount collected from each clearing member also accounts for expected changes in the value of collateral posted in connection with that member's portfolio.

According to OCC, one of the primary risk drivers in the STANS methodology relates to the volatilities of individual equity securities, which are derived from pricing data imported monthly into STANS. Between data feeds, the STANS margin methodology relies on a process that adjusts the individual volatility measures of equity-based option underliers (e.g., GE or IBM) by a multiplier derived from the volatility of the Standard & Poor's® 500 index ("SPX"). OCC refers to that multiplier as the uniform scale factor. To account for intra-month changes in volatility, the uniform scale factor adjusts individual volatilities of applicable underliers by a factor tied to the relationship between the short-term and long term volatility of the SPX. Specifically, the uniform scale factor is used as a proxy to "scale up" volatilities of equity-based option underliers<sup>5</sup> when near-term volatility estimates fall below a certain ratio relative to long-term average volatility, in each case based on the SPX. OCC asserts that, by applying a scale

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<sup>5</sup> The uniform scale factor applies to the volatility measures for single-name and index underliers. It does not apply to exchange-traded funds, futures, or volatility-based underliers. For the latter types of options, STANS uses a constant volatility measure calculated from monthly data feeds.

factor in this way, margin requirements better account for intra-month volatility risks for individual equity-based option underliers and thereby better ensure that clearing members maintain sufficient margin assets in connection with option positions based upon those underliers.

#### B. The Proposed Rule Change

In its filing, OCC proposed a number of enhancements to its STANS margin methodology that it believes would result in more accurate clearing member margin requirements. Specifically, OCC proposed the following: (1) to change the length of time-series data used to calculate the uniform scale factor; (2) to introduce new equity index-based scale factors; (3) to anchor individual risk factor volatilities to longer-term averages; and (4) to implement daily data updates of risk factors in OCC's statistical models used to value U.S. Treasury securities for collateral and margin purposes.

First, OCC proposed to change the time-series data period and thereby the data set used to calculate the uniform scale factor. One aspect of the uniform scale factor calculation relies on pricing information, or time-series data, relating to the individual components of the SPX index dating back to 1946, which pre-dates the 1957 introduction of the SPX. Because the time-series data pre-dates the SPX's publication, OCC's current practice is to supplement the published SPX data with additional pricing information that relies upon assumptions about what theoretically could have been the index's composition prior to 1957. OCC proposed to discontinue that practice going forward, and instead rely on post-1957 information only. OCC stated that this change would improve the quality of data used in the uniform scale factor calculation.

Second, OCC proposed to introduce four new scale factors for equity-based options. OCC stated that the uniform scale factor is derived from SPX pricing information and currently

serves as OCC's sole volatility proxy used to scale equity-based option underliers. According to OCC, the new scale factors would be based upon indices whose volatility characteristics more closely correlate with the volatility characteristics of the underliers to which they will be applied. Accordingly, OCC believes the new scale factors would serve as more appropriate volatility proxies than the uniform scale factor currently in use. Specifically, OCC proposed to introduce new scale factors based upon the following indices: (1) the Russell 2000® Index (12/29/1978); (2) the Dow Jones Industrial Average Index (9/23/1997); (3) the NASDAQ-100 Index (2/4/1985); and (4) the S&P 100 Index (1/2/1976).<sup>6</sup> OCC stated that although the SPX-based uniform scale factor would continue to serve as the default scale factor for most equity-based products, the new scale factors would apply to a number of index options, options on exchange-traded funds, and options on exchange-traded notes that more closely correlate to the indices used in the proposed scale factor calculations.

Third, OCC proposed to anchor risk factor volatilities to longer-term trends by applying either the uniform scale factor or the applicable proposed new scale factor to the greater of two volatility estimates: (i) an observed, historical average; or (ii) a forecasted volatility measure. The proposed change would modify OCC's current practice of applying the uniform scale factor solely to the forecasted volatility measure for applicable underliers. OCC stated that its revised methodology would better ensure that short-term or temporary decreases in forecasted volatility do not result in significant margin reductions, thereby improving risk management in those cases where observed, historical average volatilities exceed forecasted volatility measures.

Finally, OCC proposed to implement daily updates to risk factors used to construct the U.S. Treasury yield curve and value U.S. Treasury securities for collateral and margin purposes.

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<sup>6</sup> The dates in parentheses are the dates from which OCC has historical data on the specified index.

According to OCC, daily updates to the U.S. Treasury yield curve would better ensure that the STANS margin calculations accurately reflect the current state of the U.S. Treasury market, particularly during periods of heightened volatility, which would lead to more accurate margin calculations.

## II. Discussion and Findings

Section 19(b)(2)(C)<sup>7</sup> of the Act directs the Commission to approve a proposed rule change of a self-regulatory organization if it finds that the rule change, as proposed, is consistent with the requirements of the Act and the rules and regulations thereunder applicable to such organization.

The Commission finds that the proposed rule change is consistent with Section 17A(b)(3)(F) of the Act, which requires, among other things, that the rules of a clearing agency assure the safeguarding of securities and funds that are in the custody or control of the clearing agency or for which it is responsible.<sup>8</sup> As described above, the proposed rule changes are designed to improve the accuracy, and ensure the sufficiency, of margin collateral posted by clearing members. First, OCC's proposed change to rely only on published SPX index data to calculate the uniform scale factor is an appropriate improvement to the process for performing intra-month volatility adjustments in STANS; in turn, having more accurate margin calculations should better ensure that OCC has sufficient financial resources to protect itself in the event of a clearing member default, thereby supporting the safeguarding of securities and funds in OCC's custody and control.

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<sup>7</sup> 15 U.S.C. 78s(b)(2)(C).

<sup>8</sup> 15 U.S.C. 78q-1(b)(3)(F).

Second, OCC's proposed change to introduce new scale factors for equity-based products whose underliers correlate more closely with the indices used in the proposed scale factor calculations appropriately improves the accuracy of STANS calculations relating to volatility risks. More accurately accounting for volatility risks in margin calculations, as above, should better ensure that OCC has sufficient financial resources in the event of a clearing-member default, in turn supporting the safeguarding of securities and funds in OCC's custody and control.

Third, the proposed change to apply the relevant scale factor to the greater of the historical and forecasted volatility measures will support OCC in safeguarding securities and funds in its control by better ensuring that reductions in forecasted volatility do not result in commensurate reductions in margin requirements. By mitigating procyclical reductions in margin requirements, the proposed change is designed to ensure that OCC maintains sufficient margin to protect itself against losses in the event of a clearing member default. This, in turn, better safeguards the securities and funds in OCC's custody and control.

Fourth, the proposed change to incorporate daily updates into the time-series data used to construct the U.S. Treasury yield curve serves to better ensure that the STANS margin calculations for U.S. Treasury securities accurately reflect their value as collateral, especially during periods of heightened volatility. By ensuring that U.S. Treasury securities are accurately valued for collateral and margin purposes, the proposed change is designed to ensure that clearing member accounts do not become under-margined and to protect OCC's non-defaulting members against the potential loss of securities and funds in OCC's custody and control. The proposed rule changes are designed to ensure that OCC is better able to accurately compute and collect sufficient margin from its clearing members, thereby better ensuring that OCC

appropriately estimates and manages its credit exposures. For these reasons, the Commission finds that the proposed change is consistent with Section 17A(b)(3)(F) of the Act.

Additionally, the Commission finds that the proposed rule change is consistent with the Clearing Agency Standards, specifically rules 17Ad-22(b)(1) and (b)(2) under the Act.<sup>9</sup> Rule 17Ad-22(b)(1) requires OCC to establish, implement, maintain, and enforce written policies and procedures reasonably designed to, among other things, limit its exposures to potential losses from defaults by its participants under normal market conditions so that the operations of the clearing agency would not be disrupted and non-defaulting participants would not be exposed to losses that they cannot anticipate or control.<sup>10</sup> Rule 17Ad-22(b)(2) requires OCC to establish, implement, maintain, and enforce written policies and procedures reasonably designed to, among other things, use margin requirements to limit its credit exposures to participants under normal market conditions and use risk-based models and parameters to set such margin requirements.<sup>11</sup>

The Commission finds that the proposed rule change is consistent with rules 17Ad-22(b)(1) and (b)(2) under the Act. The proposed rule change is designed to better enable OCC to limit its potential losses from clearing-member defaults under normal market conditions by improving the data, scale factors, and methodology used to derive certain volatility and other estimates for purposes of margin calculations. By improving these estimates, the STANS margin requirements would better ensure that OCC's members post sufficient collateral in connection with their options positions, thereby protecting OCC against the potential losses from a clearing-member default. Furthermore, by limiting OCC's exposure to such losses, the proposed rule

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<sup>9</sup> 17 CFR 240.17Ad-22(b)(1) and (b)(2).

<sup>10</sup> 17 CFR 240.17Ad-22(b)(1).

<sup>11</sup> 17 CFR 240.17Ad-22(b)(2).

change better ensures that OCC would continue operations without disruption and that non-defaulting clearing members would not be exposed to losses they cannot anticipate or control.

The proposed rule change also would improve the risk-based models and parameters that OCC uses to set margin requirements and limit its credit exposures to clearing members under normal market conditions. STANS, as discussed above, is a risk-based, forecasting tool that OCC currently uses to calculate margin requirements that are intended to be sufficient to collateralize each clearing member's losses over a two-day period under normal market conditions. The proposed change incrementally enhances STANS by improving the data, scale factors, and methodology used to derive certain volatility and other estimates relevant to risk-based margin calculations. The proposed rule change would improve the quality of data used to estimate risk drivers in the STANS margin calculations, for example, by relying solely on published index data throughout the uniform scale factor time-series data period. In addition, the four new scale factors would more accurately reflect intra-month volatility risks associated with applicable option underliers in the STANS margin calculations. The proposed rule change would better ensure that the STANS margin requirements remain anchored to historical average volatilities, thereby mitigating procyclical reductions in margin requirements, by applying the relevant scale factor to the greater of an observed, historical average and a forecasted volatility measure. Finally, incorporating daily updates into time-series data used to construct the U.S. Treasury yield curve would improve valuation of U.S. Treasury collateral and the accuracy of STANS margin calculations, because margin requirements account for expected changes in the value of posted U.S. Treasury collateral. For the reasons stated above, the Commission finds that the proposed change is consistent with Rules 17Ad-22(b)(1) and (b)(2) under the Act.

III. Conclusion

On the basis of the foregoing, the Commission finds that the proposed change is consistent with the requirements of the Act, and in particular, with the requirements of Section 17A of the Act<sup>12</sup> and the rules and regulations thereunder.

IT IS THEREFORE ORDERED, pursuant to Section 19(b)(2) of the Exchange Act,<sup>13</sup> that the proposed rule change (SR-OCC-2017-001) be, and it hereby is, approved.

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.<sup>14</sup>

Eduardo A. Aleman  
Assistant Secretary

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<sup>12</sup> In approving this proposed rule change, the Commission has considered the proposed rule's impact on efficiency, competition, and capital formation. See 15 U.S.C. 78c(f).

<sup>13</sup> 15 U.S.C. 78s(b)(2).

<sup>14</sup> 17 CFR 200.30-3(a)(12).