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COMMENT

December 14, 2001

Mr. Jonathan G. Katz
Secretary
Securities and Exchange Commission
450 Fifth Street, N.W.
Washington, DC 20549-0609

Ms. Jean Webb
Secretary
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street, NW
Washington, DC 20581

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Re: S7-16-01, Customer Margin Rules Related to Security Futures

Dear Mr. Katz and Ms. Webb:

The Options Clearing Corporation ("OCC") is pleased to comment on File No. S7-16-01, "Customer Margin Related to Security Futures."¹ In this release, the Securities and Exchange Commission ("SEC") and the Commodity Futures Trading Commission ("CFTC") proposed rules to establish customer margin requirements for security futures. The agencies propose a minimum initial and maintenance margin level for customers carrying a long or short security futures position of 20 percent of the current market value of the position.² The proposed rules would exempt from these margin levels any portfolio margining system approved by the two agencies. In the release, the SEC and CFTC "strongly encourage the efforts of market participants" to develop a portfolio margining system for security futures customers. This comment letter discusses OCC's views on the appropriate attributes of such a portfolio based margining system. OCC has also submitted a comment letter in conjunction with The American Stock Exchange, the Chicago Board Options Exchange, the International Securities Exchange, the Pacific Exchange, and the Philadelphia Stock Exchange on other aspects of the proposed rules.

¹ Securities Exchange Act, Release No. 44853 (September 28, 2001), 66 FR 50720 (October 4, 2001).

² Id. At 7.

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OCC is a registered securities clearing agency and a registered derivatives clearing organization. OCC clears all exchange traded SEC-regulated options in the United States.³ We are the largest clearing organization in the world for financial derivative instruments and are the first clearinghouse to receive a "AAA" rating from Standard & Poor's Corporation. OCC has executed a clearing agreement with Nasdaq LIFFE, LLC to clear security futures to be traded on that market, and is presently negotiating to clear security futures for OneChicago, a proposed joint venture among the Chicago Board Options Exchange, Chicago Mercantile Exchange, and the Chicago Board of Trade. OCC has been approached to clear security futures for other markets as well.

OCC is pleased that the SEC and CFTC are encouraging the development of a portfolio margining system for security futures at a customer level. Portfolio margining systems are superior to static margin requirements because they dynamically address the actual risk of a particular portfolio. To be fully effective, any portfolio margining system used for accounts of securities customers should be able to handle mixed portfolios containing not only security futures products, but also stocks, securities options, and broad-based stock index futures. OCC's Theoretical Intermarket Margining System (TIMS) is particularly well suited for use in these mixed portfolios. TIMS is the only portfolio margining system specifically developed to margin securities, securities options, and security-based futures. OCC looks forward to the use of TIMS for security futures customers.

TIMS is currently used primarily to calculate margin at the clearing member level.⁴ However, OCC, along with the United States options exchanges,⁵ has long sought approval of portfolio margining at the customer level for options. As a first step, the Chicago Board Options Exchange, working with OCC, the New York Stock Exchange, The American Stock Exchange, the Chicago Board of Trade and the Chicago Mercantile Exchange, has developed a pilot program for portfolio margining for certain customers in broad-based stock index options and futures positions. This pilot program uses TIMS. As noted above, TIMS is well suited for use in the pilot program because it was developed specifically for use in mixed equity portfolios including options, stocks and futures. OCC expects implementation of this pilot program to occur during the first half of 2002. After the markets, firms, and regulators have gained experience with the pilot program, we support the expansion of the pilot program to include security futures, stock options, and the underlying stocks.

In the release, the agencies ask a series of questions about TIMS and the Chicago Mercantile Exchange's Standard Portfolio Analysis of Risk ("SPAN") system. Answers to

³ In 2001, for the tenth year in a row, options volume in the United States set a record. On December 3, year-to-date total options volume hit 728,510,894 contracts. This surpassed 2000's annual record of 726,727,939 total options contracts.

⁴ TIMS is also used to calculate capital haircuts under the SEC's net capital rule for proprietary options positions and for broker-dealers that clear for options market makers.

⁵ The United States options exchanges are The American Stock Exchange, the Chicago Board Options Exchange, the International Securities Exchange, the Pacific Exchange, and the Philadelphia Stock Exchange.

those questions are incorporated throughout the remainder of this letter. Both TIMS and SPAN were designed to measure market risk associated with derivatives. While both systems have been effective, they use somewhat different methodologies that can yield different margin requirements for the same portfolio. In OCC's view, TIMS is the optimal system for margining portfolios containing futures, stocks, and options because TIMS was specifically developed to margin this type of portfolio and has unique attributes designed with that purpose in mind. This does not mean that SPAN cannot or should not be used for margining portfolios that contain security futures. However, OCC believes that TIMS is the most appropriate system for securities accounts, which may include positions in stocks and options as well as futures.

OCC is proud of the sophisticated risk management methodology at the heart of TIMS. This methodology encompasses the following attributes: option pricing modeling; stress testing; implied volatility modeling; and correlation modeling. Because of these attributes, TIMS is well suited to margining mixed portfolios containing futures, stocks, and options.

1. Option Pricing Model. TIMS incorporates a sophisticated option pricing model capable of determining the theoretical value of the contract given the following determinants of its price: the underlying security price, option strike price, time to expiration, implied volatility, expiration style (i.e., American or European), interest rates and cash dividends. Some listed options have terms of up to five years. For this reason, TIMS was designed to accommodate a term structure of interest rates in order to appropriately discount-projected cash flows. In addition, TIMS is able to recognize the discrete payment of cash dividends (rather than inferring a continuous yield).
2. Stress Testing. TIMS can stress test portfolios assuming changes in the key determinants of value over the margin timeframe, including underlying price changes and changes in the option implied volatility. The stress test incorporates a multi-scenario analysis in order to permit the full revaluation of the option theoretical value. TIMS stress tests a sufficient number of scenarios within the underlying price protection band to both capture the curvature of option risk and recognize limited risk strategies where the maximum risk does not reside at the limits of the underlying price band. Under such multi-scenario analyses, margin is typically established based on the scenario projecting the greatest deterioration in portfolio value.
3. Implied Volatility Modeling. TIMS appropriately captures the risk of changes in implied volatility. TIMS first determines the implied volatility percentage that corresponds to the price of each individual option contract given the price of the underlying for that contract. Any change to this percentage is empirically a function of price movements in the underlying instrument, with the magnitude of the change likely to vary significantly by option maturity.⁶ TIMS is designed to recognize the impact of these determinants. TIMS projects changes in implied volatility by applying

⁶ In addition, to a lesser extent the magnitude of this change may also vary by option type (call vs. put) and expiration style (American vs. European).

information from the current implied volatility curve specific to all options relating to the same underlying, expiration style, type and maturity. Information relating to the position and slope of that curve is extracted to project a change in a given option's implied volatility based upon a change in both its moneyness (i.e., a volatility slide) and a repositioning of the curve (i.e., volatility shift). The objective of this approach is to generate likely, as opposed to potential, volatility scenarios.

4. Correlation Modeling. TIMS recognizes the reduced risk where a portfolio contains offsetting positions in unique, yet highly correlated, underlying instruments. TIMS recognizes these offsets by organizing those products that have historically exhibited an appropriately high degree of positive price correlation into groups where the projected gains relating to one underlying in a given scenario may be used to offset the projected losses relating to another underlying in the same scenario. The percentage credit is conservatively set at a level reflecting the lowest level of cross-pair correlation (measured by the coefficient of determination) between all of the underlying instruments contained within the group. In addition, this method conservatively assumes 100% correlation between projected losses on one or more underlying instruments within the group and provides for offset recognition between groups.

In addition to these systemic attributes, TIMS also establishes uniform policies for selecting inputs that are primarily underlying dependent. The level of underlying price volatility and the correlation factor for offsets between two or more underlying instruments are two underlying-dependent inputs that are likely to have a critical impact on the margin requirement. For these inputs, TIMS incorporates the following principles.

1. Underlying Price Volatility. In establishing this input, which tends to have the greatest influence on the dollar amount of the margin requirement, the primary objective is to strike a prudent balance between adequate margin levels, which contribute to market safety, and excessive levels, which may impair market liquidity. TIMS is also designed to maintain a degree of stability in margin rates so as to lessen the likelihood of dramatic increases during times of market stress when the preservation of liquidity is most threatened.

Traditional risk management approaches to gauging the expected volatility of a given issue generally rely upon an analysis of historical price moves for that issue. Under these approaches expected volatility is set at a level intended to cover a certain percentage of either: 1) observed price moves, or 2) a parametric distribution fit to that observed data. TIMS uses a "fat tail" parametric distribution, along with an appropriate confidence interval and time series of data⁷, for estimating this expected volatility. A parametric distribution is capable of assigning probability to larger price moves not appearing in the observation period. A "fat tail" distribution emphasizes the likelihood of extreme price moves more than a "normal" distribution

⁷ In applying such distributions for the calculation of margin at the clearinghouse level, OCC finds that a four-year time frame of data is sufficient to both assess individual equity volatility and provide adequate data for the estimation programs to function properly.

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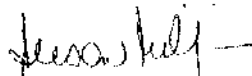
would. This provides greater stability in margin rates and protects against extreme events which, while having a low probability of occurrence, tend have a high dollar risk associated with them.

2. Correlation Factor. As discussed above, OCC views prudent correlation modeling as an important attribute of TIMS. However, there are situations where the input factor poses enough unpredictability to warrant a zero correlation. OCC believes that the historic instability of correlation among prices of individual equities coupled with the overall tendency of customer portfolios to lack both sufficient diversity and randomness in their selection of stocks, support using an input factor of zero. This correlation treatment is consistent with the methodology required under SEC Rule 240.15c3-1 as applied to broker dealers subject to the net capital requirement and to broker dealers operating as an option market maker or specialist.

TIMS has been in use at OCC since 1986 and has proven to be a very effective tool for measuring portfolio risk at both the clearing member and the market maker/specialist account level. OCC looks forward to expanding TIMS to the margining of customer portfolios that include security futures as well as options, stock and other futures. OCC would be happy to give the Commissions access to its systems and data and to participate in any advisory committee formed to propose or administer portfolio margining of customer accounts.

Thank you again for the opportunity to comment on the proposed rules. If you would like to discuss any of these issues further, please contact William Navin or Andy Naughton at The Options Clearing Corporation at (312) 322-1817 or (312) 322-2007, respectively.

Sincerely,



Susan Milligan

cc: Chairman Harvey Pitt, SEC
Annette Nazareth, SEC
Elizabeth King, SEC

Chairman James Newsome, CFTC
Elizabeth Fox, CFTC