Line No.	Between zone	Long positions	Short positions	Between zone calculation	Between zone charge
2	Carry Forward From Zone 2		141,250	.	
3	Total Zone Positions		144,150	$0×50%=	$0
4	Less Offsetting Zone Positions		0		
5	Between Zone 2 Carry Forward Amount		141,250		
6	Zone 1 Residual Amount		2,900		
Note: The Zone 1 Carry Forward Amount becomes a Between Zone Carry Forward Amount because it does not offset with Zone 2 as they are both short positions. The Between Zone 1 Carry Forward Amount is not offset against Zone 3 because the Zone 3 Carry Forward Amount is eliminated through its offset with Zone 2 as calculated below. Consequently, the Between Zone 1 Carry Forward Amount becomes a Residual Charge.					
7	Between Zone 2 Carry Forward Amount		141,250		
8	Carry Forward From Zone 3	$122,500			
9	Total Zone Positions	122,500	141,250	$122,500×60%=	73,500
10	Less Offsetting Zone Positions		122,500		
11	Between Zone 2 Carry Forward Amount		18,750		
12	Between Zone 2 Carry Forward		18,750		
13	Between Zone 4 Carry Forward	30,000			
14	Total Between Zone Positions	30,000	18,750	18,750×90%=	16,875
15	Less Offsetting	18,750			
16	Zone 4 Residual Amount	11,250			
Note: The Zone 4 Carry Forward Amount became a Between Zone Carry Forward Amount when the Zone 3 Carry Forward Amount was eliminated. The Between Zone 4 Carry Forward Amount is partially offset by the Between Zone 2 Carry Forward Amount. Because there are no other Between Zone Carry Forward Amounts to offset against the Between Zone 4 Carry Forward Amount, it becomes a Residual Charge.					
Total Between Zone Charge.					90,375

Risk charge	Applicable rule section	Haircut
Total Haircut		
Specific Market Charge	15c3–1(c)(2)(vi)(A)(2)	$89,500
Sub-Zone Charge	15c3–1(c)(2)(vi)(A)(3)(ii)	21,195
Zone Charge	15c3–1(c)(2)(vi)(A)(3)(iii)	12,750
Between Zone Charge	15c3–1(c)(2)(vi)(A)(3)(iv)	90,375
Zone 1 Residual Charge	15c3–1(c)(2)(vi)(A)(3)(v)	2,900
Zone 4 Residual Charge	15c3–1(c)(2)(vi)(A)(3)(v)	11,250
Total Haircut		227,970
Total Value of Portfolio		54,200,000

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SECURITIES AND EXCHANGE COMMISSION

17 CFR Part 240

[Release No. 34–39456; File No. S7–32–97]

RIN 3235–AH29

Net Capital Rule

AGENCY: Securities and Exchange Commission.

ACTION: Concept release; request for comments.

SUMMARY: The Securities and Exchange Commission is continuing its study of its approach to determining net capital requirements for broker-dealers. As part of its study, the Commission is considering the extent to which statistical models should be used in setting the capital requirements for a broker-dealer's proprietary positions. Accordingly, the Commission is posing a number of questions on this subject as well as soliciting views on other possible alternatives for establishing net capital requirements.

DATES: Comments must be received on or before March 30, 1998.

ADDRESSES: Interested persons should submit three copies of their written data, views, and opinions to Jonathan G. Katz, Secretary, Securities and Exchange Commission, 450 Fifth Street, N.W., Washington, D.C. 20549. Comments also may be submitted electronically at the following E-mail address: rule-comments@sec.gov. Comment letters should refer to File No. S7–32–97; this file number should be included on the subject line if E-mail is used. All submissions will be available for public inspection and copying at the Commission's Public Reference Room, 450 Fifth Street, N.W., Washington, D.C. 20549. Electronically submitted comment letters will be posted on the Commission's Internet web site (http://www.sec.gov).

FOR FURTHER INFORMATION CONTACT: Michael A. Macchiaroli, Associate Director, at 202/942–0132; Peter R. Geraghty, Assistant Director, at 202/942–0177; Thomas K. McGowan, Special Counsel, at 202/942–4886; Marc J. Hertzberg, Attorney, at 202/942–0146; or Gary Gregson, Statistician, at 202/942–4156, Division of Market Regulation, Securities and Exchange Commission, 450 Fifth Street, N.W., Mail Stop 2–2, Washington, D.C. 20549.

SUPPLEMENTARY INFORMATION:

I. Introduction

As part of a comprehensive review of the net capital rule, Rule 15c3–1 (17 CFR 240.15c3–1) (the ''net capital rule'' or the ''Rule''), the Securities and Exchange Commission (''Commission'') is publishing this release to solicit comment on how the net capital rule could be modified to incorporate modern risk management techniques as to a broker-dealer's proprietary positions and to reflect the continuing evolution of the securities markets. More specifically, the Commission seeks comment on how the existing haircut structure could be modified and whether the net capital rule should be amended to allow firms to use statistical models to calculate net capital requirements.

A. The Current Net Capital Rule

The Commission adopted the net capital rule in substantially its current form in 1975. The Rule requires every broker-dealer to maintain specified minimum levels of liquid assets, or net capital. The Rule requires broker-dealers to maintain sufficient liquid assets in order to enable those firms that fall below the minimum net capital requirements to liquidate in an orderly fashion. The Rule is designed to protect the customers of a broker-dealer from losses upon the broker-dealer's failure. The Rule requires different minimum levels of capital based upon the nature of the firm's business and whether a broker-dealer handles customer funds or securities.

In calculating the capital requirement, the Rule requires a broker-dealer to deduct from its net worth certain percentages, known as haircuts, of the value of the securities and commodities positions in the firm's portfolio. The applicable percentage haircut is designed to provide protection from the market risk, credit risk, and other risks inherent in particular positions. Discounting the value of a broker-dealer's proprietary positions provides a capital cushion in case the portfolio value of the broker-dealer's positions decline.

The Rule requires a broker-dealer to compute its haircuts by multiplying the market value of its securities positions by prescribed percentages. For example, a broker-dealer's haircut for equity securities is equal to 15 percent of the market value of the greater of the long or short equity position plus 15 percent of the market value of the lesser position, but only to the extent this position exceeds 25 percent of the greater position.[1] In contrast to the uniform haircut for equity securities, the haircuts for several types of interest rate sensitive securities, such as government securities, are directly related to the time remaining until the particular security matures. The Rule uses a sliding scale of haircut percentages with these securities because changes in interest rates will usually have a greater impact on the price of securities with longer remaining maturities compared to those securities with shorter remaining maturities. For example, there is no haircut on government securities with less than three months remaining maturity, but there is a six percent haircut on government securities with 25 years or more remaining maturity.

The Commission believes the Rule has worked well over the years. The Commission and the self-regulatory organizations (''SROs'') have generally been able to identify at early stages broker-dealers that are experiencing financial problems and to supervise self-liquidations of failing securities firms. This early regulatory intervention has helped to avoid customer losses and the need for formal proceedings under the Securities Investor Protection Act of 1970.

B. Prior Relevant Actions

Since 1993, the Commission has undertaken a number of initiatives to better understand how securities firms manage market and credit risk and to evaluate whether the firms' risk management techniques could be incorporated into the net capital rule. This section reviews four of the Commission's initiatives as well as recent rules addressing capital requirements for banks adopted by the Board of Governors of the Federal Reserve System, the Office of the Comptroller of the Currency, and the Federal Deposit Insurance Corporation (collectively, the ''U.S. Banking Agencies'').

1. 1993 Concept Release

In May 1993, the Commission began a comprehensive review of the Rule by issuing a concept release soliciting comment on alternative methods for computing haircuts on derivative financial instruments (''Concept Release'').[2] Although the Concept Release's focus was on derivative instruments, the Commission intended to commence a dialogue with the securities industry regarding how the Rule could better reflect the market and credit risks inherent in a broker-dealer's proprietary securities portfolio. At that time, the Commission envisioned a multi-step revision of the net capital rule that would substantially change how broker-dealers calculate the market and credit risk haircuts arising from their proprietary positions.

2. Derivatives Policy Group

The Derivatives Policy Group (''DPG''), consisting of the six U.S. firms[3] most active in the over-the-counter (''OTC'') derivatives market, was formed at the Commission's request to address the public policy issues arising from the activities of unregistered affiliates of registered broker-dealers and registered futures commission merchants. In March 1995, after discussions with the Commission, the DPG published its Framework for Voluntary Oversight (''Framework'') under which the members of the DPG agreed to report voluntarily to the Commission on their activities in the OTC derivatives market.[4] The Framework provides for the use of proprietary statistical models to measure capital at risk due to the firms' OTC derivatives activities; however, the Framework was not intended to be used as a method for calculating minimum capital standards for the DPG firms.

For purposes of using models to measure capital at risk, the DPG defines risk of loss, or ''capital at risk,'' to be ''the maximum loss expected to be exceeded with a probability of one percent over a two-week holding

[1] For example, in the case where a firm has a long position of $100,000 in equity securities and a short position of $50,000 in equity securities, that firm's haircut for equity securities would be:

1. Long Position: $100,000 x 15% = $15,000
2. Short Position: $50,000—$25,000 (25% of long position) x 15% = $3,750
3. Total haircut for equity securities: $15,000 + $3,750 = $18,750.

[2] Securities Exchange Act Rel. No. 32256 (May 4, 1993), 58 FR 27486 (May 10, 1993).

[3] The six firms in the DPG are CS First Boston, Goldman Sachs, Morgan Stanley, Merrill Lynch, Salomon Brothers, and Lehman Brothers.

[4] Framework For Voluntary Oversight, A Framework For Voluntary Oversight Of The OTC Derivatives Activities Of Securities Firm Affiliates To Promote Confidence And Stability In Financial Markets, Derivatives Policy Group (March 1995).

period.'' [5] The Framework covers several products, including: interest rate, currency, equity, and commodity swaps; OTC options (including caps, floors, and collars); and currency forwards (*i.e.*, currency transactions of more than a two-day duration, except that firms may elect to include only currency transactions of 14 days or more of duration). The Framework provides that each firm's model must capture all material sources of market risk that might impact the value of the firm's positions, including nine specific material sources of risk, or core risk factors, based on interest rate shocks, changes in equity values, and changes in exchange rates.[6]

Each DPG firm agreed to calculate capital at risk under two scenarios. Under the first scenario, each firm would independently determine the size of the shocks used to calculate its capital at risk. Under the second scenario, each firm would calculate its capital at risk due to certain Commission specified, hypothetical large shocks to the core risk factors. The purposes of preparing a second set of capital at risk data are to assist the Commission in comparing volatility among the firms' portfolios and to evaluate the usefulness of the firms' models in measuring market risk during times of unusual market stress.

The Framework does not specify minimum correlations between securities that are to be used in the models. The Framework states that there are many generally accepted methods for estimating historical or market-implied volatilities and correlations and, instead of utilizing predetermined correlation factors, the Framework provides that hedging would be permitted where contracts and instruments within the category exhibit an ''appropriately high degree of positive price correlation.'' Thus, the degree to which firms would recognize positions as hedges was left to the individual discretion of each firm. The Framework notes, however, that estimates of volatility and correlation may not be accurate during times of market stress.

The Framework also sets forth common audit and verification procedures of the technical and performance characteristics of the models. Under the Framework, the firms are responsible for making all computations necessary for purposes of assessing risk in relation to capital on a regular basis and to provide such computations on a current basis upon request. Under the Framework, the inventory pricing and modelling procedures of firms are to be reviewed at least annually by independent auditors or consultants. The independent auditors or consultants provide reports summarizing the results of their reviews, and the firms provide the audit reports to the Commission.

Under the Framework, the DPG firms have enhanced reporting requirements regarding their exposure to credit risk. The information reported to the Commission falls primarily into two principal categories: credit concentration and portfolio credit quality. Credit concentration in the portfolio is reported by separately identifying the top 20 net exposures on a counterparty-by-counterparty basis. The credit quality of the portfolio is reported by aggregating for each counterparty the gross and net replacement value and net exposure of the firm. Credit information also is categorized by credit rating, industry, and geographic location.

The Framework established risk management guidelines that provide a comprehensive framework for the DPG firms to implement their business judgments as to the appropriate scope and level of their OTC derivatives activities. The Framework provides that each firm's board of directors should adopt written guidelines addressing the scope of permitted activities, the acceptable levels of credit and market risk, and the structure and independence of the risk monitoring and risk management processes and related organizational checks and balances from the firm's trading operations. Senior management should also implement independent risk measuring and risk monitoring processes to manage risk within the guidelines established by the board of directors.

3. Theoretical Options Pricing Models

In February 1997, the Commission completed an important step in its review of the net capital rule by amending the Rule to allow broker-dealers to use theoretical option pricing models to determine capital charges for listed equity, index, and currency options, and related positions that hedge these options.[7] The amendment permits broker-dealers to use a model (other than a proprietary model) maintained and operated by a third-party source (''Third-Party Source'') and approved by a designated examining authority (''DEA'').[8] The Third-Party Source is required to collect certain information on a daily basis concerning different options series.[9] Using this information, the Third-Party Source measures the implied volatility for each option series and inputs to the model the resulting implied volatility for each option series. For each option series, the model calculates theoretical prices at 10 equidistant valuation points using specified increases and decreases in the underlying instrument.

After the model calculates the theoretical gain or loss valuations, the Third-Party Source provides the valuations to broker-dealers. Broker-dealers download this information into a spreadsheet from which the broker-dealer calculates the profit or loss for each of its proprietary and market-maker options positions. The greatest loss at any one valuation point is the haircut. This amendment to the Rule was a milestone because it was the first time the Commission allowed modelling techniques for regulatory capital purposes.

4. OTC Derivatives Dealers

Simultaneously with this release, the Commission is proposing a new limited regulatory regime for OTC derivatives dealers.[10] Under this regime, OTC derivatives dealers could register with the Commission and be subject to specialized net capital requirements. The Commission is considering requiring OTC derivatives dealers registered under this framework to maintain tentative net capital of not less than $100 million and net capital of not less than $20 million. As part of this proposal, the Commission is contemplating giving OTC derivatives dealers the option of taking either the existing securities haircuts or haircuts based on statistical models. OTC derivatives dealers electing to use

[5] *Id.* at 28.

[6] Specifically, the core risk factors include: (1) Parallel yield curve shifts, (2) changes in steepness of yield curves, (3) parallel yield curve shifts combined with changes in steepness of yield curves, (4) changes in yield volatilities, (5) changes in the value of equity indices, (6) changes in equity index volatilities, (7) changes in the value of key currencies (relative to the U.S. dollar), (8) changes in foreign exchange rate volatilities, and (9) changes in swap spreads in at least the G–7 countries plus Switzerland.

[7] Securities Exchange Act Rel. No. 38248 (February 6, 1997), 62 FR 6474 (February 12, 1997).

[8] Currently, the model maintained and operated by The Options Clearing Corporation (''OCC'') is the only approved model. OCC's model has been temporarily approved until September 1, 1999.

[9] Under the rule amendment, the Third-Party Source will collect the following information: (1) the dividend streams for the underlying securities, (2) interest rates (either the current call rate or the Eurodollar rate for the maturity date which approximates the expiration date of the option), (3) days to expiration, and (4) closing underlying security and option prices from various vendors.

[10] Securities Exchange Act Rel. No. 39454 (December 17, 1997).

models would have to calculate potential losses and specific capital charges for both market and credit risk. These OTC derivatives dealers also would have to maintain models that meet certain minimum qualitative and quantitative requirements that are substantially similar to the requirements set forth in the U.S. Banking Agencies' rules.

5. U.S. Banking Agencies

In August 1996, the U.S. Banking Agencies adopted rules incorporating into their bank capital requirements risk-based capital standards for market risk that cover debt and equity positions in the trading accounts of certain banks and bank holding companies and foreign exchange and commodity positions wherever held by the institutions. The U.S. Banking Agencies' rules were designed to implement the Basle Committee on Banking Supervision's (''Basle Committee'') [11] agreement on a model based approach to cover market risk. These rules apply to any bank or bank holding company whose trading activity equals ten percent or more of its total assets, or whose trading activity equals $1 billion or more. The U.S. Banking Agencies' final rules became effective January 1, 1997 and compliance will be mandatory by January 1, 1998. Institutions that do not meet these minimum securities trading thresholds will not be subject to market risk capital requirements.

The U.S. Banking Agencies' rule amendments require affected banks or bank holding companies to adjust their risk-based capital ratio to reflect market risk by taking into account the general market risk and specific risk of debt and equity positions in their trading accounts.[12] These institutions also must take into account the general market risk associated with their foreign exchange and commodity positions, wherever located. The capital charge for market risk must be calculated by using the institution's own internal model.

[11] The Governors of the G–10 countries established the Basle Committee on Banking Supervision in 1974 to provide a forum for ongoing cooperation among member countries on banking supervisory matters.

[12] The Banking Agencies defined general market risk as changes in the market value of on-balance sheet assets and liabilities and off-balance sheet items resulting from broad market movements, such as changes in the general level of interest rates, equity prices, foreign exchange rates, and commodity prices. Specific risk is defined by the Banking Agencies as changes in the market value of individual positions due to factors other than broad market movements and includes such risks as the credit risk of an issuer.

II. Alternatives to the Current Financial Responsibility Regime

The Commission is soliciting comment on possible alternative methods for calculating credit and market risk capital requirements for broker-dealers. This release will help the Commission evaluate different ways the net capital rule could be modified to accommodate changes in the securities business since the current uniform net capital rule was adopted in 1975, with a particular emphasis on incorporating modern risk management techniques. In this regard, the Commission believes it can modernize the Rule by either amending the current haircut percentages or by allowing certain broker-dealers to use a model-based system to calculate appropriate capital charges for market risk. This section discusses each of the alternative structures and lists relevant questions.

A. Modify Current Haircut Approach

As discussed above, the Rule requires a broker-dealer to deduct from its net worth certain fixed percentages, or haircuts, of the value of its securities positions. The present prescriptive haircut methodology has several advantages. It requires an amount of capital which will be sufficient as a provision against losses, even for unusual events. It is an objective, although conservative, measurement of risk in positions that can act as a tool to compare firms against one another. Moreover, the current methodology enables examiners to determine readily whether a firm is properly calculating haircuts. The examiner can review either the entire net capital calculation or just material portions of the firm's proprietary positions.

However, there are some weaknesses associated with determining capital charges based on fixed percentage haircuts. For example, the current method of calculating net capital by deducting fixed percentages from the market value of securities can allow only limited types of hedges without becoming unreasonably complicated. Accordingly, the net capital rule recognizes only certain specified hedging activities, and the Rule does not account for historical correlations between foreign securities and U.S. securities or between equity securities and debt securities. By failing to recognize offsets from these correlations between and within asset classes, the fixed percentage haircut method may cause firms with large, diverse portfolios to reserve capital that actually overcompensates for market risk.

To eliminate weaknesses in the current haircut structure, the Commission could modernize the Rule by maintaining the current methodology but changing the haircut percentages and recognizing additional offsetting positions. For example, the proposing release issued simultaneously with this concept release proposes amendments to the Rule that would treat haircuts on certain interest rate products as being part of a single portfolio, similar to the standard approach in the Basle Committee's Capital Accord.[13] As proposed, the net capital rule would recognize hedges among government securities, investment grade nonconvertible debt securities (or corporate debt securities), pass-through mortgage backed securities, repurchase and reverse repurchase agreements, money market instruments, and futures and forward contracts on these debt instruments. As a next step, the Commission could revise the current haircut percentages and develop methodology to account for more correlations and hedges among other types of securities.

The Commission solicits comment on the following topics. It is not necessary, however, that comments be limited to the specific issues raised in this release. Commenters are encouraged to submit statements with respect to any aspect of the current net capital rule that may be useful to the Commission.

Question 1: Should the Commission retain the current haircut approach but revise the current percentages? If so, which haircut percentages should be modified? How should these percentages be modified? What should be the objective basis for modified haircut percentages? Please provide relevant data to support your response.

Question 2: Do the current haircut percentages adequately account for the market risk, credit risk, and other risks inherent in a particular position?

Question 3: Do the current haircut percentages enable firms to reserve sufficient capital for times of market stress, including one day movements and movements over a period of time? Please provide relevant data to support your response.

Question 4: How can haircut percentages be further adjusted to account for correlations between and within asset classes? Please provide relevant data to support your response.

Question 5: How can the current haircut approach be modified to improve the treatment for specific types of securities, including foreign securities, collateralized mortgage obligations (''CMOs''), and over-the-counter options on interest-rate securities? Please provide relevant data to support your response.

[13] Securities Exchange Act Rel. No. 39455 (December 17, 1997).

Question 6: Should the Commission include security-specific models, other than the option pricing models, in the Rule? If so, what forms should these models take and what types of minimum requirements should apply to the use of such models?

Question 7: If the Commission includes other security-specific models in the Rule, what types of securities should be covered by such models (*i.e.*, CMOs, over-the-counter options, or treasury securities)?

B. Model Based Approach

1. Generally

A number of broker-dealers, primarily those with large proprietary securities portfolios, have indicated to the Commission that they may be willing to incur the expenses associated with developing and using statistical models to calculate haircuts on their securities portfolios. Under a model based net capital rule, in lieu of taking fixed percentage haircuts, a broker-dealer would use either an external or internal model as the basis for a market risk charge and take a separate charge, or charges, for other types of risk, such as credit risk and liquidity risk.

The Commission could allow firms to calculate market risk capital charges according to external models for specific types of securities that are similar to the options pricing models allowed under Appendix A to the Rule. The benefit of an external model is that all firms would be utilizing the same model. However, the Commission could have difficulty finding a third party (comparable to the Options Clearing Corporation for listed options) that would have access to all the data necessary to facilitate external security-specific models for securities other than options.

With respect to internal models, the Commission would need to prescribe certain minimum quantitative and qualitative standards that a firm's model would have to meet prior to that firm using its internal model for regulatory capital purposes. Currently, several large firms use value at risk (''VAR'') models as part of their risk management system. These firms typically utilize VAR modelling to analyze, control, and report the level of market risk from their trading activities. Generally, VAR is an estimate of the maximum potential loss expected over a fixed time period at a certain probability level. For example, a firm may use a VAR model with a ten-day holding period and a 99 percentile criteria to calculate that its $100 million portfolio has a potential loss of $150,000. In other words, the firm's VAR model has forecasted that with this portfolio the firm may lose more than $150,000 during a ten-day period only once every 100 ten-day periods.

In practice, VAR models aggregate several components of price risk into a single quantitative measure of the potential for loss. In addition, VAR is based on a number of underlying mathematical assumptions and firm specific inputs. For example, VAR models typically assume normality and that future return distributions and correlations can be predicted by past returns.[14]

Given the increased use and acceptance of VAR as a risk management tool, the Commission believes that it warrants consideration as a method of computing net capital requirements for broker-dealers. However, while VAR can be used to manage market risk, broker-dealers that rely solely on VAR for risk management may not have a comprehensive risk management program. VAR models, unlike haircuts, do not typically account for those risks other than market risk, such as credit risk, liquidity risk, and operational risk. Broker-dealers that utilize VAR models should therefore use additional techniques to manage those risks.

Further, while VAR may be useful in helping broker-dealers project possible daily trading losses under ''normal'' market conditions, VAR may not help firms measure the losses that fall outside of normal conditions during times of market stress. For example, VAR models may not capture possible steep market declines because these models typically measure exposure at the first percentile (or the fifth percentile) and steep market declines are, by definition, below the first percentile. In addition, the most common VAR approaches may pose a problem for those portfolios that utilize options or other products with non-linear payoffs.[15]

The purpose of the Commission's net capital rule is to protect markets from broker-dealer failures and to enable those firms that fall below the minimum net capital requirements to liquidate in an orderly fashion without the need for a formal proceeding or financial assistance from the Securities Investor Protection Corporation. The Commission believes that market risk charges must adequately protect a broker-dealer during severe market stress, whether that stress occurs on only one day or over a period of several days, such as the drop in equity prices during the October 1987 market break or the Mexican debt crisis in 1994. Because VAR models do not typically reserve capital for severe market declines, it may be necessary to impose additional safeguards to account for possible losses or decreases in liquidity during times of stress. This may include the use of a multiplier or the use of stress tests that firms could apply to their portfolios. A multiplier could be used to account for the other risks in a firm's portfolio that are not captured by VAR models, such as operational, settlement, or legal risk. On the other hand, stress testing could provide a more complete picture of the portfolio's sensitivity to changing market conditions and a more accurate representation of capital needs than a simple multiplier.

The primary advantage of incorporating models into the net capital rule is that a firm would be able to recognize, to a greater extent, the correlations and hedges in its securities portfolio and have a comparatively smaller capital charge for market risk. Accordingly, if the Rule is amended to permit models to be used to calculate market risk in lieu of taking the haircuts currently imposed by the rule, the Commission solicits comment on how the Rule may be modified to include separate capital requirements to cover sources of risk other than market risk. Other issues associated with incorporating models into the Rule are the need for management controls necessary to ensure that the firm is collecting accurate and comprehensive information on its proprietary positions

[14] The Commission recognizes that there is a wide variety of secondary source information discussing both the positive and negative aspects of VAR. See Philippe Jorion, Value at Risk: The New Benchmark for Controlling Market Risk (1996) (explaining how to use VAR to manage market risk); JP Morgan, RiskMetrics—Technical Document (1994) (providing a detailed description of RiskMetrics, which is JP Morgan's proprietary statistical model for quantifying market risk in fixed income and equity portfolios); Tanya Styblo Beder, VAR: Seductive but Dangerous, Financial Analysts Journal, September–October 1995, at 12 (giving an extensive analysis of the different results from applying three common VAR methods to three model portfolios); Darrell Duffie and Jun Pan, An Overview of Value at Risk, The Journal of Derivatives, Spring 1997, at 7 (giving a broad overview of VAR models); Darryll Hendricks, Evaluation of Value-at-Risk Models Using Historical Data, Federal Reserve Bank of New York Economic Policy Review, April 1996, at 39 (examining twelve approaches to value-at-risk modelling on portfolios that do not include options or other securities with non-linear pricing); and Robert Litterman, Hot Spots and Hedges, Goldman Sachs Risk Management Series (1996) (giving a detailed analysis on portfolio risk management, including how to identify the primary sources of risk and how to reduce these risks).

[15] See Autoro Estrella et al., Options Positions: Risk Measurement and Capital Requirements, Federal Reserve Bank of New York Research Paper number 9415, September 1994 (evaluating different methods of measuring the market risk of options and analyzing the capital treatment of the market and credit risk of options).

and the effectiveness of those controls to monitor the risk assumed by the firm.

2. Two Tiered Approach

One way that the Commission could incorporate models into the net capital rule would be to have different net capital requirements based on certain standards (''Two Tiered Approach''). Under the Two Tiered Approach, broker-dealers meeting certain minimum threshold levels would be required to use models to determine capital compliance. For example, broker-dealers with net capital exceeding a certain amount and currently using models for in-house risk management purposes could use models to determine their market risk capital charge under prescribed circumstances. Firms with less than the prescribed level of net capital and those firms with net capital greater than the prescribed level but not using models for risk management could be required to continue to follow the current Rule's haircut methodology. These haircut percentages could either be the same as the current percentages or modified versions.

A Two Tiered Approach potentially has two primary benefits. First, the Commission could structure a Two Tiered Approach to limit the use of models to those firms that currently use sophisticated models such as VAR, thereby not requiring other firms to incur the cost of implementing such models. Second, the Commission could design a Two Tiered Approach that establishes appropriate limits on which firms can utilize models to determine capital compliance.

A potential weakness of a Two Tiered Approach is that it could inhibit competition between large and small firms because models may give large firms more flexibility in determining their net capital requirements. However, this advantage could be small if smaller firms did not have to incur the start-up and maintenance costs associated with models and the risk management infrastructure to support their use. Additionally, a Two Tiered Approach could still allow firms with simple portfolios to easily calculate the applicable haircuts on their portfolios.

3. Base Approach With Pre-Commitment Feature

Another option for incorporating models into the Rule could be to combine the current haircut methodology using fixed percentage haircuts with a model-based approach (the ''Base Approach''). The Base Approach could combine the strengths of both haircuts and models and at the same time possibly address the weaknesses of each. The Base Approach would include three primary components. First, broker-dealers could be required to maintain a certain minimum base level of net capital for each of their business activities, similar to the minimum requirements under the current rule. For example, higher capital levels could apply to broker-dealers that hold customer funds and securities as opposed to those firms that only introduce customer accounts to clearing firms. Second, broker-dealers could take a fixed percentage haircut for each security in their portfolio. This haircut would be similar to the haircut requirements under the current net capital rule; however, the size of the haircut would be lower due to the additional charge for market risk obtained from the third component.

The third component of the Base Approach could consist of a capital charge based on the firm's model and include a pre-commitment feature that could require a broker-dealer to take capital charges based on the realized performance of its models (''pre-commitment feature''). The pre-commitment feature could have two steps. First, at the start of a pre-determined time period (*i.e.*, one month or one quarter), a broker-dealer could be required to represent that its losses, as computed by its model, would be within certain parameters over the fixed time period. Second, at the conclusion of each fixed time period, the firm's minimum net capital level could increase by an amount equal to the difference between the actual portfolio gains and losses and those projected based on its model. These additional capital contributions would be required because differences between the actual results and those projected by the model could indicate that the firm's models may not be accurately assessing the risk of the firm's portfolio.

By incorporating haircuts and models into the Base Approach, the inherent strengths and weaknesses of each could potentially offset each other. Additionally, the Base Approach may be a viable capital standard for firms with diverse portfolios and those that use more sophisticated methods of risk management. The pre-commitment feature would create additional incentives for broker-dealers to manage risk effectively. On the other hand, a Base Approach may be too complicated for firms to apply. In balance, however, the Base Approach could potentially provide firms with flexibility in developing models and control systems, encourage the development of accurate forecasts, and still ensure that firms reserve sufficient amounts of net capital.

4. Comments on the Potential Use of Models

The Commission solicits comment on the following specific topics, including the appropriateness of using proprietary models generally and the recent initiatives of both the DPG and the U.S. Banking Agencies.

a. Models as a means to determine broker-dealer regulatory capital.

Question 8: Should the Commission permit the use of models to calculate regulatory capital for registered broker-dealers? If yes, please explain whether the Commission should allow firms to utilize internal models or whether the Commission should establish an external model approach similar to the treatment of options under Appendix A to the Rule.

Question 9: If the Commission permits the use of internal models, should the models conform to certain objective criteria, or should they be subjective? When could the assumptions upon which models rest be challenged? Should internal or external auditors periodically review and approve the models and their applications? If so, how much should regulators rely on auditors' application of models? Could the self-regulatory organizations adequately surveil and examine for net capital compliance utilizing models?

Question 10: Should the Commission impose limits on the types of firms that can use models? Should there be certain additional minimum criteria a firm must satisfy in order to use a proprietary model? Should firms that meet the minimum criteria for using models have the option of using an alternate standard approach (*i.e.*, not using models) to calculate regulatory capital? If so, what should that approach be?

Question 11: Is VAR an appropriate method of using models as the basis for calculating capital requirements for broker-dealers? The Commission understands there are several approaches to calculating VAR that are currently used by firms (*e.g.*, Monte Carlo, variance/covariance, and historical simulation approaches). Given the various methods, the Commission seeks comment on whether minimum criteria should be established for models used for regulatory capital purposes. If not, how can the Commission provide for the ability to compare levels of risks among firms or understand the significance of levels of risk reported by firms when determining their net capital requirements?

Question 12: The Commission believes that any approach that uses models for setting regulatory capital requirements should result in broadly consistent results for firms with similar portfolios. Can consistent results for similar portfolios be obtained without the Commission requiring firms to use a standard model? How else can consistency of capital standards among firms with similar portfolios be achieved?

Question 13: Some firms use different types of statistical models to measure risk

from different types of businesses, such as fixed income securities and foreign equities. Should the Commission permit firms to use more than one model to calculate regulatory capital? If yes, would the inefficiencies in each model get accentuated or mitigated when the results of the different models are aggregated?

Question 14: Should the Commission allow the use of models gradually (*i.e.*, first allow models for debt securities, then allow models for equity securities and other securities)?

Question 15: What will be the costs of implementing models? How do the costs of implementing models compare to the current costs of computing net capital? At what level would it be economical for firms to try to use models? How do the start-up costs of implementing models compare to the ongoing costs of managing models incurred by firms that currently use models? How does the availability (or anticipated future development) of software packages and databases impact cost estimates? Will the costs of implementing models be a barrier to firms not currently using models? Please provide relevant data to support your response.

Question 16: Will firms not currently using models be at a competitive disadvantage to those firms that currently use models? Please provide relevant data to support your response.

Question 17: If the Commission permits the use of models, what additional reporting or recordkeeping requirements would the Commission need to impose on broker-dealers using models? Should firms using models have to file additional reports with the Commission or their DEA? Should the Commission amend its books and records rules to require firms using models to maintain certain books and records that they are currently not required to maintain? How can the Commission ensure that it has access to information regarding a firm's models that is not maintained by the broker-dealer (*i.e.*, information maintained at an unregistered entity)? What measure could the Commission require to ensure broker-dealers would not be able to modify the model (or data inputs) to avoid falling out of net capital compliance? Should the Commission require models to be stored with third-parties subject to escrow arrangements?

Question 18: If the Commission permits the use of models, should firms using models be subject to modified forms of Commission and DEA inspections? Should the models themselves be subject to review and approval by the Commission or DEA?

b. Abnormal Market Conditions.

Question 19: Because the purpose of VAR is to provide an estimate of losses over a short period under normal conditions, is it possible for VAR models to ensure an adequate capital cushion during unusual market stress or structural shifts in the economy given the nature, size, and liquidity of a broker-dealer's portfolio? Given the complexity of models, could an accurate and rapid assessment be made of a firm's true financial condition? Please provide relevant data to support your response.

Question 20: Would models be more effective during times of severe market fluctuations if stress testing were required? Should the Commission specify what stress tests should be used by the firms? Please provide relevant data to support your response.

Question 21: If stress testing were required, should a firm be required to use the same parameters when conducting stress testing on each of its business units (*i.e.*, apply the same levels and stress the same movements in the relevant securities, markets, and indexes)?

Question 22: If stress testing were required, should a firm be required to test its models based on a predetermined number of volatile days of market movements (*i.e.*, models would have to be stress tested based on the 100 most volatile days of market movements during the last ten years)?

Question 23: Should the results of stress testing impact the calculation of a firm's capital requirements (*i.e.*, through the use of some type of multiplication factor)? Please provide relevant data to support your response.

Question 24: Does the use of a minimum multiplier, as endorsed in the Basle Standard and by the U.S. Banking Agencies, adequately address risks arising from severe market movements? Please provide relevant data to support your response.

Question 25: Should back-testing (*i.e.*, ex post comparisons between model results and actual performance) be required and, if so, to what extent? Should back-testing results be used to determine a multiplier for minimum capital amounts? Could back-testing results be used to raise minimum capital levels for the firms?

c. Qualitative and Quantitative Criteria for Models.

Question 26: Will setting minimum qualitative and quantitative criteria prevent a firm from adjusting its model to encompass changing market conditions, the firm's structure, or the firm's business lines?

Question 27: Two important components of models are the length of time over which market risk is to be measured and the confidence level at which market risk is measured. The definition of ''capital at risk'' as used in the DPG Framework is the maximum loss expected to be exceeded with a probability of one percent over a two-week period. Is this definition appropriate for regulatory capital purposes?

Question 28: What should be the minimum criteria for models, including pricing accuracy, correlations, netting factors, and observation periods? Please provide relevant data to support your response.

Question 29: Are the minimum standards for the use of models, the separate calculation of capital at risk due to shocks to the core risk factors, and the audit requirements used in the DPG Framework appropriate? Please provide relevant data to support your response.

Question 30: VAR models typically assume normality and that future return distributions and correlations will behave similar to the way they behaved in the past. For these reasons, the Commission needs to ensure that VAR models can withstand steep market declines. Other than by specifying minimum qualitative and quantitative criteria, how can regulators assure themselves that the proprietary models used by the firms are adequate for capital purposes?

Question 31: Should the Commission require that broker-dealers utilizing models manage these models from a risk management division that is separate from the firm's business divisions?

Question 32: Should the Commission require that broker-dealers utilizing models use the same model for both computing net capital and internal risk management purposes?

Question 33: Currently, firms utilize a wide variety of risk management techniques. Should the Commission mandate specific minimum risk management standards for firms that wish to use models?

Question 34: Should the Commission require that firms using models manage risk on either a firm-wide, legal entity, or business basis?

d. Additional Risks.

Question 35: Usually, VAR models do not handle options products well because the returns on an options portfolio are not typically normally distributed. How should the non-linear nature of options be adequately addressed? For firms with substantial options positions, is a standard approach (similar to the Commission's amendments to Appendix A of the net capital rule) more appropriate? Is the approach set forth in the Commission's recent amendments to Appendix A a viable alternative?

Question 36: Models typically measure losses by assuming that assets can be sold at current market prices. However, if a firm has a portfolio which includes illiquid assets, highly customized structured products (including, for example, some CMOs), or aged items, the Commission is particularly concerned that models may underestimate the true losses since these assets may have to be sold at a discount. Given the importance of liquidity risk, the Commission solicits specific comment with respect to how this risk should be addressed if models are permitted for regulatory purposes.

Question 37: Is it possible to include a credit risk analysis in a model based methodology? Please provide relevant data to support your response.

Question 38: As mentioned above, models may not properly account for additional risks, including credit risk, liquidity risk, operational risk, settlement risk, and legal risk. How should these additional risks be treated? Can the Rule be modified to include separate capital requirements to cover these sources of risk? Please provide relevant data to support your response.

Question 39: Is there an alternative to using a multiplier to account for operational risk, legal risk, and other risks that are difficult to quantify? Is the use of insurance to cover these risks a viable option? Please provide relevant data to support your response.

Question 40: In order for a firm to calculate VAR effectively, data must be aggregated from all its departments worldwide. Also, there is often incompatibility of trading and back-office accounting computer systems that operate from different regions of the world.

How can this problem of integration be adequately addressed?

e. OTC Derivatives Dealer.

Question 41: Should the Commission amend the Rule so that all broker-dealers are eligible to use the methodology for calculating market and credit risk as in proposed Appendix F to the Rule?

Question 42: What minimum capital requirements should the Commission require a broker-dealer to meet to be eligible to use proposed Appendix F? Should the criteria be based on tentative net capital, net capital, or both? Are the $100 million tentative net capital and $20 million net capital requirements appropriate?

Question 43: Assuming that the Commission were to allow all broker-dealers to utilize Proposed Appendix F, what sections in Proposed Appendix F need to be modified for all broker-dealers? Are the market risk and credit risk sections in Proposed Appendix F appropriate for all broker-dealers? Are the qualitative and quantitative requirements for VAR models in Proposed Appendix F appropriate to VAR models used by non-OTC derivatives dealers?

f. Two Tiered Approach.

Question 44: Is a Two Tiered Approach a viable alternative to the current net capital rule? If so, what standards should the Commission utilize to determine which broker-dealers are required to utilize statistical models? Should the tier limits be based on capital, amount of customer business, level of proprietary trading, or some other factor(s)? Should these minimum net capital amounts be fixed dollar amounts or be based on financial ratios such as aggregate indebtedness or aggregate debit items as in the current rule? Please provide relevant data to support your response.

Question 45: Should the current haircut percentages be maintained? If not, what modifications should be made to the current haircut percentages? Please provide relevant data to support your response.

Question 46: What will be the impact on competition among firms in different tiers? In this regard, the Commission seeks comment on the effects of creating a two-tiered system from broker-dealers that do not currently use models in their risk management system and from broker-dealers that currently use models for risk management purposes but either lack sufficient capital or sufficiently diverse securities portfolios to use models for net capital purposes.

g. Base Approach with Pre-Commitment Feature.

Question 47: Is the Base Approach a viable alternative to the current net capital rule?

Question 48: Should the Base Approach only apply to firms that meet certain standards? If so, what are the appropriate standards?

Question 49: What minimum capital requirements should the Commission establish for certain broker-dealer activities? Should these minimum net capital amounts be fixed dollar amounts or based on financial ratios such as aggregate indebtedness or aggregate debit items as in the current rule? Should the current minimum levels be retained?

Question 50: What modifications should the Commission make to the current haircut percentages? Please provide relevant data to support your response.

Question 51: What should be the parameters for the pre-commitment feature? Should firms be penalized for differences between actual results and the results as projected by VAR models? If so, what criteria should be used to determine the additional capital requirements for these differences?

III. Summary of Requests for Comment

Following receipt and review of comments, the Commission will determine whether rulemaking or other action is appropriate. Commenters are invited to discuss the broad range of concepts and approaches described in this release concerning the Commission's regulation of broker-dealers' net capital requirements. In addition to responding to the specific questions presented in this release, the Commission encourages commenters to provide any information to supplement the information and assumptions contained herein regarding the current net capital rule, VAR models, and the other suggested alternatives. The Commission also invites commenters to provide views and data as to the costs and benefits associated with the possible changes discussed above in comparison to the costs and benefits of the current net capital rule. In order for the Commission to assess the impact of changes to the Rule, comment is solicited, without limitation, from investors, broker-dealers, SROs, and other persons involved in the securities markets.

Dated: December 17, 1997.

By the Commission.

Margaret H. McFarland,

Deputy Secretary.

[FR Doc. 97–33400 Filed 12–29–97; 8:45 am]

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SECURITIES AND EXCHANGE COMMISSION

17 CFR Part 240

[Release No. 34–39457; File No. S7–33–97]

RIN 3235–AH28

Capital Requirements for Brokers or Dealers Under the Securities Exchange Act of 1934

AGENCY: Securities and Exchange Commission.

ACTION: Proposed rule.

SUMMARY: The Securities and Exchange Commission (''Commission'') is proposing for comment amendments to Rule 15c3–1 under the Securities Exchange Act of 1934. The proposed amendments would define the term ''nationally recognized statistical rating organization'' (''NRSRO''). The proposed definition sets forth a list of attributes to be considered by the Commission in designating rating organizations as NRSROs and the process for applying for NRSRO designation.

DATES: Comments must be received on or before March 2, 1998.

ADDRESSES: Persons wishing to submit written comments should file three copies with Jonathan G. Katz, Secretary, Securities and Exchange Commission, 450 Fifth Street, N.W., Stop 6–9, Washington, D.C. 20549. Comments also may be submitted electronically at the following E-mail address: rule-comments@sec.gov. All comment letters should refer to File No. S7–33–97. This file number should be included on the subject line if E-mail is used. All comments received will be available for public inspection and copying in the Commission's Public Reference Room, 450 Fifth Street, N.W., Washington, D.C., 20549. Electronically submitted comment letters will be posted on the Commission's Internet web site (http://www.sec.gov).

FOR FURTHER INFORMATION CONTACT: Michael A. Macchiaroli, Associate Director, 202/942–0131, Peter R. Geraghty, Assistant Director, 202/942–0177, Louis A. Randazzo, Special Counsel, 202/942–0191, or Michael E. Greene, Staff Attorney, 202/942–4169, Division of Market Regulation, Securities and Exchange Commission, 450 Fifth Street, N.W., Washington, D.C. 20549.

SUPPLEMENTARY INFORMATION:

I. Introduction

A. The Commission's Concept Release

In August 1994, the Commission issued a concept release soliciting public comment on the Commission's role in using the ratings of NRSROs.[1] In the Concept Release, the Commission specifically solicited comments on: (1) Whether it should continue to use the NRSRO concept, and, if so, whether it should define the term ''NRSRO''; and (2) whether the current no-action letter process for designating a rating organization an NRSRO is satisfactory, and, if not, whether the Commission should establish an alternative procedure. The Commission is now

[1] Securities Exchange Act Release No. 34616 (August 31 1994), 59 FR 46314 (September 7, 1994) (''Concept Release'').