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NOTE

HARMONIZATION OF INTERNATIONAL ADEQUACY RULES FOR SECURITIES FIRMS: AN ARGUMENT TO IMPLEMENT THE VALUE AT RISK APPROACH BY ADOPTING BASLE'S INTERNAL MODEL METHODOLOGY

INTRODUCTION

Capital adequacy has been defined as the “extent of capital that should be required of brokers or others carrying on the business of trading in securities.”¹ Regulatory capital requirements “protect customers or depositors” and contribute to “the stability of financial markets to which they apply by limiting firm failures and resulting losses to customers, depositors, or other firms.”² While global banking supervisors have been successful in obtaining international capital adequacy standards, global securities regulators have failed to accomplish this goal. There are three reasons which may explain this regulatory failure. In the past, the traditional separation between banking and securities in the United States and Japan has impeded any regulatory harmonization with institutions who are constituents of a universal banking regulatory regime.³ Two, since securities markets compete against one an-

1. HAROLD S. BLOOMENTHAL & SAMUEL WOLFF, *SECURITIES AND FEDERAL CORPORATE LAW* § 27.72 (2d ed. 1998).

2. U.S. GEN. ACCOUNTING OFFICE, *REPORT TO THE CHAIRMAN, COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS, U.S. SENATE, AND THE CHAIRMAN, COMMITTEE ON BANKING AND FINANCIAL SERVICES, HOUSE OF REPRESENTATIVES, RISK-BASED CAPITAL: REGULATORY AND INDUSTRY APPROACHES TO CAPITAL AND RISK*, GAO/GGD 98-153, at 4 (1998) [hereinafter GAO REPORT].

3. Joseph J. Norton, *Structuring the Banking Regulators and Supervisors: Developed Country Experiences and Their Possible Implications for Latin America and*

other, there is an incentive not to cooperate with their regulatory colleagues because "such cooperation might undermine their country's competitive position in the international markets."⁴ However, by adhering to this competitive position, the regulator may operate to the "detriment of [its] country's interests."⁵ Three, the Securities & Exchange Commission's (SEC) "predominant doctrinal approach" to international securities regulation has been "unilateral."⁶ Thus, the "hallmark of this unilateral approach" has been the SEC's "extraterritorial application of American laws to foreign issues, whether they involve foreign companies, foreign transactors, or any other foreign element."⁷ Therefore, the unilateral approach may impede any attempt to "harmonize" regulations when one key regulator compromises only by applying its national securities laws.

While these reasons may explain the failure of international securities regulators to implement a global capital adequacy requirement, this paper will argue for the need for uniform international capital adequacy standards for securities firms. To effect a harmonization of international capital adequacy rules, global securities regulators should implement the Value at Risk (VAR) Approach by adopting the Basle Committee on Banking Supervision's (BASLE) internal model methodology. Part I will discuss: (a) background of capital standards developed by BASLE,⁸ (b) different approaches to capital adequacy, (c) attempts at global harmonization by the International Or-

Other Developing Countries, 4 NAFTA: L. & BUS. REV. AM. 5, 17 (1998). However, the Glass-Steagall Act has since been repealed. See *Clinton Signs Legislation Overhauling Banking Laws*, N.Y. TIMES, Nov. 13, 1999, at C3; *President Clinton Signs Financial-Services Reform Bill*, BESTWIRE, Nov. 12, 1999, available in LEXIS, News Library, UPI File. The act that dismantles the Glass-Steagall Act, is the Gramm-Leach-Bliley Act, Financial Modernization Act of 1999. See Gramm-Leach-Bliley Act, Pub. L. No. 106-102 [hereinafter Gramm-Leach-Bliley Act].

4. Amir N. Licht, *Games Commissions Play: 2x2 Games of International Securities Regulation*, 24 YALE J. INT'L L. 61, 64 (1999).

5. *Id.*

6. *Id.* at 66.

7. *Id.*

8. The Committee consists of senior representatives of bank supervisory authorities and central banks from Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, Netherlands, Sweden, Switzerland, the United Kingdom and the United States. See The Bank for International Settlements, *Profile of an International Organisation* (visited Jan. 16, 1999) <<http://www.bis.org/about/prof-gh.htm>>. However, the Group of Ten includes all of the aforementioned countries except Luxembourg. See *id.*

ganization of Securities Commissions⁹ (IOSCO), and (d) recent changes to the securities laws by the SEC. Part II will explore the reasons why capital adequacy rules should be harmonized. Part III presents the recommendation for global securities regulators to implement the VAR approach by adopting BASLE's internal model methodology.

I. DIFFERENT APPROACHES TO CAPITAL ADEQUACY

Bank and securities regulators currently employ several different approaches to capital adequacy. BASLE developed the global capital adequacy requirements for banks. BASLE first implemented the building block approach by developing the standardized methodology. After the advent of VAR risk management, BASLE also developed the internal model methodology. Even though the Federal Reserve Bank (FRB) adopted BASLE's internal model methodology for capital adequacy, it has recently been testing an alternative method, the Pre-Commitment Approach (PCA). While European Union (EU) banks and securities firms employ BASLE's methodology, the SEC insists on the stringent comprehensive approach. The SEC's insistence may explain why IOSCO failed to obtain a uniform global capital adequacy requirement for securities firms. However, when the SEC promulgated the Over the Counter (OTC) Derivatives Dealers rule, it conceded that harmonization may be necessary to allow the U.S. capital markets to be competitive.

A. *The Background of the BASLE Accord*

The Basle Committee on Banking Supervision is a committee of the Bank of International Settlements, an organization founded to "foster international financial stability" and serves as an "important forum for international monetary and financial cooperation between central bankers."¹⁰ In July 1988,

9. The Technical Committee of IOSCO is a committee of supervisory authorities for securities firms. It includes senior representatives of Australia, France, Germany, Hong Kong, Italy, Japan, Mexico, the Netherlands, Canada (Ontario & Quebec), Spain, Sweden, Switzerland, United Kingdom and the United States. See International Organization of Securities Commissions, *Trading and Derivatives Disclosures of Banks and Securities Firm, Results of the Survey of Public Disclosures in 1998 Annual Reports* (visited Feb. 12, 2000) <http://www.iosco.org/docs-public/1999-derivatives_disclosures-document05.html>.

10. The Bank for International Settlements, *supra* note 8.

representatives of bank supervisory authorities from twelve countries meeting in Basle, Switzerland, agreed to uniform capital requirements as reflected in the "Basle Accord on International Convergence of Capital Measurement and Capital Standards."¹¹ BASLE developed a "framework for assessing an institution's capital adequacy by weighing its assets and off-balance sheet exposures on the basis of counterparty credit risk."¹² One of the "articulated purposes" of the Capital Guidelines was to "achieve greater consistency in the evaluation of the capital adequacy of major banks throughout the world."¹³ The Capital Guidelines apply a risk weighting to different categories of on and off balance sheet assets, and compare each institution's total risk adjusted assets to total qualifying capital.¹⁴ In early 1989, the FRB implemented the "Final Risk-Based Capital Guidelines for State Member Banks and Bank Holding Companies."¹⁵ In the early 1990s, BASLE recognized the need to develop risk management principals for market

[T]he Basle Committee on Banking Supervision . . . encompasses three main areas. Firstly, the Committee provides a forum for discussion on the handling of specific supervisory problems. Secondly, it coordinates the sharing of supervisory responsibilities among national authorities in respect of banks' foreign establishments with the aim of ensuring effective supervision of banks' activities worldwide Thirdly, it seeks to enhance standards of supervision, notably in relation to solvency, so as to help strengthen the soundness and stability of international banking The best known of these is the agreement in 1988 to achieve international convergence in the measurement of the adequacy of banks' capital and to establish minimum capital standards.

Id.

11. Daniel P. Cunningham, *U.S. Regulation of Dealers in OTC Derivatives*, in INTERNATIONAL SECURITIES MARKETS 281, 284 (1994) (citing Federal Reserve Systems, Capital Adequacy Guidelines for State Member Banks: Risk Based Measure, 12 C.F.R. ch.11, pt. 208, app. A (1989)). The purpose of the measure is to:

- i. Make regulatory capital requirements more sensitive to differences in risk profiles among banks,
- ii. Factor off balance sheet exposures into the assessment of capital adequacy,
- iii. Minimize disincentives to holding liquid, low risk assets, and
- iv. Achieve greater consistency in the evaluation of the capital adequacy of major banks throughout the world.

Id.

12. Risk-Based Capital Standards: Market Risk, 61 Fed. Reg. 47,358 (1996) [hereinafter Market Risk].

13. Federal Reserve Systems, Capital Adequacy Guidelines for State Member Banks: Risk-Based Measure, 12 C.F.R. ch. 11, pt. 208, app. A, iv (1989).

14. See Cunningham, *supra* note 11, at 283-284.

15. *Id.*

risks. Banks and securities firms are exposed to market risks through their trading activities.¹⁶ Market risk is the "potential for financial losses due to the increase or decrease in the value or price of an asset resulting from broad movements in prices, such as interest rates, commodity prices, stock prices, or the relative value of currencies (foreign exchange)."¹⁷ Because all financial firms hold assets, they all encounter market risks.¹⁸ However, they may not all encounter all types of market risks.¹⁹ Market risk occurs when the price of an equity security declines based upon concerns regarding the financial performance of the corporate issuer,²⁰ or when a fixed income security declines in value based upon a change in interest rates.²¹

In January 1996, the world's twelve major financial centers as members of the BIS signed the Basle Accord to Incorporate Market Risk.²² In order to manage market risk by setting regulatory capital requirements for trading positions, BASLE used the building block approach and the VAR approach to develop two alternative methodologies. The building block approach assigns "risk charges to specific instruments and specifies how these charges must be aggregated into an overall market risk capital requirement."²³ Based on the building block approach, BASLE developed its standardized methodology which established fixed risk charges and mandatory calculations to ascertain a bank's regulatory capital requirement. As an alternative to the building block approach's fixed capital charges, the VAR approach allows a bank's internal risk measurement model to produce potential loss estimates.²⁴ Based

16. See HAL S. SCOTT & PHILIP A. WELLONS, *INTERNATIONAL FINANCE, TRANSACTIONS, POLICY, AND REGULATION* 252 (6th ed. 1999).

17. GAO REPORT, *supra* note 2, at 23.

18. *See id.*

19. *See id.*

20. *See* SCOTT & WELLONS, *supra* note 16, at 254.

21. *See id.*

22. *See* Basle Committee on Banking Supervision, *Amendment to the Capital Accord to Incorporate Market Risks* (last modified Sept. 1997) <<http://www.bis.org/publ/bcbs24a.htm>> [hereinafter BASLE Accord].

23. Paul H. Kupiec & James M. O'Brien, *The Pre-Commitment Approach: Using Incentives to Set Market Risk Capital Requirements*, in FED. RESERVE BOARD, *FINANCE AND ECONOMICS DISCUSSION SERIES* 3 (1997).

24. *See id.* VAR refers to the following: 1) the risk management philosophy of computing the maximum possible loss through modeling techniques in an

upon the VAR approach, BASLE developed its internal model methodology which allows banks to use their proprietary models to measure capital provided that the model satisfies minimum standards and receives the national banking regulator's approval.²⁵ In its 1996 proposal, BASLE determined that a bank would be permitted to choose between the standardized methodology and the internal model methodology.²⁶

B. Approaches to Market Risk

1. The Building Block Approach-BASLE's Standardized Methodology

The BASLE Committee first developed the standardized methodology for measuring market risks based upon the building block approach.²⁷ The building block approach sets capital requirements by isolating broad classes of risk such as interest rate, equity position, foreign exchange and commodities risk.²⁸ Each category of risk is attributed a "separately calculated charge."²⁹ The specific risk applies to each security whether "it is a short or long position."³⁰ Specific risk reflects the changes in the market value of an institution's individual holdings such as the creditor risk of an instrument's issuer.³¹ The general market risk charge applies to each security and the "long and short positions in different securities can be offset."³² General market risk reflects changes associated "with global capital markets or world economies."³³ These broad market movements may affect the general level of interest rates, equity prices, foreign exchange rates and commodity prices.³⁴ The total capital requirement reflects the sum of

institution's portfolio, and 2) the actual maximum possible loss. I have attempted to distinguish the different meanings of VAR by referring to BASLE's interpretation of VAR as the "internal model methodology." *Id.*

25. See BASLE Accord, *supra* note 22, at 44.

26. See *id.* at 3.

27. See SCOTT & WELLONS, *supra* note 16, at 259.

28. See GAO REPORT, *supra* note 2, at 94.

29. BASLE Accord, *supra* note 22, at 9.

30. *Id.*

31. See GAO REPORT, *supra* note 2, at 50.

32. *Id.*

33. *Id.*

34. See *id.* at 49 n.18.

both general and specific risk.³⁵ For example, using the standardized methodology for equity position risk, a liquid and well-diversified portfolio will have a specific capital charge of 4%. Otherwise, the capital charge will be 8%.³⁶ The general market risk charge for equity is 8%.³⁷

The EU issued the Capital Adequacy Directive (CAD) "nearly contemporaneously" with the BASLE proposal.³⁸ The CAD espoused the same building block approach and *standardized methodology* as BASLE.³⁹ The CAD attempted to create a "level playing field" for both securities firms and banks by treating banks' securities portfolios and securities firms' proprietary positions in the same manner.⁴⁰ Furthermore, the CAD attempted to harmonize the rules regulating banks and securities firms in EU countries to stabilize the EU market.⁴¹ The major difference between CAD and BASLE is the selection of equity capital charges for specific risks. The CAD provides a 2% capital charge for diversified and liquid portfolios and a 4% capital charge for undiversified and illiquid portfolios.⁴²

While both BASLE and the EU adopted the building block approach, strong criticism of this approach propelled the FRB to abandon it as an alternative to the internal model meth-

35. *See id.* at 51.

36. *See id.*

37. *See* BASLE Accord, *supra* note 22, at 19.

38. *See* Joseph J. Norton & Christopher D. Olive, *The Ongoing Process of International Bank Regulatory and Supervisory Convergence: A New Regulatory-Market "Partnership,"* 16 ANN. REV. BANKING L. 227, 299 (1997).

39. *See* Council Directive 93/6, 1993 O.J. (L 141) 1 [hereinafter CAD]. Prior to the CAD, UK regulators utilized the portfolio approach to regulating capital adequacy. *See* SCOTT & WELLONS, *supra* note 16, at 267. This approach "lowers capital requirements as a portfolio of securities becomes increasingly balanced in long and short positions and increasingly diversified." *Id.* The portfolio approach recognizes how by "netting long and short positions in the same stock, which hedges market risk, and by determining the extent to which a portfolio is diversified." *Id.* at 268. The residual risk, is the "function of each security's share in the portfolio and the relationship between returns on each security in the portfolio." *Id.* Since the parameters for a portfolio for 2000 stocks may be extensive, the cost to implement the theory was great. *See id.* Thus, the UK regulators simplified the parameters. This method of calculating capital requires less capital than the building block approach. *See id.*

40. *See* Nancy Worth, *Harmonizing Capital Adequacy Rules for International Banks and Securities Firms,* 18 N.C. J. INT'L L. & COM. REG. 133, 170 (1992).

41. *See* Norton & Olive, *supra* note 38, at 300.

42. *See* SCOTT & WELLONS, *supra* note 16, at 260; CAD, *supra* note 39.

odology.⁴³ In the FRB's concept release proposing both the standardized methodology and the internal model methodology, "several commentaries expressed concerns about the accuracy of the standardized approach and urged for its elimination."⁴⁴ These critics of the internal model methodology believed that "inaccurate estimates of the risk exposures" could lead to reduced "economic efficiency by distorting banks' investment decisions and creating incentives for unproductive regulatory arbitrage activities."⁴⁵ In the final rule, the U.S. banking agencies stated that they "concur with commentaries that an institution with significant exposure to market risk can most accurately measure that risk using the detailed information available to the institution about its particular portfolio processed by its own risk measurement model."⁴⁶ By abandoning the building block approach, the FRB acknowledged that "no single or specific technique is best for everyone."⁴⁷ Another major criticism of the building block approach involved its treatment of derivatives. The building block approach (as well as the internal model methodology) does not account for netting arrangements and relies upon notional values which makes it ill suited for derivative positions.⁴⁸ Therefore, the enormous growth of derivatives also propelled the development of a risk management approach (VAR) that could handle derivative positions.⁴⁹

2. The VAR Approach and BASLE's Internal Model Methodology

The VAR approach represents an estimate of the maximum amount by which the value of an "institution's positions could decline due to general market movements during a fixed holding period, measured with a specific confidence level."⁵⁰

43. See Market Risk, *supra* note 12, at 47,362.

44. Kupiec & O'Brien, *supra* note 23, at 2.

45. *Id.*

46. Market Risk, *supra* note 12, at 47,362.

47. Susan M. Phillips & Alan N. Rechtschaffen, *International Banking Activities: The Role of the Federal Reserve Bank in Domestic Capital Markets*, 21 *FORDHAM INT'L L.J.* 1754, 1757 (1998).

48. See KEVIN DOWD, *BEYOND VALUE AT RISK: THE NEW SCIENCE OF RISK MANAGEMENT* 226 (1998).

49. See *id.* at 8. Dowd argues that the growth of derivatives instruments was one of the reasons for the development of VAR risk management. *Id.*

50. GAO REPORT, *supra* note 2, at 50. The holding period is the period of rate

The VAR approach permits the use of various modeling techniques such as the variance-covariance matrices, historical simulations or Monte Carlo simulations.⁵¹ Based upon the VAR approach, BASLE developed the internal model methodology.⁵² However, BASLE set specific minimum standards for each institution's internal model.⁵³

The BASLE Committee set minimum qualitative requirements for the internal model methodology. Supervisors would authorize banks based on the following: an active independent risk control unit with actively involved directors and senior managers, a model closely integrated to daily risk management, regular stress tests for exceptional plausible conditions, thorough compliance procedures, and regular internal review by the bank's internal audit unit.⁵⁴ The qualitative standards would ensure that the VAR models are "conceptually sound and implemented with integrity."⁵⁵

BASLE also required *quantitative* requirements to ensure that the "capital charges are sufficiently consistent with institutions with similar exposures."⁵⁶ While the standardized methodology applies fixed capital charges for each risk category,⁵⁷ the internal model methodology calculates the required capital charge as a "conservative estimate of possible losses due to market volatility."⁵⁸ The internal model methodology specifies common parameters such as: daily calculation of VAR, assumed holding period of 10 days, a 99% confidence level, the use of empirically verified correlation between and across risk types, and the use of one year of historic data, with data updated every three months.⁵⁹ Thus, the computation for the

and price movements upon which the model is based. The confidence level refers to the specific probability of the profit and loss distribution occurring, thus a 99% confidence level means that the VAR estimate covers all but the largest 1% of losses. See DOWD, *supra* note 48, at 39.

51. See DOWD, *supra* note 48, at table of contents. See also BASLE Accord, *supra* note 22, at 44.

52. See generally Norton & Olive, *supra* note 38, at 303.

53. BASLE Accord, *supra* note 22, at 38, 39.

54. See *id.*; Federal Reserve Systems, Capital Adequacy Guidelines for State Member Banks; Market Risk Measure, 12 C.F.R. ch. 11, pt. 208, app. E § 4(b); Council Directive 98/33, 1998 O.J. (L 204) (amending Directive 93/6).

55. BASLE Accord, *supra* note 22, at 39.

56. GAO REPORT, *supra* note 2, at 51.

57. See *id.*

58. *Id.* at 51 n.22.

59. See BASLE Accord, *supra* note 22, at 44. "The supervisory authority may

VAR would be the previous day's value at risk and the average daily value at risk of the preceding sixty days multiplied by a minimum multiplier of three.⁶⁰ BASLE participants believed that "modeling oversimplifies volatilities" because "VAR estimates use end-of-day positions and miss intra-day trading risk" causing models to miss "exceptional circumstances."⁶¹ The internal model methodology requires that institutions multiply the VAR by three or more "to adjust for these shortcomings."⁶²

The internal model methodology also requires that the internal model contain an appropriate set of general market risk factors such as interest rates, equity prices, exchange rates and commodity prices, and the specific "market rates and prices that affect the value of the bank's trading positions."⁶³ Institutions must also have a "rigorous and comprehensive stress testing program" to "identify events or influences that could greatly impact" their portfolios.⁶⁴ The internal model methodology sets out how the stress test should be conducted: to cover extraordinary losses and gains, quantitative and qualitative in nature, and "combine the use of supervisory stress scenarios with stress tests developed banks themselves."⁶⁵

In August 1996, U.S. bank regulators amended their capital standards with measures for market risk based largely on the internal model methodology recommended by the BASLE Committee.⁶⁶ The new rules took effect January 1, 1997.⁶⁷ As

also recognise empirical correlations across broad risk factor categories, provided that the supervisory authority is satisfied that the bank's system for measuring correlations is sound and implemented with integrity." *Id.*

60. *See id.* at 55.

61. 12 C.F.R. ch. 11, pt. 208, app. E § 2(d).

62. *Id.* at tbl. 1.

63. BASLE Accord, *supra* note 22, at 42. For example:

[F]or interest rates, there must be a set of factors corresponding to interest rates for each currency in which the bank has interest-rate-sensitive on or off-balance sheet positions. The risk measurement system should model the yield curve using one of a number of generally accepted approaches, for example, by estimating forward rates of zero coupon yields The risk measurement system must incorporate separate risk factors to capture the spread risk.

Id.

64. *Id.* at 46 (emphasis added).

65. *Id.*

66. *See* Federal Reserve Systems, Capital Adequacy Guidelines for State Member Banks; Market Risk Measure, 12 C.F.R. ch. 11, pt. 208, app. E § 1(a) n.1 (1996). Note 1 acknowledges BASLE's role in this regulation:

permitted by the BASLE Accord, the FRB permitted only the internal model methodology to be used.⁶⁸

The EC did not reach political agreement regarding the internal model methodology until December 1997 (CAD II).⁶⁹

This appendix is based on a framework developed jointly by supervisory authorities from the countries represented on the BASLE Committee on Banking Supervision and endorsed by the Group of Ten Central Bank Governors. The framework is described in a BASLE Committee paper entitled "Amendment to the Capital Accord to Incorporate Market Risks," January 1996.

Id.

67. *See id.* The purpose section states the general application of the regulation.

The U.S. capital adequacy requirements apply to any bank or bank holding company whose trading activity equals 10 percent or more of its total assets or whose trading activity equals \$1 billion or more. In addition, a bank regulator can include an institution that does not meet the criteria if deemed necessary for safety and soundness purposes or can exclude institutions that meet the applicability criteria.

Id. § 1(b).

68. *See id.* However, the banking agencies recently changed the calculations for specific risk so that all aspects of the internal model's methodology would utilize the bank's internal model. When the agencies initially adopted the market risk rules, an institution using its internal model to measure specific risk was required to hold capital for specific risk equal to at least 50 percent of the specific risk charge calculated using the standardized approach (minimum specific risk charge). If a portion of the institution's VAR attributable to specific risk did not equal the minimum specific risk charge, the institution's VAR based capital charge was subject to an add on charge of the difference between the two. In practice, this required an institution employing an internal model to measure specific risk to also calculate the specific risk charge using a standardized approach. When the agencies included the minimum specific risk charge as part of the market risk rules, they recognized that dual calculations of specific risk—that is, calculating specific risk with internal models as well as using the standardized approach to establish the minimum specific risk charge—would be burdensome. However, the agencies' decision to include the minimum specific risk charge was consistent with the Basle Committee's belief that a minimum charge was necessary to ensure that modeling techniques for specific risk adequately measured that risk. After the Basle Committee adopted the market risk amendment, many institutions improved their modeling techniques and, in particular, their modeling of specific risk. Recognizing these improvements in September 1997 the Basle Committee decided to eliminate the use of the minimum specific risk charge and the burden of a separate calculation. The Basle Committee revised the market risk amendment so that an institution using a valid internal model to measure specific risk could use the VAR measures generated by the model without comparing the model-generated results to the minimum specific risk charge calculated under the standardized approach. The revisions specified that the specific risk elements of such models through backtesting and review by the relevant agency. *See Risk-Based Capital Standards: Market Risk*, 64 Fed. Reg. 19,034, 19,035 (1999).

69. *See* SCOTT & WELLONS, *supra* note 16, at 276.

On June 22, 1998, the EC passed CAD II to allow institutions to develop "their own risk-management systems (internal models) designed to measure more accurately than the standardized method the market risks incurred by investment firms and credit institutions."⁷⁰

The major criticism of BASLE's internal model methodology has been the 3x multiplier applied to the VAR. In a General Accounting Office (GAO) study, several bankers commented that the new requirement requires "unrealistic levels of capital due to the multipliers imposed on the bank's internal model."⁷¹ While weighing the pros and cons of the multiplier approach, an IOSCO study remarked that the multiplier may "encourage firms that would otherwise take a conservative approach to calculating VAR to be less conservative in order to reduce the impact of the multiplier."⁷² Therefore, the multiplier could create a "perverse incentive to design a model to minimize the regulatory effects rather than optimize its use as a risk management tool."⁷³ Thus, the particular multiplier "is open to the charge that it is arbitrary."⁷⁴ One commentator even referred to the multiplier as the "hysteria factor."⁷⁵ Described as "pulled out of thin air," the commentator alleges that "industry legend" claims that the number arose as a "compromise between U.S. regulatory authorities who wanted a multiplier of one and German authorities who wanted a multiplier of five."⁷⁶ Finally, industry participants have observed that the models are "limited by the quality of the data available, the computation power available, and the ability of analysts to develop mathematical models to accurately reflect financial risks and returns as economic conditions change."⁷⁷ Regulators have echoed this concern regarding the "dependability of the results from the firms' risk measurement systems, in terms of the accuracy of the results and the transpar-

70. Council Directive 93/31, 1998 O.J. (L 204) 13 (amending Directive 93/6).

71. GAO REPORT, *supra* note 2, at 69.

72. TECHNICAL COMMITTEE OF THE INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS, *METHODOLOGIES FOR DETERMINING MINIMUM CAPITAL STANDARDS FOR INTERNATIONALLY ACTIVE SECURITIES FIRMS WHICH PERMIT THE USE OF MODELS UNDER PRESCRIBED CONDITIONS* 12 (1998).

73. *Id.*

74. *Id.*

75. DOWD, *supra* note 48, at 213.

76. *Id.*

77. GAO REPORT, *supra* note 2, at 82.

ency in the firms' use of internal models."⁷⁸

3. The VAR Approach—Pre-Commitment Approach

In response to a perceived high level of capital required by the internal model methodology, some regulators have expressed concerns regarding the bank's incentive to implement accurate internal models.⁷⁹ Due to this concern, the FRB proposed an alternative to the internal model methodology, the Pre-Commitment Approach (PCA).⁸⁰ The PCA would provide "an explicit incentive mechanism for committing adequate capital to cover a level of market risk that is known only to the bank."⁸¹ Using the bank's proprietary model to develop its value at risk in its trading portfolio, the PCA allows banks "to pre-commit to a maximum loss exposure."⁸² Under the PCA, the bank would "specify an amount of capital it believed was adequate to cover its risk exposure over a fixed subsequent interval and would commit to manage its trading portfolio to limit losses over the interval to this amount."⁸³ If the bank's losses exceed the pre-committed amount, the bank would "face penalties that could range from public disclosure to additional capital requirements or monetary fines."⁸⁴ This maximum loss pre-commitment would be the bank's market risk capital charge rather than developing the capital charge through the internal model methodology.⁸⁵ Several representatives of the U.S. bank regulatory agencies have cited the PCA as a proposed method because it provides banks with an "incentive" to establish the capital adequacy level in a "prudent fashion."⁸⁶

78. *Id.* at 97.

79. See Kupiec & O'Brien, *supra* note 23, at 3.

80. See *id.* at 31.

81. *Id.*

82. *Id.*

83. GAO REPORT, *supra* note 2, at 110.

84. *Id.*

85. See *id.*

86. See Phillips & Rechtschaffen, *supra* note 47, at 1756. See also Jill Considine, *Pilot Exercise—Pre-Commitment Approach to Market Risk*, 4 FED. RESERVE BANK N.Y. ECON. POL'Y R. (Oct. 1998). Ten banking organizations participated in a pilot for this approach to capital requirements for market risks. They were: BankAmerica Corp., Bankers Trust New York Corp., Chase Manhattan Corp., Citicorp, First Chicago NBD Corp., First Union Corp., Fuji Bank Ltd., JP Morgan & Co., NationsBank Corp., and Swiss Bank Corp. See *id.* The Pilot demonstrated that the Pre-Commitment Approach "is a viable alternative to the inter-

The PCA may be criticized for its counterproductive impact on banks during stressful market conditions.⁸⁷ In addition, an "appropriate penalty" must present an adequate deterrent to future unlawful activity.⁸⁸ Therefore, the penalty must be "bank specific" and "depends on characteristics that regulators cannot precisely measure."⁸⁹ Finally, the PCA also assumes a "forward looking" reaction to "potential penalties."⁹⁰ Weak banks may not be deterred by "future penalties that, in the extreme, might not be enforceable if the bank is insolvent."⁹¹

4. The Comprehensive Approach

The SEC's approach to capital requirements (comprehensive approach) reflects its "emphasis on customer protection" to ensure that "broker-dealers have adequate liquid assets to meet their obligations to investors and creditors."⁹² The SEC protects the "liquidation value" of the firm rather than "going concern" valuation.⁹³ The SEC's Net Capital Rule (15c3-1) computes capital as "net worth" less deductions (haircuts) for securities positions "minus non-liquid assets, like buildings, plus certain subordinated debt."⁹⁴ Haircuts are "designed to provide protection from the market risk, credit risk, and other risks inherent in various positions."⁹⁵ Securities are valued at market price (marked to market). The theory behind the hair-

nal model approach for establishing the capital adequacy of a trading business for regulatory purposes." *Id.* "The Participating Institutions believe that the results of the Pilot suggest that the 3x multiplier, as well as the specific risk component, even after the Basle Committee's revision dated September 17, 1997, lead to excessive regulatory capital requirements for their trading positions." *Id.* (emphasis added). None of the ten institutions reported a negative P&L in excess of its pre-committed capital. *See id.* However, the Pilot conceded that during the period that the institutions tested the PCA, the market maintained moderate volatility. *See id.*

87. *See* GAO REPORT, *supra* note 2, at 111.

88. *Id.*

89. *Id.*

90. *Id.*

91. *Id.*

92. SCOTT & WELLONS, *supra* note 16, at 263; *See also* Norton & Olive, *supra* note 38, at 307 (referring to 17 C.F.R. § 240.15c3-1).

93. SCOTT & WILLIAMS, *supra* note 16, at 263.

94. Worth, *supra* note 40, at 147 (citing 17 C.F.R. § 240.15c3-1).

95. SEC, Concept Release, Net Capital Rule, No. 34-39456, File S7-32-97 (Dec. 17, 1997) (visited Oct. 25, 1999) <<http://www.sec.gov/rules/concept/34-39456.txt>> (proposing an amendment to 17 C.F.R. § 240.15c3-1) [hereinafter Net Capital Rule].

cuts is that by discounting the value of a broker-dealer's proprietary positions, a capital cushion will be provided in case the value of the broker-dealer's portfolio declines.⁹⁶ There are two types of financial ratio computations specified: (1) an "aggregate indebtedness standard" which generally prohibits the broker or dealer from permitting its aggregate indebtedness to exceed 1500% of its net capital and (2) an "alternative standard" which requires that a broker not permit its net capital to be less than the greater of \$250,000 or 2% of aggregate debit items to be computed under the rule.⁹⁷ A broker dealer who carries customer accounts must also maintain net capital of not less than \$250,000.⁹⁸ The SEC also has rules that require the segregation of customer funds from firms' funds.⁹⁹ The SEC rule complements the Net Capital Rule and is designed to prevent the misallocation or misuse of customer funds and securities.¹⁰⁰

As conceded by the SEC, the critical weakness of the comprehensive approach is its failure to recognize several "specified hedging activities" and "historical correlations between foreign securities and U.S. securities" or "between equity securities and debt securities."¹⁰¹ By failing to recognize these offsets, the haircut method "may cause firms with large, diverse

96. *See id.* Thus, the Rule "requires a broker dealer to compute its haircuts by multiplying the market value of its securities positions by prescribed percentages." *Id.* at 3.

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. 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.

Id.

97. *See* RICHARD W. JENNINGS ET AL., *SECURITIES REGULATION* 692-93 (8th ed. 1998) (citing rule 17 C.F.R. § 240.15c3-1(a)(1)(i) & (ii)).

98. *See id.* (citing rule 17 C.F.R. § 240.15c3-1(a)(2)(i)).

99. *See* GAO REPORT, *supra* note 2, at 61 (citing rule 17 C.F.R. § 240.15c3-3 under the Securities Exchange Act of 1934).

100. *See id.*

101. Net Capital Rule, *supra* note 95, at 12.

portfolios to reserve capital that actually overcompensates for market risk."¹⁰²

C. Failure of IOSCO

Based upon the success of BASLE and the divergent capital adequacy requirements between the United States and EU securities firms, IOSCO¹⁰³ accelerated its efforts to coordinate its positions on capital adequacy with other international regulatory authorities in the 1990s.¹⁰⁴ In 1993, IOSCO's Technical Committee indicated to BASLE that "it would adopt the building block approach to capital adequacy."¹⁰⁵ The SEC also indicated that it would not "oppose this approach as a minimum standard but would retain its current Net Capital Rule for equities which would require a higher standard."¹⁰⁶

However, at a subsequent meeting, SEC Chairman Richard Breeden called IOSCO's proposal "highly unsafe."¹⁰⁷ This "notable battle" pitted the SEC Chairman against the other members of IOSCO, primarily the European countries.¹⁰⁸ The disagreement involved how the haircut should be applied to equity securities in a securities firm's portfolio when calculating the net capital.¹⁰⁹ Chairman Breeden believed that the building block approach espoused by BASLE and IOSCO "would result in a significant weakening of the protection against insolvency of securities firms."¹¹⁰ According to one

102. *Id.* In the GAO REPORT, *supra* note 2, at 69, industry officials stated that "the current net capital rule does not deal well with hedging or other risk reducing strategies which are based on price volatility and correlation." The 100% haircut rule can only "allow limited types of hedges without becoming unreasonably complicated." *Id.*

103. See IOSCO, *supra* note 9.

104. See BLOOMENTHAL, *supra* note 1, § 27.72.

105. *Id.*

106. *Id.*

107. See *id.*

108. See A. A. Summer, Jr., *IOSCO: Its Mission and Achievement*, 17 NW. J. INT'L & BUS. 15, 25 (1997). See also Jane C. Kang, *The Regulation of Global Futures Markets: Is Harmonization Possible or Even Desirable?*, 17 NW. J. INT'L L. & BUS. 242 (1997).

109. See Kang, *supra* note 108, at 242.

110. *Id.* See also SCOTT & WELLONS, *supra* note 16, at 261. Apparently, Chairman Breeden suggested that the BASLE Committee was "partially responsible for the recession in the early 1990s." David Zaring, *International Law by Other Means: The Twilight Existence of International Financial Regulatory Organizations*, 33 TEX. INT'L L.J. 281, 283 (1998).

commentator, "the SEC's refusal to endorse the standards proposed by IOSCO has harmed the organization severely."¹¹¹ IOSCO has not achieved any regulatory success in implementing global capital adequacy standards for securities firms.¹¹² Therefore, the efforts of banking and securities regulators toward regulatory convergence in the area of market risk management have been described as "unbalanced."¹¹³ IOSCO abandoned its effort to harmonize these standards and has focused on supervisory reports for securities firms and regulators.¹¹⁴ IOSCO recently published a study "to provide guidance to those supervisors which have decided in principle that VAR models for market risk have a part to play in their regulatory framework."¹¹⁵ However, IOSCO made it clear that "IOSCO is not by means of this paper seeking to endorse the

111. Licht, *supra* note 4, at 128.

112. See Zaring, *supra* note 110, at 295.

113. See Joseph J. Norton, "International Financial Law," *An Increasingly Important Component of "International Economic Law: A Tribute to Professor John H. Jackson*, 20 MICH. J. INT'L L. 133, 141 (1999).

114. See Zaring, *supra* note 110, at 295. For a different interpretation of the EU's adoption of the CAD, see Barbara Matthews, *Capital Adequacy, Netting and Derivatives*, 2 STAN. J. L. BUS. & FIN. 167 (1995).

In 1988, two countries devised an approach to capital adequacy for which they sought international acceptance through the BASLE Committee process. By [the] early 1990s however, BASLE Committee members began seeking to conclude the debate (and/or strengthen their bargaining position) by issuing potentially preemptive national legal rules prior to the development by the BASLE Committee of an international consensus. For example, because EU member states comprise the majority of votes on the BASLE Committee, agreement within the EU before the agreement in BASLE could shape the substance and structure of internationally agreed bank supervision rules that will likely be implemented widely both within and outside the EU. In contrast, the individual states of the U.S. do not participate and vote in the BASLE Committee. In this manner, the BASLE process may provide the EU with the impetus to move quickly on the issue in order to simultaneously increase EU bargaining power and to decrease EU member state flexibility in BASLE. The preemption occurred in March 1993, when the EU promulgated the capital adequacy directive which issued final capital adequacy rules for market risks incurred by banks and other financial institutions through their trading activities.

Id. at 188.

115. International Organization of Securities Commissions, *Recognising a Firm's Internal Market Risk Model for the Purposes of Calculating Required Regulatory Capital: Guidance to Supervisors* § I (May 1999) <http://www.iosco.org/docs-public/download_1999-market_risk_model.html> [hereinafter IOSCO].

particular standards laid down in BASLE and CAD II."¹¹⁶

D. SEC Concept Release, Net Capital Rule & OTC Derivatives Dealers

In the SEC's concept release, Net Capital Rule, the SEC announced proposed amendments to the Net Capital Rule.¹¹⁷ First, the SEC proposed modifying the current haircut approach to incorporate the use of VAR models for interest bearing instruments to allow for the correlations and hedges in a firm's fixed income portfolio.¹¹⁸ The proposed amendments are intended to "better match capital charges with actual market risk hedging practices employed by broker-dealers."¹¹⁹ Second, the SEC proposed to relax margin requirements and to adopt the VAR approach to capital adequacy for OTC Derivatives Dealers.¹²⁰ The SEC eventually passed the OTC Derivatives Dealers rule, hoping to encourage broker-dealers to register as derivatives dealers under 15(b) of the Exchange Act.¹²¹ However, the SEC has not promulgated a rule to amend the capital requirements for interest bearing instruments or equities.

The OTC Derivatives Dealers rule allows for "a form of limited broker-dealer regulation that would give firms an op-

116. *Id.*

117. *See* Net Capital Rule, *supra* note 95.

118. *See id.* at 12, 14-17. In December 1997, the SEC proposed to adopt a standard similar to the BIS building block method to calculate capital for market risk on interest bearing instruments.

The amendments proposed in this release would change the haircuts applicable to most interest rate instruments held in a broker-dealer's proprietary account. The proposed amendments are on Banking Supervision in its amendments to the BASLE Capital Accord for market risk arising from interest rate products. The Proposed Amendments would treat most types of interest rate products as part of a single portfolio. Under the Proposed Amendments, the net capital rule would recognize various hedges among a portfolio of government securities, investment grade non convertible debt securities, pass through Mortgage Backed Securities, repurchase and reverse repurchase agreements. The amendments should better match capital charges with actual risk hedging practices employed by broker dealers.

Id. at 2-5.

119. GAO REPORT, *supra* note 2, at 108.

120. *See* Net Capital Rule, *supra* note 95.

121. *See* SEC, Final Rule, OTC Derivatives Dealers, Rel. 34-40594 (Oct. 23, 1998) (amending 17 C.F.R. §§ 200, 240, 249) (visited Jan. 27, 2000) <<http://www.sec.gov/rules/final/34-40594.htm>> [hereinafter Final Rule].

portunity to conduct business in a vehicle subject to modified regulation appropriate to the OTC derivatives market.¹²² The new rule went into effect on January 4, 1999.¹²³ The SEC adopted "rules and rule amendments that will allow U.S. securities firms to establish separately capitalized entities that may engage in dealer activities in eligible OTC derivative instruments, which include both securities and non-securities OTC derivative instruments."¹²⁴ These margin requirements allow securities firms to be authorized by the Commission to use VAR models¹²⁵ to calculate capital charges for market risk.¹²⁶ An OTC Derivatives Dealer's VAR model must "meet certain qualitative and quantitative requirements" currently followed by the U.S. banking agencies.¹²⁷

With this new rule, the SEC acknowledged the effects of excessive regulation in a competitive global marketplace. OTC derivatives are mobile and profitable.¹²⁸ Rather than derivatives dealers enduring the stringent Net Capital Rule, firms have divided "their activities, placing non-securities activities in separate, unregistered affiliates located in the United States, and conducting their securities activities abroad."¹²⁹ In a GAO study, industry officials also commented that the

122. *Id.*

123. *See id.*

124. *Id.*

125. *See id.*

126. The minimum capital requirement for OTC derivatives dealers is tentative net capital of \$100 million and net capital of at least \$20 million. *See SEC, OTC Derivatives Dealers: Correction*, 17 C.F.R. §§ 200, 240, 249; Net Capital Requirements (visited Jan. 27, 2000) <<http://www.sec.gov/rules/final/34-40595.htm>>.

An OTC derivative dealer's VAR model must meet certain qualitative and quantitative requirements under Appendix F that parallel rules currently followed by *U.S. banking agencies*. To meet the qualitative requirements, among other things, an OTC derivatives dealer must integrate its VAR model into the firm's daily risk management process, and subject its VAR model to stress tests, internal and external audits, and back testing. The quantitative requirements contain statistical parameters for VAR measures using a time horizon that is appropriate in the regulatory capital context, as well as risk factors that must be addressed in any model used. These parameters include the use of a ten-day holding period and a 99% confidence level.

Id. (emphasis added).

127. Final Rule, *supra* note 121, at 12.

128. *See Over the Counter Derivatives Market Before the Senate Comm. on Agriculture, Nutrition and Forestry*, 105th Cong. (1998) (testimony of Arthur Levitt, Chairman, Securities and Exchange Commission).

129. *Id.*

Net Capital Rule “constrains business decisions” and forces some institutions to conduct derivatives businesses “in unregulated entities due to the high haircuts imposed by the Net Capital Rule.”¹³⁰ The SEC conceded that “fragmenting a firm’s OTC derivatives business in this manner may hinder its ability to manage risk and compete for business.”¹³¹ The Securities Industry Association (SIA) warmly embraced the changes to the Net Capital Rule as “a major step by recognizing that reform was needed to make U.S. firms competitive in this important market segment.”¹³² The SEC also acknowledged the influence of IOSCO in its decision to change capital requirements from the Net Capital Rule to the VAR approach used by BASLE and the FRB.¹³³

On November 12, 1999, Congress also passed the Gramm-Leach-Bliley Act, Financial Modernization Act of 1999 (FMA) to “enhance competition in the financial services industry.”¹³⁴ The bill allows “banks and securities firms to affiliate through a ‘financial holding company’ structure—the Federal Reserve will serve as the so-called ‘umbrella’ regulator, but the affiliates will be subject to functional regulation.”¹³⁵ In addition, banks that meet certain requirements (i.e., well managed, well capitalized) will be able to establish “a new type of bank subsidiary to engage in securities underwriting.”¹³⁶ This new bank subsidiary will be able to engage in “activities that are financial in nature” as provided by the Secretary of the Treasury.¹³⁷ In addition, the FRB will “apply capital and managerial standards comparable to those pertaining to U.S. banking

130. GAO REPORT, *supra* note 2, at 69.

131. Final Rule, *supra* note 121, at 6.

132. *Derivative Regulation: SIA Welcomes SEC's Rule Changes Regarding OTC Derivatives Dealers*, SEC. WK., Oct. 26, 1998, at 10, available in LEXIS, News Group File, Securities Week. See also Katherine M. Reynolds, *SIA likes 'Broker-Dealer Light,' Range of Other SEC Innovations*, BOND BUYER, Jan. 26, 1998, at 31, available in LEXIS, News Group File, Bond Buyer.

133. See Final Rule, *supra* note 121 (amendment to rule 17 C.F.R. § 240.15c3-1, reasons for allowing OTC Derivatives Dealers to use Value at Risk Models).

134. Gramm-Leach-Bliley Act, *supra* note 3.

135. Norman S. Johnson, *Securities Regulation After Glass-Steagall Reform* (visited Mar. 3, 2000) <<http://www.sec.gov.news.speeches/spch353.htm>>.

136. *Id.*

137. Gramm-Leach-Bliley Act, *supra* note 3.

organizations.”¹³⁸ In response to the new statute, some commentators have “questioned whether independent securities firms can survive in this environment.”¹³⁹

While the SEC’s OTC Derivatives Dealers rule suggests that there may be hope for the harmonization of capital adequacy rules between U.S. and EU securities firms in the future, U.S. broker-dealers’ activities (not subject to the OTC Derivatives Dealers option) are still subject to the Net Capital Rule.¹⁴⁰ By adhering to BASLE’s internal model methodology which requires less capital than the Net Capital Rule, EU securities firms and banks and U.S. banks maintain an unfair advantage of additional capital for proprietary trading, underwriting activities and derivatives transactions. Since the FMA will allow U.S. and foreign banks to participate in underwriting securities, U.S. securities firms will face additional pressure. In addition, the OTC Derivatives Dealers rule only provides broker-dealers with the “option” to register derivative subsidiaries with the Commission under 15(b).¹⁴¹ Therefore, U.S. broker-dealers may still maintain separately capitalized entities off shore to conduct derivatives activities beyond the purview of regulators. Finally, without global capital adequacy standards for securities firms, the world financial system remains exposed to the systemic risk created by undercapitalized brokerage firms.

II. THE GOALS OF HARMONIZING CAPITAL ADEQUACY STANDARDS

There are two arguments in support of harmonization of capital adequacy standards. One, given the dynamic nature of contemporary capital markets, uniform capital adequacy acts as a preventive measure against systemic risk. Second, securities regulators must seek to achieve the appropriate balance between responsible regulation and fair competition. Capital adequacy must be in place to protect investors and prevent the “race to the bottom,” but the regulation must not be so obtru-

138. Roger W. Ferguson, Remarks at the Institute of International Bankers (visited Mar. 6, 2000) <<http://www.federalreserve.gov/board-docs/speeches/2000/200003062.htm>>.

139. Johnson, *supra* note 135.

140. See SCOTT & WELLONS, *supra* note 16, at 266.

141. See Final Rule, *supra* note 121.

sive as to prevent securities firms from competing with other jurisdictions and other financial institutions within their own jurisdiction.

A. *Preventing Systemic Risk*

Systemic risk is the risk that one party's inability to meet its obligations could cause a domino effect amongst other parties, causing the other parties to default on their obligations.¹⁴² Systemic risks arise because "enhanced linkages across national and international financial markets increase the volatility of capital flows," thus creating the "potential for concentrated disturbances."¹⁴³ Therefore, the entire financial system becomes exposed to the losses of one financial conglomerate.¹⁴⁴ These losses may emerge initially in firms, domestic financial markets, international financial markets or the global economy.¹⁴⁵ Therefore, a principal reason to harmonize capital adequacy is to prevent a "global financial meltdown by minimizing systemic risks."¹⁴⁶

Recent world events provide various examples of "global financial meltdowns." The Mexican liquidity crisis destabilized world markets from December 1994 through February 1995.¹⁴⁷ Unsound bank lending activities and widespread market losses "contributed to bank difficulties and currency devaluation" throughout Asia in 1997.¹⁴⁸ As Asian markets collapsed in October 1997, the effects reached the U.S. stock market which "suffered its most severe single day point decline in history, triggering circuit breakers and shutting down the New York Stock Exchange."¹⁴⁹ Another recent example is the Long Term Capital Management (LTCM) crisis, triggered in part by the Russian bond default. Federal banking regulators

142. See Kimberly D. Krawiec, *More Than Just "New Financial Bingo": A Risk Based Approach to Understanding Derivatives*, 23 J. CORP. L. 1, 47 (1998) (citing THE BANK OF INTERNATIONAL SETTLEMENTS, REPORT OF THE COMMITTEE ON INTERBANK NETTING SCHEMES OF THE GROUP OF TEN COUNTRIES (1990)).

143. Norton, *supra* note 113, at 141.

144. See Lee Lawrence, *The Basle Accords as Soft Law: Strengthening International Banking Supervision*, 39 VA. J. INT'L L. 1, 2 (1998).

145. See *id.*

146. Worth, *supra* note 40.

147. See *id.*

148. Phillips & Rechtschaffen, *supra* note 47, at 1755.

149. *Id.*

assisted in the private rescue of the hedge fund "to avoid the distortions to market processes" created by "a fire-sale liquidation and the consequent spreading of those distortions."¹⁵⁰ These distortions would have been created by the closing out of "hundreds of billions of dollars in transactions," moving markets, and an inability to "liquidate collateral or establish offsetting positions at the previously existing prices."¹⁵¹ These events could have generated several billion dollars of losses by LTCM's seventy five counterparties.¹⁵²

These examples of the "interdependence and volatility of securities markets" provide a compelling argument for why "adequate prudential supervision of securities dealers active in the international financial markets" is as critical as the "prudential supervision of the credit and transaction risks undertaken by international banks."¹⁵³ Thus, market losses created by the emerging economies debt crisis or other market disturbances may create large losses in brokerage firms, potentially jeopardizing investor funds. Japan, one of the world's leading capital markets, provides an example of large scale brokerage failures. In early 1997, Japan's fourth largest brokerage firm, Yamiachi Securities, and its seventh largest broker, Sanyo Securities, closed due to large losses.¹⁵⁴ These recent events certainly create an incentive to strengthen international bro-

150. *Private Sector Refinancing of a Large Hedge Fund, Long Term Capital Management Before the House Comm. on Banking and Fin. Serv.*, 105th Cong. (1998) (testimony of Alan Greenspan, Chairman, Federal Reserve). Or as a *Wall Street Journal* article describes systemic risk, "[o]ne of the hotly debated issues at the meeting was whether a collapse of Long Term Capital would put the entire financial system at risk." Anita Raghaven & Mitchell Pacelle, *To The Rescue? A Hedge Fund Falter, So the Fed Persuades Big Banks to Ante Up, Firms to Lend \$3.6 billion As Long Term Capital Loses on its Bond Bets*, WALL ST. J., Sept. 24, 1998, at A1.

151. *Private Sector Refinancing of a Large Hedge Fund, Long Term Capital Management Before the House Comm. on Banking and Financial Services*, 105th Cong. (1998) (testimony of William J. McDonough, President, Federal Reserve Bank of New York).

152. *See id.*

153. Cynthia C. Lichtenstein, *International Standards for Consolidated Supervision of Financial Conglomerates: Controlling Systemic Risk*, 19 BROOK. J. INT'L L. 137, 138-39 (1993) (citing an OECD report published in 1991 "Systemic Risks in Securities Markets").

154. *See World of Information, Asia-Japan, Review 1999*, FT ASIA INTELLIGENCE WIRE, Jan. 1, 1998, available in LEXIS, News Library, FT Asia Intelligence Wire; see also *Sanyo Bankruptcy Raises Fears Over Japanese Markets; Brokerage House Collapses Amid Fears of Wider Instability*, CORP. MONEY, Nov. 5, 1997, at 1.

kerage firms' capital base and increase their ability to withstand such market turmoil.

B. Achieving a Balance Between Responsible Regulation and Fair Competition

Without global capital adequacy standards for securities firms, brokers in search of new markets will migrate to countries with less developed, unsafe or unenforced regulatory standards, "thereby damaging the safety and soundness of financial markets."¹⁵⁵ Regulators fear that regulatory competition could amount to "a race to the bottom" and "reduce securities regulation to a point where investors do not receive effective protection."¹⁵⁶ An example of such danger is Japan's recent actions within its securities industry. Japan's current securities regulatory regime has presented a danger to foreign securities firms.¹⁵⁷ Foreign brokers expressed concern over joining a fund to protect the industry from brokerage failures "because it does not require brokers to segregate client assets from brokerage assets."¹⁵⁸ Smaller Japanese brokerage houses have "long used assets held on behalf of their clients as working capital," thus foreign brokers are "concerned with expenditures to pay for losses incurred by the smaller brokerage firms."¹⁵⁹ A global standard for computing regulatory capital for securities firms would prevent such reliance on customer funds.¹⁶⁰

In addition, the continued "regulatory attempts to maintain segmented regulation between international banks and

155. Zaring, *supra* note 110, at 283.

156. *Id.*

157. See 6 *Bil. Yen Protection Fund Eyed by Foreign Brokers*, JAPAN WEEKLY MONITOR, Nov. 16, 1998, available in LEXIS, News Library, Japan Weekly Monitor.

158. *Id.*

159. *Id.*

160. If there were such a standard, perhaps, Japan would feel pressured to follow it. One newspaper account reported how banks were "struggling" to meet international capital adequacy rules. See Grant Ringshaw, *Sayonara, The Global Expansion of Japan's Banks and Investment House is in Rapid Reverse*, SUNDAY TELEGRAPH (LONDON), Nov. 1, 1998, at 5. Therefore, for some banks "remaining an international operator" was no longer an option. *Id.* "All international banks must have capital adequacy ratio of 8 percent under Bank of International Settlement's rules. But Japan only demands 4 percent capital adequacy ratio for domestic banks." *Id.*

securities firms" will only shift activities to "more favorable jurisdictions" where it is cheaper to conduct business.¹⁶¹ The SEC's Net Capital Rule "impacts heavily on U.S. broker-dealers because they cannot easily hold securities."¹⁶² The Net Capital Rule "writes down such investments to a fraction of their market value."¹⁶³ The rule also restricts the entrance into the securities industry by imposing high minimum capital requirements on broker dealers.¹⁶⁴ However, the SEC recently acknowledged the costs of the lack of global harmonization of capital standards. Therefore, the SEC has begun to acknowledge that the "unilateral approach" may have some unintended anti-competitive results. Thus, as capital markets continue to innovate by creating new financial instruments, global harmonization may be the only alternative to maintaining competitive capital markets (within the purview of the SEC, of course) in the United States. Furthermore, a change in the Net Capital Rule would promote capital formation by reducing capital charges for well hedged portfolios and by better reflecting the hedging strategies actually used by broker-dealers.¹⁶⁵ This should allow broker-dealers greater freedom to invest assets or support underwritings, thereby promoting capital formation.¹⁶⁶ In addition, the new financial structures allowed by the FMA will present a challenge to the survival of independent securities firms who have higher capital requirements than their banking competitors. SEC Commissioner Norman S. Johnson conceded that some firms "may try to move different business segments to benefit from what they would regard as a more favorable regulatory environment."¹⁶⁷ Although such a "business strategy" may be "unfortunate," it may certainly occur.¹⁶⁸

Finally, countries such as Japan maintain separate banking and securities regulation, therefore, firms may "go unregulated in a country with only a banking regulator" where the

161. Norton, *supra* note 113, at 143.

162. JENNINGS ET AL., *supra* note 97, at 692.

163. *Id.*

164. *See id.*

165. *See* GAO REPORT, *supra* note 2, at 108 (discussing SEC, Proposed Rule, Net Capital Rule, Rel. No. 34-39455, at 34 (Dec. 17, 1997)).

166. *See id.*

167. Johnson, *supra* note 135.

168. *Id.*

regulator assumes that the home regulator will regulate the securities activities.¹⁶⁹ Therefore, uniform capital requirements for all securities firms would prevent such omission by regulators and would insure consistent and responsible capital adequacy.

A global capital adequacy standard remains necessary to avoid systemic risk. As recently demonstrated by various Japanese brokerage failures, the Asian currency crisis and LTCM, such events have a large impact on the world economy. Uniform capital adequacy rules for securities firms will protect investors and also promote fair competition between countries. As encouraged by the SIA, changes such as these are necessary to keep the U.S. competitive in the global capital markets.¹⁷⁰

III. HARMONIZATION MAY BE ACHIEVED BY IMPLEMENTING THE VAR APPROACH BY ADOPTING BASLE'S INTERNAL MODEL METHODOLOGY

BASLE's internal model methodology may act as a protective measure against systemic risk, prevent global regulatory arbitrage and promote fair competition. The internal model methodology presents an improvement over the inflexibility of the standardized methodology and does not require the excessive capital demanded by the comprehensive approach. Due to enforcement issues, the PCA does not present a viable alternative for global securities regulators. Therefore, the internal model methodology should be adopted by securities regulators to achieve global harmonization of capital adequacy rules.

The internal model methodology presents an improvement over the comprehensive approach. As opposed to the comprehensive approach, the internal model methodology recognizes the risk management benefits of hedging and portfolio diversification. As conceded by the SEC, the comprehensive approach overcompensates for market risk, often adversely affecting a securities firm's ability to compete. The internal model methodology would free up capital for securities firms to be used for trading and underwriting securities. By adopting the internal model approach, a level playing field would be created for U.S. securities firms.

169. Worth, *supra* note 40.

170. See sources cited *supra* note 132.

The internal model methodology also presents an improvement over the standardized methodology. First, the internal model methodology may be used for derivatives because it does not rely on notional values and accounts for netting arrangements. While the building block approach fostered concerns for its inaccurate estimates, the internal model methodology has received favorable results as a risk management tool in a BASLE study during the very volatile final two quarters of 1998.¹⁷¹ The study revealed that the “market risk capital charge provided an adequate buffer against trading losses over this period” and “none of the institutions surveyed reported trading losses over any ten-day consecutive period that exceeded the capital requirement in force at the start of the period.”¹⁷² Therefore, the internal model methodology appears to have met the critical risk management purpose: the accurate calculation of necessary capital.

In addition, the internal model methodology presents a more flexible approach than the standardized methodology. The use of the internal model methodology for risk management recognizes that “no single or specific technique is best for

171. See Basle Committee on Banking Supervision, *Performance of Models—Based Capital Charges for Market Risk*, 1 July-31 December 1998 (visited Oct. 26, 1999) <<http://www.bis.org/publ/bcbs57.htm>>.

The survey compared daily trading losses to the capital charge for market risk calculated under the internal model approach, and to banks' 99th percentile value-at-risk (VaR) estimate calculated for a one-day holding period; the latter measure is the basis for the Amendment's backtesting procedures. The capital charge is calculated based on the 99th percentile VaR estimate, calculated over a 10-day holding period, and the supervisory multiplier (a number of three or higher). The capital charge would be expressed as the higher of (a) the previous day's VaR measure, calculated based on the above parameters, or (b) the average of the daily VaR measures during the preceding sixty business days, times the multiplier. The Amendment's backtesting framework involves calculating the number of times over the prior 250 business days that observed daily trading losses exceed the bank's one-day, 99% confidence level VaR estimate (so-called “exceptions”). The Amendment directly relates the size of the supervisory multiplier used to calculate the capital charge to the number of exceptions observed in the last of 250 business days. The survey results suggest that the market risk capital charge provided an adequate buffer against trading losses over this period. In particular, *none of the institutions surveyed reported trading losses over any ten-day consecutive period that exceeded the capital requirement in force at the start of the period.*

Id. (citations omitted).

172. *Id.* (emphasis omitted).

everyone."¹⁷³ Banks criticized the standardized approach for not allowing an organization to tailor its risk management to its unique qualities and needs. The internal model methodology allows each institution to tailor its risk management to its unique operations, structure and history.¹⁷⁴ The internal model methodology also allows for "a range of compatible responses to similar situations" that encourage "experimentation, innovation, and growth."¹⁷⁵ By allowing the actual risk takers armed with detailed proprietary information to produce the internal models, more accurate models may be created to manage the industry's market risk. Furthermore, it is the Federal Reserve Chairman's view that "no matter how complex capital requirements become, firms will develop new products to exploit the remaining inevitable distortions in the regulations to lower their capital requirements."¹⁷⁶ Therefore, it makes sense to encourage firms to continue to improve risk management methods rather than to require regulators to catch up with the institution's technology.

While the PCA provides an ostensible solution to concerns that the 3x multiplier will eliminate any incentive for banks to create accurate models, the PCA should not be considered for global capital adequacy standards for securities firms.¹⁷⁷ Critics of the internal model methodology argue that the PCA provides a stronger incentive (for banks) because the PCA "could lower the bank's pre-committed capital requirement and not increase the risk of paying a penalty."¹⁷⁸ Such an approach should not be considered on an international basis. Currently, no international financial regulator exists to enforce a monetary penalty on private actors or to oversee the activities of national regulators who would be enforcing the monetary fines. In difficult economic times, a fine enforced by a national regulator would be interpreted as counterproductive to national economic initiatives. Therefore, regulators would

173. Phillips & Rechtschaffen, *supra* note 47, at 1757.

174. *See id.*

175. *Id.*

176. GAO REPORT, *supra* note 2, at 99.

177. *See* Kupiec & O'Brien, *supra* note 23, at 3. The PCA should be addressed since the SEC mentioned a modified pre-commitment feature in its Net Capital Rule concept release. Net Capital Rule, *supra* note 95, at 18.

178. Governor Laurence H. Meyer, Address Before the Spring 1998 Banking and Finance Lecture, Widener University, Chester, Pennsylvania (Apr. 16, 1998).

have a difficult time enforcing such measures. In addition, each fine must be developed to provide an adequate deterrent to future violations of the capital adequacy rules. Thus, each fine would have to be tailored to address the unique characteristics of the institution. Without international enforcement or oversight, it would be impossible to insure fairness and consistency of the fines. Furthermore, systemic risk remains a key argument for global regulatory convergence. A failing institution may be encouraged to take its chances with remaining capital to bet on the market if it had the ability to make such decisions for capital adequacy. In addition, imposing a penalty after the bankruptcy of a securities firm would only increase the market disruption and losses to creditors, investors or counterparties. For securities regulators, the focus should be to prevent such events from occurring.

Even though critics of the internal model methodology complain that the 3x multiplier leads to excessive capital, arguments may be made that the multiplier safeguards against "unavoidable shortcomings" of this approach.¹⁷⁹ First, the multiplier gives additional capital to protect against "extreme circumstances such as sharp market moves or credit quality deterioration in a whole geographical region."¹⁸⁰ Second, the multiplier gives additional capital against "those risks which are not included in the calculation at all, notably, operational risk."¹⁸¹ Therefore, until the technology evolves to overcome these shortcomings, a multiplier or some type of cushion to the VAR will be necessary.

By selecting the internal model methodology, the chances of attaining a uniform capital adequacy standard would be improved. Such measures have already been implemented by EU financial firms, U.S. banks and, eventually, U.S. OTC Derivatives Dealers. Therefore, the campaign to adopt the internal model methodology already has influential and vocal supporters. Finally, the world capital markets would have achieved another system of defense against systemic risk and brokerage failures.

With regulators carefully reviewing the internal model,

179. See IOSCO, *supra* note 115.

180. *Id.* at 11.

181. *Id.*

back testing the model's results and strictly enforcing the quantitative and qualitative standards, securities firms will have adequate incentive to implement the internal model methodology. Should securities firms fail to adhere to the capital adequacy standards, the regulators could impose the stricter of the two: the building block approach or the former approach used in their national jurisdiction. Furthermore, while some industry officials may be unsatisfied with the 3x multiplier as the solution to the limitations of risk management modeling, perhaps this perceived deficiency would present an incentive to improve technology to eventually capture unusual market swings and operational risks.

CONCLUSION

As financial firms become more diverse and global, regulators have to "catch up" with modern international financial market developments.¹⁸² This regulatory "catch up" will become urgent for the SEC with the enactment of the FMA. In addition, regulatory "catch up" to implement global capital adequacy standards for securities firms will be critical so securities regulators may fulfill their key mantras: protect investors, protect fair competition and promote an efficient market.

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182. Norton, *supra* note 113, at 142.