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Matthew Calhoun Frost

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TREATMENT OF INTEREST RATE SWAPS UNDER THE SEC'S NET CAPITAL RULE: A PROPOSAL FOR CHANGE

"If a loss of this magnitude had happened on my watch, I would have slept like a baby. That is to say, I would have woken up every two hours screaming."¹ So commented a derivatives² broker and former county executive about the first reports of losses from speculative trading in interest-sensitive derivatives that eventually cost Orange County, California, in excess of two billion dollars,³ forced the county into bankruptcy,⁴ and robbed dozens of county workers of their jobs.⁵ The ink had hardly dried on newspaper articles regarding Orange County when a new story emerged about a twenty-eight-year-old trader in Singapore whose betting on derivatives tied to future fluctuations in the Nikkei average lost \$1 billion dollars and bankrupted Barings Bank, a pillar of the British banking industry with a history tracing back to the Louisiana Purchase.⁶

1. Brett D. Fromson, *More Big Losses Expected from Derivatives Trading*, WASH. POST, Dec. 3, 1994, at H1, H7.

2. A derivative is "[a] financial instrument that is valued according to the expected price movements of an underlying asset, which may be a commodity, a currency, or a security. Derivatives can be used either to hedge a position or to establish a synthetic open position." A DICTIONARY OF FINANCE 82 (Brian Butler & Alan Isaacs eds., 1993).

3. See Jay Mathews & William L. Claiborne, *Calif. County Records Huge Investment Loss*, WASH. POST, Dec. 2, 1994, at D1; Leslie Wayne, *\$1.5 Billion Loss Seen for County*, N.Y. TIMES, Dec. 2, 1994, at D1.

4. See Nell Henderson & William L. Claiborne, *Orange County Files for Bankruptcy*, WASH. POST, Dec. 7, 1994, at F1; Sallie Hofmeister, *Orange County, Calif., Makes Bankruptcy Filing*, N.Y. TIMES, Dec. 7, 1994, at A1.

5. See Nell Henderson, *Orange County Auctions Securities*, WASH. POST, Dec. 16, 1994, at B3; *Hundreds of Jobs Likely To Go in Cuts by Bankrupt County*, N.Y. TIMES, Dec. 26, 1994, at A14.

6. Fred Barbash, *Huge Losses Sink Bank in London*, WASH. POST, Feb. 27, 1995, at A1; Richard W. Stevenson, *Markets Shaken As a British Bank Takes a Big Loss*, N.Y. TIMES, Feb. 27, 1995, at A1. Nick Leeson, the young trader at the center of the Barings collapse, had engaged in highly leveraged gambles on the futures market in an effort to recover from previous losses. Stevenson, *supra*, at D5. Although Barings owes much of its misfortune to inadequate internal oversight, the ability of derivatives to magnify both gains and losses also contributed to the crisis. *Id.*

The Orange County and Barings debacles capped a year of huge losses in derivatives for both municipalities and private organizations.⁷ These losses have unleashed a spate of litigation raising difficult questions about dealers' obligations to inform sophisticated investors of risks inherent in their investments.⁸ They have also shaken capital markets⁹ and raised concerns about the risk of a systemic collapse¹⁰ precipitated by deriva-

7. See *Bankers Mistrust*, *ECONOMIST*, Nov. 19, 1994, at 87 (noting suits against Bankers Trust for \$11.2 million lost by Equity Group Holdings, \$73 million in derivatives-related losses and damages sustained by Gibson Greetings, and \$130 million and further, unspecified damages suffered by Procter & Gamble in a derivatives deal); Martin Dickson, *Atlantic Richfield Loses on Derivatives*, *FIN. TIMES*, May 16, 1994, at 17 (noting derivatives losses of \$22 million or 5.3% of the principal in one employee investment fund); Thomas Heath, *Charles County Logs \$1.3 Million Investment Loss*, *WASH. POST*, Aug. 10, 1994, at B1 (reporting a loss from derivatives totaling more than \$1 million); Bailey Morris, *Interest Rate Swaps Not for Beginners*, *INDEPENDENT*, May 15, 1994, at 6 (discussing a \$96.4 million loss to Air Products & Chemicals on interest rate swaps purchased from Bankers Trust); *Mutual Funds' Derivatives Dilemma*, *ECONOMIST*, Sept. 3, 1994, at 69 (noting losses on account of wagering in derivatives by mutual funds, including \$268 million invested by Paine Webber to shore up a shaky bond fund, \$4 million lost by Kidder Peabody from purchasing back questionable instruments, and \$700 million lost by one Piper Jaffray bond fund); Leslie Wayne, *Local Governments Lose Millions in Complex and Risky Securities*, *N.Y. TIMES*, Sept. 25, 1994, at A1 (chronicling \$10 million lost on derivatives by Sandusky and Portage Counties, Ohio, \$22 million in illiquid, questionable assets held by Odessa Junior College, \$96 million in shaky investments owned by City Colleges of Chicago, and a Shoshone Indian tribe's \$5 million derivatives loss).

8. See *Orange County Inv. Pools v. Merrill Lynch & Co. (In re County of Orange)*, No. SA 94-22272-JR (Bankr. C.D. Cal. filed Jan. 12, 1995); *Gibson Greetings v. Bankers Trust Co.*, No. 1-94-620 (S.D. Ohio filed Sept. 12, 1994); *Procter & Gamble Co. v. Bankers Trust Co.*, No. C-1-94-735, 1995 WL 776137 (S.D. Ohio Dec. 20, 1995); Nell Henderson, *Orange County Planning To Sue Three Brokerages*, *WASH. POST*, Dec. 9, 1994, at F2; *Orange County Sues Merrill Lynch over Its Alleged Role in Bankruptcy*, 27 *Sec. Reg. & L. Rep. (BNA)* No. 3, at 131 (Jan. 20, 1995). The extent of a dealer's duty to inform clients of potential risks raises challenging questions, but the issues involved are beyond the scope of this Note.

9. Barbash, *supra* note 6, at A1 (describing a plunge in the Nikkei average of 4.59% following news of Barings' failure); Philip Coggan, *Warning Against Direct Controls on Derivatives*, *FIN. TIMES*, June 14, 1994, at 24 (recounting the theory that reliance on derivatives may have furthered a worldwide decline in the bond markets that accompanied a rise in U.S. interest rates); Anthony Ramirez, *Derivatives Loss Jolts Stocks; Dow Off 38.36*, *N.Y. TIMES*, Dec. 2, 1994, at D6 (reporting that the Dow Jones Industrial Average lost 1.03% when Orange County's loss became known).

10. "Systemic risk" refers to the threat that the default of one major derivatives dealer will create a domino effect and cause a system-wide collapse. See Steven Lipin & William Power, *"Derivatives" Draw Warnings from Regulators*, *WALL ST. J.*,

tives-related losses to a major investment bank.¹¹

The concentration of OTC [over-the-counter] derivatives activities among a relatively few dealers could . . . heighten the risk of liquidity problems in the OTC derivatives markets, which in turn could pose risks to the financial system. Because the same relatively few major OTC derivatives dealers now account for a large portion of trading in a number of markets, the abrupt failure or withdrawal from trading of one of these dealers could undermine stability in several markets simultaneously, which could lead to a chain of market withdrawals, possible firm failures, and a systemic crisis.¹²

Derivative products create unique difficulties for federal regulators seeking to protect bank customers, investors, and the investment market from the risks posed by derivatives. The regularity and rapidity with which investment houses develop

Mar. 25, 1992, at C1, C9.

It is the stuff of which central bankers' nightmares are made. A big bank suddenly defaults on an interbank obligation. Other banks panic, cutting credit lines indiscriminately. Runs develop on the defaulting bank and on others that might be affected by its collapse. Before long, a large portion of the world's financial system is in jeopardy. According to some regulators and politicians, that is the sort of catastrophe now being brought ever nearer by the fast-growing market for the financial instruments—such as futures, swaps and options—known as derivatives.

The Beauty in the Beast, ECONOMIST, May 14, 1994, at 21; see Barbash, *supra* note 6, at A1 (quoting financial strategist Robert Sasaki's statement that "[p]eople are even talking about the possibility that an Asian exchange could go bankrupt. . . . It seems pretty unlikely, but the uncertainty is just feeding on itself.") (omission in original). See generally *infra* notes 87-110 and accompanying text (providing an overview of the operation of capital adequacy standards).

11. See Morris, *supra* note 7, at 6 (stating that "the proliferation of non-bank products held by large and small individual investors . . . is raising new concern over systemic risk"). But see Patrick Donovan, *Derivatives Not To Blame for Crisis*, GUARDIAN, Aug. 19, 1994, at 11 (quoting an International Securities Market Associate Report for the proposition that "[i]t could be argued that the biggest systemic risk in connection with derivatives is from the irresponsible action by governments which fail to understand the complex linkages between cash, securities lending/repo and derivative markets").

12. *Text of Executive Summary from GAO Report on Financial Derivatives*, [Jan.-June] 26 Sec. Reg. & L. Rep. (BNA) No. 20, at 753, 757 (May 20, 1994) [hereinafter *Executive Summary*].

new derivative products severely challenge regulators.¹³ Likewise, unpredictable fluctuations in underlying interest rates, currencies, securities, or other investment products present daunting problems to regulators attempting to evaluate credit risks.¹⁴ Even interest rate swaps,¹⁵ among the oldest and most-used derivatives,¹⁶ continue to present problems for federal regulators trying to protect the market against risk.¹⁷

Capital adequacy standards provide one mechanism by which bank and securities regulators ensure that organizations maintain sufficient liquidity to protect customer funds and to insulate the financial system from the possible "ripple effects" of a major derivative dealer's default.¹⁸ The Securities and Exchange

13. See *infra* notes 46-49 and accompanying text.

14. For example, at the end of the 1980s, some swap houses reaped the benefits of the discovery that the "zero-coupon" valuation method for swaps provided a more accurate picture of the future behavior of a swap than the universally used "par yield" method. See Ronald Cooper, *Swap Houses Switch to New Values*, EUROMONEY, Jan. 1987, at 32. They also found that the "zero-coupon" method provided greater flexibility for dealing with options contained within the swaps. *Id.*

15. An interest rate swap is "[a] form of dealing between banks, security houses, and companies in which borrowers exchange fixed-interest rates for floating-interest rates, or vice versa." A DICTIONARY OF FINANCE, *supra* note 2, at 148. Put more simply, "[s]waps" are bilateral executory contracts in which the parties agree to make certain specified payments over a certain period of time." Bernard J. Karol & Mary B. Lehman, *Equity Derivatives*, 27 Rev. Sec. & Commodities Reg. (S & P) No. 13, at 121 (July 1994).

16. See *infra* notes 23-26 and accompanying text.

17. See *infra* notes 145-47, 164-68 and accompanying text.

18. [G]iven the volume of interfirm dealings . . . losses may have a ripple effect, damaging other firms and undermining public confidence in the securities markets. The 1980 silver crisis demonstrates this point. For six days, it appeared to government officials, Wall Street and the public at large that a default by a single family, the Hunts, on its obligations in a plummeting silver market might seriously disrupt the U.S. financial system. The potential failure of even one of the various broker-dealers carrying Hunt accounts threatened a financial chain reaction that would have jeopardized commodity clearing houses and their customers, other broker-dealers and their customers, as well as banks, public companies and their stockbrokers. Although financial catastrophe was ultimately averted, the silver crisis starkly revealed the fragility and interdependence of the financial community.

Steven L. Molinari & Nelson S. Kibler, *Broker-Dealers' Financial Responsibility Under the Uniform Net Capital Rule—A Case for Liquidity*, 72 GEO. L.J. 1, 23 n.143 (1983) (quoting former SEC Commissioner Bevis Longstreth, *The Duty To Supervise: Self-Discipline Within the Securities Firm*, Remarks to the Fifteenth Annual Rocky

Commission's (SEC) net capital rule¹⁹ relies on risk-evaluating formulas to determine the level of capital that derivatives dealers must maintain in order to protect their swaps books.²⁰ This Note will address the application of the SEC's net capital rule²¹ to interest rate swaps.²²

This Note first will provide a primer on interest rate swaps, including a discussion of the difficulties that swaps pose to regulators trying to evaluate their credit risks. It will then discuss the convoluted regulatory structure that permits two different federal net capital requirements for swap dealers and allows certain dealers to evade both. The following section will focus on the SEC's net capital rules, provide an overview of alternatives to the SEC's current approach, and review both the SEC's proposed rules and the main alternative to the SEC's regime—the BIS Accord's capital adequacy requirement. Finally, this Note will criticize the proposed rules and suggest improvements in the capital adequacy standards imposed on interest rate swaps. It will advocate a uniform federal net capital requirement that better reflects the risks inherent in swap mechanisms.

AN INTRODUCTION TO SWAPS

Origin of the Species

Accounts differ as to when the first swap took place. Some trace its origin to the early 1970s, when "the over-the-counter (OTC) markets were . . . blossoming with a variety of new risk-shifting products—hybrid instruments which combined the features of traditional debt or equity instruments with futures or options-like components, as well as swaps and other products."²³ Still others place the first transaction later, in the late

Mountain State-Federal Provincial Cooperative Securities Conference 1 (Oct. 29, 1982).

19. Net Capital Rule, 17 C.F.R. § 240.15c3-1 (1995).

20. See *infra* notes 111-41 and accompanying text (providing an overview of the SEC's net capital rule).

21. 17 C.F.R. § 240.15c3-1 (1995).

22. Because the term "derivatives" broadly refers to a panoply of complex instruments, this Note must focus on a single class of derivative. It will concentrate on interest rate swaps because they present relatively straightforward, yet challenging, questions of risk assessment.

23. Sheila Bair, *United States Regulation of Derivative Instruments: Reflections*

1970s or early 1980s.²⁴ Regardless of when the first swap took place or who should receive credit for the swap's invention, however, the number of swaps transactions has skyrocketed over the past decade.²⁵ In 1992, outstanding interest rate and currency swaps had reached a level approaching \$3.9 trillion.²⁶

Species of Swaps

Plain Vanilla Swaps

The most basic swap, the so-called "plain vanilla" swap, involves an exchange of interest rates between two parties.²⁷ In a plain vanilla swap, one party, generally called the fixed-rate payor, agrees to make regular payments at a fixed rate to his counterparty in exchange for regular payments by the

from *a Crucial Crossroads*, in *DERIVATIVE INSTRUMENTS* 13, 14 (Edward J. Swan ed., 1994).

24. See, e.g., Robert H. Litzenger, *Swaps: Plain and Fanciful*, 47 J. FIN. 831, 831 (1992) (pointing to a 1981 World Bank issuance of \$290 million in eurobonds that the bank later exchanged for German and Swiss currency as the first major swap); Sheridan Titman, *Interest Rate Swaps and Corporate Financing Choices*, 47 J. FIN. 1503, 1503 (1992) (stating that the interest rate swap market "was introduced in 1982"). A particularly entertaining story has a Citibank employee inventing the swap in 1981 as he stood in the shower pondering a client's inability to access cheap fixed-rate capital. Bruce McDougall, *Derivatives De-mystified*, CANADIAN BANKER, Mar.-Apr. 1994, at 28, 30.

25. Daniel P. Cunningham et al., *An Introduction to OTC Derivatives*, in *SWAPS AND OTHER DERIVATIVES* IN 1994, at 121, 126-27 (PLI Corp. L. & Practice Course Handbook Series No. B-848, 1994).

26. *Id.* By way of illustrating the astronomical growth in derivatives, the notional amount of swaps outstanding was a mere \$3 billion dollars in 1982. *Id.* at 126.

27. Henry T.C. Hu, *Swaps, the Modern Process of Financial Innovation and the Vulnerability of a Regulatory Paradigm*, 138 U. PA. L. REV. 333, 347 (1989). Because of the large investment required of a swap participant, the parties to an interest rate swap are usually institutions. See, e.g., *id.* (mentioning only companies' uses of swaps). Nevertheless, at least in one instance, a rich individual was the end user in a swap transaction. *Salomon Forex, Inc. v. Tauber*, 795 F. Supp. 768 (E.D. Va. 1992) (involving a surgeon with an exposure in excess of \$25 million on currency futures and options contracts), *aff'd*, 8 F.3d 966 (4th Cir. 1993), *cert. denied*, 114 S. Ct. 1540 (1994). The explosion of derivatives and their potential for high returns has recently made them a favorite of mutual fund managers; the introduction of derivatives into mutual fund portfolios has thus spread the risks inherent in these instruments to small investors. See, e.g., *Mutual Funds' Derivatives Dilemma*, *ECONOMIST*, Sept. 3, 1994, at 69 (describing multimillion dollar losses in mutual funds caused by high-risk speculation in derivatives).

counterparty, the so-called floating- or variable-rate payor, at a floating rate.²⁸ The floating rate usually fluctuates in accord with the Treasury bill rate or the London Interbank Offered Rate (LIBOR).²⁹ This exchange of payments compares "to interest payments on a . . . hypothetical principal amount (typically called 'notional principal amount' or 'notional amount'),"³⁰ although neither party makes any such payment of principal.³¹

To illustrate a plausible swap scenario, imagine a small savings and loan (S&L) and a large international bank.³² The S&L has fixed-rate assets in the way of outstanding mortgages with an average ten-year life; it has floating-rate liabilities in the way of demand deposits. In contrast, the large bank has LIBOR-based assets and fixed-rate liabilities in the form of payments on ten-year fixed-coupon Eurobonds.

Both parties seek to align their assets and liabilities. Should interest rates skyrocket, the S&L will find itself in the unfortunate position of having liabilities far in excess of its income. Conversely, should interest rates plummet, the international bank will face a similar dilemma. Admittedly, the S&L will benefit if interest rates decline, and the international bank will profit if rates rise. Nevertheless, both parties would rather minimize their risks by harmonizing their assets and liabilities. The S&L and bank will thus enter into a swap agreement in which the S&L agrees to pay the bank a fixed rate several basis points higher than the bank's payments on the Eurobond, and the bank in return agrees to pay the S&L a rate equal to LIBOR and several basis points above the rate that the S&L pays depositors.³³

28. Hu, *supra* note 27, at 347.

29. Tanya S. Arnold, *How To Do Interest Rate Swaps*, 62 HARV. BUS. REV., Sept.-Oct. 1984, at 96, 96. LIBOR is the rate that major banks outside of the United States charge each other for large dollar loans. Hu, *supra* note 27, at 347 n.39.

30. Hu, *supra* note 27, at 347.

31. *Id.*

32. This illustration was adopted from Daniel P. Cunningham et al., *Interest Rate and Currency Swaps and Related Transactions*, in SWAPS AND OTHER DERIVATIVES IN 1992, *supra* note 25, at 9, 43-47.

33. Again, this scenario presents an extremely simplified version not only of the dynamics of a swap, but also of the organizations' motivations for entering into the swap. In all likelihood, the large bank's superior credit rating affords it access to

Although the plain vanilla style swap reflects the basic structure of all swap transactions, such an exchange requires two parties with matching interest needs who seek out each other to enter into a contract for the exchange of interest rates.³⁴ Even if two parties with corresponding interest needs discover one another, however, concerns about the credit rating of a counterparty or nervousness about the prospect of entering into a business relationship with an unfamiliar partner may discourage the parties from engaging in a swap transaction.³⁵ Further, efforts to locate a suitably reliable counterparty with reciprocal needs lead to increased transaction costs.³⁶ These factors combine to make the use of a swap dealer, whom Professor Hu has labelled "a combination of matchmaker, guarantor and wise man,"³⁷ an attractive and necessary alternative to the plain vanilla swap.

Intermediated Swaps

Two of the swap dealer's³⁸ important roles are matchmaker and guarantor.³⁹ As matchmaker, the dealer seeks out potential partners whose needs correspond to the needs of his client.⁴⁰

cheap floating-rate money, and the bank is inclined to access that money in order to match its assets and liabilities. Barry W. Taylor, *Swaps: Dealing in Interest Rates*, in SWAPS AND OTHER DERIVATIVES IN 1992, *supra* note 25, at 121, 124-27. Recognizing its advantage in the fixed-rate field, however, the bank opts to borrow at a fixed rate, charge a premium, and swap with the S&L at a rate that is still lower than any other available to the S&L. *Id.* In this manner, the large bank not only aligns its assets and liabilities, but also profits from the bargain. *Id.*

34. See Hu, *supra* note 27, at 354-55.

35. John A. Lindholm, Note, *Financial Innovation and Derivatives Regulation—Minimizing Swap Credit Risk Under Title V of the Futures Trading Practices Act of 1992*, 1994 COLUM. BUS. L. REV. 73, 79-80.

36. Hu, *supra* note 27, at 355.

37. *Id.*

38. The swap dealer is usually a commercial or investment bank or one of their subsidiaries. *Id.* at 355. In addition, insurance companies have created affiliates in order to enter the swaps market. See *Executive Summary*, *supra* note 12, at 757 (noting that "the growth rate of OTC and exchange-traded derivatives from 1990 through 1992 was 100% for insurance firms").

39. See Hu, *supra* note 27, at 355-56; Lindholm, *supra* note 35, at 79-80.

40. This example again presents a simplified description of an intermediated swap. In many cases, dealers will enter into a swap unilaterally. Hu, *supra* note 27, at 356. The dealer may then seek another swap partner with whom to engage in a

The dealer's informational advantage and greater familiarity with global capital markets give him an advantage in locating suitable counterparties.⁴¹ They also permit him to exploit the "putative arbitrage possibilities inherent in a swap."⁴²

The swap dealer's successful location of a potential counterparty does not, however, guarantee that the client will agree to an exchange of cash flows with the counterparty. Suspicions or ignorance about the creditworthiness of a counterparty, as well as general concerns caused by the lack of a previous commercial relationship, may discourage end users⁴³ from engaging in swaps.⁴⁴ In its role as guarantor, therefore, the dealer must act as an intermediary, "interposing itself between the two parties in such a way that it substitutes its credit standing for those of the parties."⁴⁵

More Complex Swaps

This brief description of intermediated swaps provides a glimpse of the equivalent of a single-cell swap; dealers regularly create much more complex organisms. Bankers daily tailor swaps with "caps,"⁴⁶ "floors,"⁴⁷ and "collars"⁴⁸ that better suit

mirror swap, thus allowing the dealer to create "matched books" in order to offset its exposure. Net Capital Rule, Exchange Act Release No. 34-32256, 58 Fed. Reg. 27,486, 27,487 (May 10, 1993).

41. Hu, *supra* note 27, at 355-56.

42. *Id.* at 355; see *infra* notes 50-60 and accompanying text (describing the various uses of interest rate swaps).

43. An end user is a "[f]irm[] that use[s] derivatives to manage (hedge) [its] risks or to speculate" *Executive Summary*, *supra* note 12, at 754.

44. Hu, *supra* note 27, at 356.

45. *Id.* The dealer's matchmaking role requires that the dealer have a superior credit rating. Net Capital Rule, Exchange Act Release No. 34-32256, 58 Fed. Reg. 27,486, 27,487-88 (May 10, 1993). This necessity has driven many broker-dealers to create subsidiaries with higher credit ratings to perform swaps. *Id.* at 27,488. This phenomenon has also had the effect of insulating these affiliates from the SEC's net capital requirements for broker-dealers. *Id.* Because end users place a premium on the creditworthiness of swap dealers, however, the dealers may not willingly accept unreasonable risk that may harm their credit ratings. See Roger D. Blanc, *Policy Issues Presented by Derivatives Trading*, 8 *Insights (P:H)* No. 6, at 10 (June 1994) ("Experience points to the contrary if the alternative is a sensibly maintained system of counterparty evaluation and monitoring Indeed, many 'unregulated' swaps affiliates are AAA-rated and must therefore comply with stringent financial controls imposed by the rating agencies on an ongoing basis.").

46. Caps act in the same fashion as call options and restrict the amount that

the individualized hedging needs of their customers. In addition, swaps increasingly contain options that permit their holders to unravel the contracts at will or upon the occurrence of prespecified events.⁴⁹

Uses of Interest Rate Swaps

End users enter into derivative contracts for a variety of reasons. Many use derivatives in order to abate possible risks from interest rate swings; others use them for their arbitrage potential.⁵⁰

variable interest rates can rise on the notional amount. McDougall, *supra* note 24, at 30.

47. Floors perform a task opposite to that of caps and limit the distance that floating rates can fall on the notional amount. *Id.*

48. Collars combine a cap and a floor to set both upper and lower limits on rate fluctuations from the notional amount. *Id.*

49. Telephone Interview with William C. Zachary, Vice President for Interest Rate Derivatives, Société Générale (Nov. 17, 1994). Swap innovations emerge constantly. As the SEC itself has noted:

In order to accommodate their specific needs, market participants have developed many variations from the basic plain vanilla swap. Swap transactions can be structured so that the notional principal increases ("accreting swaps") or decreases ("amortizing swaps") during the life of the contract. . . . Interest rate swaps . . . can be structured so that the cash flows are different from the normal fixed-for-float swap. For example, the swap can be structured so that there is an exchange of a floating rate for a rate that is based on an interest rate index.

Net Capital Rule, Exchange Act Release No. 34-32256, 58 Fed. Reg. 27,486, 27,490 (May 10, 1993).

50. End users still value swaps primarily for their risk hedging value. *Last Group of Thirty Derivatives Study Shows Good Management, But Not by All*, [Jan.-June] 26 Sec. Reg. & L. Rep. (BNA) No. 15, at 553, 554 (Apr. 15, 1994) [hereinafter *Last Group*] (reporting that "more than 80 percent of end users of derivatives are engaged in these transactions because they are very useful for controlling risk—not for speculative purposes"). The number of end users taking advantage of the arbitrage value of swaps is, nevertheless, growing. Hu, *supra* note 27, at 363-65. This potential for arbitrage has led many unwary organizations to play the derivatives game in search of huge profits. See Saul Hansell, *A U.S. Look for Lessons in Barings*, N.Y. TIMES, Mar. 6, 1995, at D1, D1-D2 (quoting E. Gerald Corrigan, former president of the Federal Reserve Bank of New York and current chairman of Goldman, Sachs International Advisers, who stated that "they appear to have forgotten the elementary relationship between risk and reward. If you see a 16 percent instrument in an 8 percent market, something has to tell you it's not right."). This quest precipitated the downfall of Orange County and others like it. See *supra* notes 3-6 and accompanying text.

[Derivatives] can be used as a kind of financial insurance policy, locking in currency or interest rate values for months or years, allowing companies to plan their spending and operating budgets with some assurance. They can also be an easy way to make an investment, with protection against losses for the meek, or 10-to-1 leverage for the speculator.⁵¹

A lion's share of the credit for the rise in the use of interest rate swaps belongs to companies seeking to protect themselves from the vagaries of interest rate fluctuations.⁵² In such cases, a company or bank with a fixed-rate income and floating-rate obligations enters into a swap in order to align its capital flows.⁵³ In other instances, a company may desire to borrow money at a fixed rate but may have better access to variable-rate capital.⁵⁴ By borrowing money at a variable rate and then exchanging streams of payment with another party, the company gains access to fixed-rate capital at a more favorable rate than it would otherwise receive.⁵⁵

Interest rate swaps also offer opportunities for arbitrage. A swap resembles a bet in which the party seeking a fixed rate of income bets that interest rates will fall, while the party seeking a variable rate bets that they will rise.⁵⁶ Swaps are therefore a zero-sum game in which one party must win, and the other must lose.⁵⁷ Although engaging in the arbitrage of swaps has proved highly profitable for many companies,⁵⁸ it has also led to devastating losses and a recent flurry of litigation.⁵⁹ In light of the

51. Saul Hansell, *Derivatives As the Fall Guy: Excuses, Excuses*, N.Y. TIMES, Oct. 2, 1994, § 3, at 1.

52. See *Last Group*, *supra* note 50, at 554.

53. The S&L in the example accompanying notes 32-33, *supra*, entered into the swap for this reason.

54. Hu, *supra* note 27, at 351.

55. Of course, this may work in reverse—the company may have better access to fixed-rate capital but want to borrow at a floating rate.

56. Hu, *supra* note 27, at 348-49. Hu notes that "[t]he gambling flavor of swaps has caused some discomfort over the possibility that swaps violate gaming laws." *Id.* at 348 n.40.

57. Karol & Lehman, *supra* note 15, at 121.

58. See *Bankers Mistrust*, *supra* note 7, at 87 (reporting that, in 1993, one-third of Bankers Trust's \$995 million net profit came from the investment house's derivative sales division).

59. See *supra* notes 7-8 and accompanying text.

inherent riskiness in the arbitrage of swaps, any changes to net capital requirements for derivatives must reflect the different credit risks that arbitrage swaps pose in comparison with hedging swaps.⁶⁰

REGULATORY STRUCTURE

For the moment, the SEC exercises control over interest rate swaps not through any power to regulate the swaps themselves, but rather through its power to regulate the broker-dealers who traffic in swaps.⁶¹ This section will address the regulatory structure that allows federal banking and securities regulators to impose capital adequacy standards on commercial and investment banks.

CFTC Exemption

Prior to the passage of the Futures Trading Practices Act of 1992 (FTPA),⁶² many questioned whether derivative instruments fell under the purview of the Commodities Futures Trading Commission (CFTC) or the SEC.⁶³ In the preceding decade, debate had raged over whether derivatives exhibited the characteristics of securities, which the SEC regulates under its power over securities products,⁶⁴ or of futures and options, which the

60. See *infra* notes 175-85 and accompanying text (discussing portfolio-based risk analysis).

61. Net Capital Rule, 17 C.F.R. §240.15c3-1 (1995). Financial industry regulators have recently called for reconsideration of the status of derivatives products to determine whether they should label them securities, thus making the instruments subject to a more rigid regulatory regime, or to remove the current CFTC exemption. See Jeffrey Taylor & Mark H. Anderson, *CFTC To Reconsider Exemption It Gave to Off-Exchange Derivatives Dealers*, WALL ST. J., Oct. 25, 1994, at C19; Jeffrey Taylor & Steven Lipin, *Bankers Trust Faces Inquiry on Derivatives Sales*, WALL ST. J., Nov. 1, 1994, at C1. This represents only the latest flurry of regulatory blows in what has been a decade-long scuffle between the SEC and the CFTC over which agency should exercise regulatory control of derivative instruments. See Taylor & Lipin, *supra*. See generally Thomas A. Russo & Marlisa Vinciguerra, *Financial Innovation and Uncertain Regulation: Selected Issues Regarding New Product Development*, 69 TEX. L. REV. 1431, 1434-35 (1991) (outlining a solution to end the "turf battle" between the two agencies).

62. Pub. L. No. 102-546, 106 Stat. 3590 (1992) (codified as amended in scattered sections of 7 U.S.C.).

63. Russo & Vinciguerra, *supra* note 61, at 1432-35.

64. *Id.* Congress granted the SEC regulatory power over securities with passage of

CFTC administers under the Commodities Exchange Act (CEA).⁶⁵

In 1987, the CFTC commissioned an Off-Exchange Task Force with responsibility for studying derivative transactions.⁶⁶ The Task Force submitted a report to the CFTC, which soon thereafter "began issuing no-action letters, on a case-by-case basis, regarding specific off-exchange instruments."⁶⁷ Broader measures followed as the CFTC first issued a statutory interpretation that excluded specific derivatives from regulation⁶⁸ and then, in July 1989, promulgated a sweeping exemption for hybrid instruments,⁶⁹ immediately followed by a policy statement that created a "safe harbour" from regulation for most swaps trading.⁷⁰

In 1990, however, an unfortunate decision by a New York federal district court⁷¹ threw a shadow of uncertainty over the derivatives market and forced federal regulators to redouble their efforts to find a more workable and permanent solution to the regulatory confusion. In response to the district court's opinion in *Transnor*, the CFTC asked Capitol Hill for an amendment to the CEA to "clarify the legal status of swaps and other OTC derivative instruments."⁷² Congress responded to this demand in October 1992, with the passage of the FTPA, which "partially deregulate[d] the OTC derivatives market by granting

the Securities Act of 1933, 15 U.S.C. §§ 77a-77bbbb (1994), and the Securities Exchange Act of 1934, 15 U.S.C. §§ 78a-78lll (1994).

65. 7 U.S.C. §§ 1-26 (1994). Under the Commodities Exchange Act, "futures contracts may legally be traded only on a contract market designated as such under the Commodity Exchange Act." Bair, *supra* note 23, at 14.

66. See Bair, *supra* note 23, at 15.

67. *Id.*

68. Statutory Interpretation and Request for Comments Concerning Certain Hybrid Instruments, 54 Fed. Reg. 1139 (1989).

69. Regulation of Hybrid Instruments, 54 Fed. Reg. 30,684 (1989).

70. Bair, *supra* note 23, at 16 (citing 54 Fed. Reg. 30,694 (1989)).

71. *Transnor (Bermuda) Ltd. v. BP N. Am. Petroleum*, 738 F. Supp. 1472 (S.D.N.Y. 1990). This case involved contracts for Brent blend crude oil forwards. *Id.* at 1474-75. One party to the contracts convinced a federal district judge that the agreements were off-exchange futures and thus possibly illegal under the CEA. *Id.* at 1489-93. The resulting decision threw the Brent market into turmoil and hampered the efforts of U.S. firms to find willing partners for 15-day Brent blend contracts. Bair, *supra* note 23, at 16.

72. Bair, *supra* note 23, at 17.

the CFTC authority to exempt classes of OTC swaps, as defined by the Bankruptcy Code, from the exchange trading requirements of the CEA, or from any other CEA provision except Section 2(a)(1)(B)⁷³ Three months later, the Commission issued final rules granting a swaps exemption.⁷⁴

Regulation of Broker-Dealers by the SEC

Although the CFTC has exempted swaps from regulation, other federal agencies nevertheless exercise regulatory control over organizations that create and distribute interest rate instruments. Under the Securities Exchange Act of 1934, the Securities Exchange Commission monitors the activities of broker-dealers.⁷⁵ Broker-dealers who participate in securities transactions must register with the Commission.⁷⁶ The Act requires that an individual who registers as a broker-dealer⁷⁷ have

73. Lindholm, *supra* note 35, at 90. The Bankruptcy Code defines a swap as: [A]n agreement . . . which is a rate swap agreement, basis swap, forward rate agreement, commodity swap, interest rate option, forward foreign exchange agreement, spot foreign exchange agreement, rate cap agreement, rate floor agreement, rate collar agreement, currency swap agreement, cross-currency rate swap agreement, currency option, any other similar agreement (including any option to enter into any of the foregoing).

11 U.S.C. § 101(53B)(A) (1994).

74. Bair, *supra* note 23, at 19 (citing 58 Fed. Reg. 5587 (1993)).

75. 15 U.S.C. § 78o (1994). The Federal Reserve, the Federal Deposit Insurance Corporation, the Office of the Comptroller of the Currency, and the Office of Thrift Supervision perform the equivalent function for commercial banks. The Federal Reserve regulates bank holding companies, 12 U.S.C. §§ 1841(f), 1844(b) (1994), as well as state-chartered banks belonging to the Federal Reserve System, *id.* § 330. The Office of the Comptroller of the Currency has jurisdiction over national banks. *Id.* § 27(b). State-chartered banks that have opted for national deposit insurance fall under the control of the Federal Deposit Insurance Corporation. *See, e.g., id.* §§ 1829a, 1831a (regulating specified activities of insured state banks). Finally, the Office of Thrift Supervision exercises regulatory control over savings and loans. *Id.* § 1463(a)(1). As with the SEC, the authority to set risk-based capital adequacy standards allows these regulators to control bank involvement with interest rate swaps. *See* Stuart Somer, *A Survey of Legal and Regulatory Issues Relevant to Interest Rate Swaps*, 4 DEPAUL BUS. L.J. 385, 399-401 (1992).

76. 15 U.S.C. § 78o(a) (1994).

77. A broker is an individual "engaged in the business of effecting transactions in securities for the account of others." *Id.* § 78c(a)(4). A dealer is one "in the business of buying and selling securities for his own account." *Id.* § 78c(a)(5).

membership in a qualifying self-regulatory organization,⁷⁸ and "the overwhelming bulk of broker-dealer regulation is attributable to the Commission's oversight of the activities of self regulatory organizations . . . and of national securities exchanges."⁷⁹

In addition, the Exchange Act bars broker-dealers from engaging in fraud⁸⁰ or misappropriating the securities or money of their customers⁸¹ and requires that broker-dealers maintain complete records of their transactions.⁸² Under the Act, the SEC can convene hearings for the purpose of investigating broker-dealers' misconduct and may punish those broker-dealers found guilty of misconduct.⁸³

The uniform net capital rule⁸⁴ may be the SEC's most important power for policing broker-dealer actions.⁸⁵ The net capital rule provides the primary tool with which securities regulators can control broker-dealer participation in swaps transactions, and it performs an important regulatory function.⁸⁶ The rule's efficacy depends, however, on assumptions that the capital adequacy equations used to set capital requirements accurately reflect the credit risk underlying interest rate swaps and that swaps dealers submit to the SEC's oversight by operating as broker-dealers.

CAPITAL ADEQUACY STANDARDS

Introduction to the Operation of Capital Adequacy Standards

Although broker-dealers have had to conform to liquidity-based capital standards since at least 1934,⁸⁷ as it now stands,

78. *Id.* § 78o(b)(8). In addition, broker-dealers engaged in interstate business must have membership in either a national exchange, such as the New York Stock Exchange, or the National Association of Securities Dealers. *Id.*

79. THOMAS L. HAZEN, *THE LAW OF SECURITIES REGULATION* 380 (2d ed. 1990).

80. 15 U.S.C. § 78o(c)(1)-(2) (1994).

81. *Id.* § 78o(c)(3).

82. *Id.* § 78q(a).

83. *Id.* § 78o(b)(4).

84. 17 C.F.R. § 240.15c3-1 (1995).

85. *See* Blaise D'Antnoi & Assoc., Inc. v. SEC, 289 F.2d 276, 277 (5th Cir.) (calling the net capital rule "one of the most important weapons in the Commission's arsenal to protect investors"), *cert. denied*, 368 U.S. 899 (1961).

86. *See id.*

87. The Securities Exchange Act imposed capital adequacy requirements in part to

the net capital rule owes its form mainly to the Securities Acts Amendments of 1975.⁸⁸ While the Amendments garnered strong bipartisan support, the Senate version of the legislation did not contain a net capital provision;⁸⁹ the provision was added in the House and accepted in conference.⁹⁰ Proponents envisaged the rule as part of a broader regulatory mechanism to "reinforce the traditional strength and independence of . . . securities markets and the professionals who operate in them."⁹¹

Since its inception, the net capital rule has grown in importance to become "the main-stay of the financial responsibility program of the Securities and Exchange Commission."⁹² Courts have repeatedly acknowledged the SEC's broad authority to promulgate and enforce net capital rules so long as the rules are "reasonable and not inconsistent with Congressional mandate"⁹³ The requirement for retention of adequate levels of capital is absolute, and no justification will excuse a capital deficit.⁹⁴

limit brokers' ability to operate on a "shoestring." *National Securities Exchange—H.R. 7852: Hearings Before the House Comm. on Interstate and Foreign Commerce*, 73d Cong., 2d Sess. 65, 87 (1934) (statement of Thomas Gardiner Corcoran, Counsel with the Reconstruction Finance Corporation).

88. 15 U.S.C. §§ 77yyy to 80b-4 (1994).

89. H.R. CONF. REP. NO. 229, 94th Cong., 1st Sess. 104 (1975).

90. *Id.*

91. 121 CONG. REC. 10,464 (1975) (statement of Rep. Latta) (quoting letter from Ray Garret, Jr., chairman of the Securities and Exchange Commission).

92. Molinari & Kibler, *supra* note 18, at 1.

93. SEC v. Peerless-New York, Inc., 157 F. Supp. 328, 330 (S.D.N.Y. 1958). The court stated:

[T]he Commission is charged, in enforcing the legislation [enacting the net capital rule], with making rules and regulations "necessary or appropriate in the public interest or for the protection of investors to provide safeguards with respect to the financial responsibility of brokers and dealers." In carrying out this responsibility, the Commission necessarily defined the term "net capital" in such a manner as to render administration of the legislative command practicable. So long as such an administrative definition is reasonable and not inconsistent with Congressional mandate, it may not be disturbed by the courts.

Id. (citations omitted); see also *Don D. Anderson & Co. v. SEC*, 423 F.2d 813 (10th Cir. 1970) (finding that the net capital rule was not fatally vague and that the requirement of an independent valuation of securities that lacked published market quotations did not deny the defendants' due process rights); *SEC v. C.H. Abraham & Co.*, 186 F. Supp. 19, 21 (S.D.N.Y. 1960) (holding that the requirement of independent valuation under 17 C.F.R. § 240.15c3-1 was "both logical and reasonable").

94. *Charters & Co.*, 43 S.E.C. 175, 177 (1966) (concluding that the collapse of a

Capital adequacy standards operate in a number of ways to ensure institutional safety.⁹⁵ First, requiring financial institutions to maintain sufficient capital reserves performs an important accounting function.⁹⁶ Accounting conventions require that financial institutions first deduct any losses from their capital reserves.⁹⁷ If the broker-dealer suffers a loss, "the accounting principle of double-entry bookkeeping means that it must . . . enter a corresponding reduction on the liability side of its balance sheet."⁹⁸ Adequate capital reserves thus serve to dampen the blow of any losses, providing a "cushion [that] . . . reduce[s] the chances of balance sheet insolvency."⁹⁹

Second, net capital requirements ensure that institutions' capital levels suffice to fulfill current debt obligations.¹⁰⁰ "The advantage of risk based capital requirements in correcting the disincentive to hold capital is that they force risky banks to hold more capital without forcing safe banks to hold excessive capital."¹⁰¹ Greater stores of capital also allow broker-dealers to satisfy their obligations to debtors.¹⁰²

Third, capital rules impose discipline on capital markets, reining in overeager broker-dealers who might otherwise put themselves in dangerously leveraged positions.¹⁰³ "A sudden turn in market conditions or a loss of operational controls [can] all too quickly erode[] away [inadequate] capital cushions and, in situations where broker-dealers [are] highly leveraged (and thus d[o] not have the capital to survive a reverse in conditions),

security held as capital did not "bear on th[e] issue" of consequent inadequate capitalization).

95. See *SEC v. Los Angeles Trust Deed & Mortgage Exch.*, 186 F. Supp. 830, 856 (S.D. Cal.) (remarking that the SEC's capital adequacy rules "test[] both financial strength and liquidity"), *aff'd in part and modified in part*, 285 F.2d 162 (9th Cir. 1960), *cert. denied*, 366 U.S. 919 (1961).

96. Hu, *supra* note 27, at 380.

97. *Id.*

98. RAJ BHALA, *PERSPECTIVES ON RISK-BASED CAPITAL* 27 (1989).

99. Hu, *supra* note 27, at 380.

100. Molinari & Kibler, *supra* note 18, at 18.

101. William R. Keeton, *Risk Based Capital Requirements for Commercial Banks*, in 1 *GLOBAL RISK BASED CAPITAL REGULATIONS* 137, 142 (Charles A. Stone & Anne Zissu eds., 1994).

102. Hu, *supra* note 27, at 381.

103. *Id.*

customers suffer[]."¹⁰⁴ Because capital adequacy rules limit a broker-dealer's ability to leverage, they also prevent broker-dealers from getting into untenable positions.¹⁰⁵ Net capital requirements thus play the dual role of limiting the chance that a high degree of leverage will compound potential losses and cushioning the blow from any such losses.

Finally, capital adequacy standards protect against systemic risk.¹⁰⁶ Those who worry about systemic risk fear that the failure of a major securities firm "could have deleterious effects on markets throughout the world, causing losses to investors around the world and impairing confidence in all of the world's markets."¹⁰⁷ Derivatives compound systemic risks because they intertwine numerous international and capital markets.¹⁰⁸

Consider the effects on the financial system of a bank offering a single derivative. In offering the derivative, the bank needs to hedge against market risk. Instead of doing so by simply entering into a directly offsetting derivative transaction of the same type, banks will typically hedge this market risk "synthetically," relying on mathematical strategies and the use of a variety of instruments. For example, banks initially hedged their market risks on interest rate swaps synthetically by relying on the cash market for U.S. Treasury bonds; they later began using the futures markets, first with Treasury-note and Treasury-bond futures and, later, with Eurodollar and swap futures. Since hedging can involve all of these instruments, the swaps market is now directly linked to the Treasury bond market and many futures markets. Thus, all manner of capital markets have been linked in novel ways.¹⁰⁹

Requiring broker-dealers to retain certain levels of capital thus fosters public confidence in the ability of financial intermediaries

104. Molinari & Kibler, *supra* note 18, at 25-26.

105. *Id.* at 26.

106. *See supra* note 10 and accompanying text.

107. James R. Doty, *The Role of the Securities and Exchange Commission in an Internationalized Marketplace*, 60 *FORDHAM L. REV.* S77, S85 (1992).

108. Henry T.C. Hu, *Misunderstood Derivatives: The Causes of Informational Failure and the Promise of Regulatory Incrementalism*, 102 *YALE L.J.* 1457, 1502 (1993).

109. *Id.* (citation omitted).

to weather rough times and prevents the runs on banks that can topple entire segments of the financial industry.¹¹⁰

Overview of SEC's Net Capital Rule, 17 C.F.R. 240.15c3-1

Broker-dealers presently may choose between two methods of calculating the amount of net capital reserves necessary to support their current indebtedness. They may elect to tie their liquidity levels to a percentage of their aggregate indebtedness under the "aggregate indebtedness method,"¹¹¹ or they may tie the levels to a percentage of their net debit items—the "alternate net capital requirement."¹¹²

Aggregate Indebtedness Method

The SEC's basic rule for calculating net capital reserves is the aggregate indebtedness method, which "ties the net capital 'cushion' to a broker-dealer's liabilities."¹¹³ The rule "requires a broker to maintain a certain minimum ratio of net capital to aggregate indebtedness so that the broker's assets will always be sufficiently liquid to enable him to meet all of his current obligations."¹¹⁴

Under this method, broker-dealers "must have net capital equal to at least 6 2/3 percent of aggregate indebtedness (that is, aggregate indebtedness may not exceed 1,500 percent of net capital)."¹¹⁵ The rule defines aggregate indebtedness as "the total money liabilities of a broker or dealer arising in connection with any transaction whatsoever"¹¹⁶ This calculation requires in turn that the broker-dealer determine his net capital reserves by subtracting liabilities from assets and making fur-

110. See generally Blanc, *supra* note 45 (noting that the net capital rule primarily is intended to protect retail investors and prevent runs on banks).

111. See *infra* notes 113-18 and accompanying text.

112. See *infra* notes 119-25 and accompanying text.

113. Molinari & Kibler, *supra* note 18, at 16.

114. *Touche Ross & Co. v. Redington*, 442 U.S. 560, 570 n.10 (1979).

115. 7 LOUIS LOSS & JOEL SELIGMAN, *SECURITIES REGULATION* 3137 (3d ed. 1991) (citation omitted). More precisely, broker-dealers must retain net capital of at least 6 2/3% (100/1500).

116. 17 C.F.R. § 240.15c3-1(c)(1) (1995). The rule does, however, exempt a number of liabilities from the category of aggregate indebtedness. *Id.* § 240.15c3-1(c)(1)(i)-(xv).

ther adjustments based on the characteristics of specific assets and liabilities.¹¹⁷ In essence, the aggregate indebtedness equation "requires 'a broker or dealer to cover each dollar of its liabilities with not less than one dollar and six and two-thirds cents of liquid assets [i.e., $100 \div 15$].'"¹¹⁸

Alternate Net Capital Requirement

Broker-dealers may elect to forego the aggregate indebtedness method and calculate their reserve requirements under the alternate net capital standard.¹¹⁹ The alternate standard mandates that the broker-dealer retain the "greater of \$250,000 or 2 percent of aggregate debit items computed in accordance with the Formula for Determination of Reserve Requirements for Brokers and Dealers"¹²⁰ Debit items comprise all "monies owed the broker-dealer in relation to customer transactions."¹²¹ This method has become the most popular capital adequacy equation for large broker-dealers,¹²² largely because it reduces net capital requirements and equity charges by around fifty percent.¹²³

As its name indicates, the alternate net capital method is an alternative to the default aggregate indebtedness method. A broker-dealer opting for the alternate net capital method must notify the appropriate examining authority of his choice.¹²⁴ The broker-dealer must continue to operate under the alternate standard until the Commission approves any request to return to the aggregate indebtedness method.¹²⁵

117. 17 C.F.R. § 240.15c3-1(c)(2)(i)-(xiii) (1995).

118. 7 LOSS & SELIGMAN, *supra* note 115, at 3148 (quoting Sec. Ex. Act Rel. 18,417, 24 SEC Dock. 594, 595 (1982)) (alterations in original).

119. 17 C.F.R. § 240.15c3-1(a)(1)(ii) (1995).

120. *Id.* The formula for the determination of reserve requirements appears at 17 C.F.R. § 240.15c3-3a ex.A (1995).

121. 7 LOSS & SELIGMAN, *supra* note 115, at 3149-50.

122. *Id.* at 3152 (citing PRESIDENTIAL TASK FORCE ON MARKET MECHANISMS, REPORT VI-14 (1988)).

123. *Id.* at 3152-53 (citing SEC, STUDY ON THE FINANCING AND REGULATION CAPITAL NEEDS OF THE SECURITIES INDUSTRY *vi* (1985)).

124. Net Capital Rule, 17 C.F.R. § 240.15c3-1(a)(1)(ii) (1995).

125. *Id.*

Restrictions on Withdrawal of Equity Capital

Equity capital holdings consist of the most liquid assets available to an institution and thus are the most valuable source of liquidity if the institution needs to tap its capital reserves.¹²⁶ In addition to requiring net capital reserves calculated according to either the aggregate indebtedness or alternate method, 17 C.F.R. § 240.15c3-1 also restricts the withdrawal of equity capital from brokers' or dealers' reserves.¹²⁷ The equity capital restrictions vary according to the capital adequacy equation chosen by the broker or dealer.¹²⁸ Under either method, the restrictions prohibit broker-dealers from withdrawing equity capital to pay partners, stockholders, sole proprietors, employees, or affiliates.¹²⁹

Under the basic formula, restrictions on the withdrawal of equity capital apply when the firm's aggregate indebtedness exceeds 1000% of its net capital.¹³⁰ Under the alternate approach, they come into play when net capital sinks below five percent of total debit items.¹³¹ With its emphasis on liquidity, the equity capital requirement reinforces the underlying net capital rule.

Current Treatment of Swaps Under 17 C.F.R. § 240.15c3-1

The SEC currently uses a bifurcated valuation process to analyze interest rate swaps for the application of the net capital rule. At the first stage, broker-dealers must treat the current value of the next net interest payment due as an unsecured receivable in the calculation of net capital.¹³² As such, the swap

126. The net capital rule deems equity capital to:

include[] capital contributions by partners, par or stated value of capital stock, paid-in capital in excess of par, retained earnings or other capital accounts. The term equity capital does not include securities in the securities accounts of partners and balances in limited partners' capital accounts in excess of their stated capital contributions.

17 C.F.R. § 240.15c3-1(e)(4)(ii) (1995).

127. *Id.* § 240.15c3-1(e)(2).

128. *Id.*

129. *Id.*

130. *Id.* § 240.15c3-1(e)(2)(v).

131. *Id.* § 240.15c3-1(e)(2)(vi).

132. Net Capital Rule, Exchange Act Release No. 34-32256, 58 Fed. Reg. 27,486,

is treated as an "Asset[] Not Readily Convertible Into Cash,"¹³³ and the valuator deducts its full value from the broker's net worth.¹³⁴

At the second stage of the valuation process, the valuator applies a deduction or "haircut" to the swap's notional amount.¹³⁵ The haircut varies depending on the length of time until the swap matures and whether the broker-dealer has matched the swap.¹³⁶ The haircut mechanism is part of the SEC's strict "comprehensive" standard¹³⁷ and varies from zero percent, for securities with less than three months until maturity,¹³⁸ to fifteen percent, for various unhedged options.¹³⁹

The SEC's current treatment of swaps under 17 C.F.R. § 240.15c3-1 imposes onerous burdens on broker-dealers. The Commission requires dealers to deduct the value of swap payments from net worth.¹⁴⁰ By lumping swaps with the most illiquid and undesirable assets, however, the SEC does not allow dealers to count the present value of future swap payments in the calculation of net worth.¹⁴¹ Under the present regime, therefore, broker-dealers who enter into offsetting swaps to alleviate risk find themselves penalized for their prudence.

Preexisting and Proposed Net Capital Models

SEC's Proposals for Treatment of Swaps Under 17 C.F.R. § 240.15c3-1

The SEC recently offered two proposed alternatives to the present treatment of interest rate swaps under the net capital rule.¹⁴² The Commission's request for comments reflected its

27,490 (May 10, 1993).

133. 17 C.F.R. § 240.15c3-1(c)(2)(e)(iv) (1995).

134. *Id.* § 240.15c3-1(c)(2)(e)(iv)(E).

135. Net Capital Rule, Exchange Act Release No. 34-32256, 58 Fed. Reg. 27,486, 27,490 (May 10, 1993).

136. *See* 17 C.F.R. § 240.15c3-1(c)(2)(vi) (1995).

137. Doty, *supra* note 107, at S85.

138. 17 C.F.R. § 240.15c3-1(c)(2)(vi)(A)(1) (1995).

139. *Id.* § 240.15c3-1a.

140. *See* Lynn S. Hume, *SEC Is Likely To Propose Capital Rules for Swaps in Spring, Agency Official Says*, BOND BUYER, Jan. 18, 1994, at 1, 27.

141. *Id.*

142. Net Capital Rule, Exchange Act Release No. 34-32256, 58 Fed. Reg. 27,486,

concern that the restrictive regulatory regime currently in place might drive swaps away from U.S.-registered broker-dealers.¹⁴³

The Commission limned three possible approaches to the treatment of derivative products for net capital purposes. The Commission could: (1) continue to apply the current calculus to swaps and accept their escape from SEC regulation, (2) develop comprehensive rules that confront the market and credit risks that derivatives pose while permitting firms to operate their derivatives businesses as broker-dealers, or (3) develop separate standards for derivative product firms that operate as broker-dealers.¹⁴⁴

The SEC's two proposed net capital equations for swaps represent the Commission's attempt to shape comprehensive net capital requirements that will entice swaps dealers into becoming registered broker-dealers while continuing to provide sufficient capital reserves to protect against credit and market risk.¹⁴⁵ Although these proposals take significant steps toward recognizing the uniqueness and volatility of interest rate swaps, they nevertheless do not go far enough toward addressing the panoply of swap options that dealers presently use to tailor their products,¹⁴⁶ nor do they offer the flexibility necessary to respond to constant innovations in the derivative industry.¹⁴⁷

27,486 (May 10, 1993). The Commission has not yet issued final rules in response to the requested comments. Regulatory Flexibility Agenda, Regulatory Flexibility Act Release Nos. 33-7216, 34-36230, 35-26372, 39-2334, IC-21358, IA-1520, 60 Fed. Reg. 61,064, 61,084 (Nov. 28, 1995) (noting that "[t]he commission has proposed for comment amendments to . . . the net capital rule, concerning the rule's market risk percentage deductions for certain interest related instruments").

143. *Id.* at 27,488.

144. *Id.*

145. Credit risk stems from the chance that one party may fail to meet its contractual obligations and thus cause the other party to sustain a loss. Lynn S. Hume, *Like Other Products, Derivatives Carry a Variety of Risks; Here's Your Primer*, BOND BUYER, Oct. 6, 1993, at 6. The potential loss to the nonbreaching party generally will not exceed the replacement cost of the contract. *Id.* In contrast, market risk arises from the possibility that market swings may adversely affect the parties' derivative instruments. *Id.*

146. See *supra* notes 46-49 and accompanying text.

147. See Hu, *supra* note 108, at 1457 (arguing that the current regulatory system fails to address the unique attributes of derivative products and fails to respond rapidly to financial innovation and proposing a five-point regulatory plan for policing the derivatives industry); Hu, *supra* note 27, at 333 (outlining the current regulatory

Conversion Method

The SEC's first proposal would have broker-dealers perform a theoretical conversion of their swaps books into "a portfolio of specified debt securities that are equivalent, in terms of interest rate sensitivity, to the swap payment flows."¹⁴⁸ This method would treat swaps denominated in different currencies as if denominated in the same currency.¹⁴⁹ Broker-dealers would then apply the net capital rule to these theoretical debt securities in the same manner as they would to zero-coupon bonds with similar attributes and calculate the value of the converted securities according to their bond equivalents.¹⁵⁰ Under this system, "a swap with a notional amount of \$10 million paying a fixed rate of 6% would be treated like a long-term Treasury bond paying 6% interest"¹⁵¹

Notional Maturity Method

The SEC's second proposed method of valuing swaps involves categorizing the products by the maturity of the notional amounts. Valutors would then apply a capital charge of zero to six percent.¹⁵² Broker-dealers could reduce this charge by matching their books or using other hedging techniques.¹⁵³ Like the conversion method, the notional maturity method bears the imprint of the Commission's current regulatory philosophy and represents yet another a twist on the "comprehensive" standards of securities haircuts based on maturity levels.¹⁵⁴

regime imposed by commercial bank regulators under the BIS Accord and suggesting a new paradigm that would better respond to the idiosyncrasies of swaps).

148. Net Capital Rule, Exchange Act Release No. 34-32256, 58 Fed. Reg. 27,486, 27,492 (May 10, 1993).

149. *Id.*

150. *Id.*

151. Hume, *supra* note 140, at 27 (citing Michael A. Macchiaroli, the associate director for compliance and financial responsibility in the SEC's division of market regulation).

152. Net Capital Rule, Exchange Act Release No. 34-32256, 58 Fed. Reg. 27,486, 27,492 (May 10, 1993).

153. *Id.*

154. *See supra* notes 132-41 and accompanying text.

The BIS Accord

The treatment of swaps under the BIS Accord¹⁵⁵ represents a better-conceived effort at confronting the vagaries of derivative instruments. As with the SEC's current and proposed regulations, however, the BIS Accord comes up short both in its sensitivity to the unique risks posed by swaps and in its ability to respond to evolving swap mechanisms.

Original Exposure Method

Like the SEC's net capital rules, the BIS Accord offers institutions two formulas for calculating necessary levels of retained capital. The simpler and more lenient method is the original exposure method, which equates credit exposure with the swap's notional amount multiplied by predetermined conversion factors.¹⁵⁶ The bank multiplies its credit exposure by a risk weight that varies according to the customer's credit rating.¹⁵⁷

155. In 1988, the 12 member states of the Bank for International Settlements signed the BIS Accord. Camille M. Caesar, Note, *Capital-Based Regulation and U.S. Banking Reform*, 101 YALE L.J. 1525, 1536 (1992). The Accord proposed to strengthen the commercial banking industry and to level the playing field for banks competing in several countries. *Id.* at 1537. The Accord aimed specifically at increasing safety by setting minimum net capital standards for internationally active commercial banks. The Federal Reserve, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency adopted the BIS Accord standards soon after their passage. See Final Statement of Policy on Risk-Based Capital, 54 Fed. Reg. 11,500 (1989) (announcing the Federal Deposit Insurance Corporation's adoption of the BIS standards); Risk-Based Capital Guidelines, 54 Fed. Reg. 4168 (1989) (announcing adoption of BIS Standards by the Office of the Comptroller of the Currency); Risk-Based Capital Guidelines, 54 Fed. Reg. 4186 (1989) (adopting the BIS Capital adequacy standards for the Federal Reserve Board).

156.

Maturity	Conversion Factor
Less than one year	0.5%
One year or more but less than two years	1.0%
For each additional year	1.0%

Hu, *supra* note 27, at 387. This table reflects the conversion factors for interest rate swaps only.

157. *Id.* at 386. Because of lobbying by the International Swap Dealers Association

As with the SEC's securities haircuts, these factors vary according to the period of time before the swap matures.¹⁵⁸ This method therefore suffers from many of the same shortfalls that plague the SEC net capital rules.¹⁵⁹

Current Exposure Method

The more stringent and more responsive method of valuation follows the route taken by regulators from Britain and the United States.¹⁶⁰ This regime attempts to adjust for constant swings in the value of swaps brought about by interest rate changes. It thus has the advantage of reflecting the risk of both current and potential exposures.¹⁶¹

Under the current exposure approach, banks calculate the "credit equivalent amount" by adding:

(a) the total replacement cost (obtained by doing mark-to-market valuations) of all of its contracts with positive value; and

(b) an amount (an "add-on") for potential future credit exposure calculated on the basis of the total notional principal amount of its book (including contracts with positive, zero, and negative value), split by residual maturity¹⁶²

and the general perception of regulators that swap customers are creditworthy, the maximum risk weight is 50%. *Id.* at 386 n.154.

158. *Id.* at 387.

159. See *supra* notes 140-41 and accompanying text.

160. See Risk-Based Capital Guidelines, 12 C.F.R. pt. 3, app. A (1995) (providing the standard used by the Office of the Comptroller of the Currency); Capital Adequacy Guidelines for State Member Banks: Risk-Based Measure, 12 C.F.R. pt. 208, app. A (1995) (laying out the Federal Reserve's standard for state member banks); Statement of Policy on Risk-Based Capital, 12 C.F.R. pt. 325, app. A (1995) (setting forth the standard used by the Federal Deposit Insurance Corporation); BANKING SUPERVISION DIVISION, BANK OF ENGLAND, IMPLEMENTATION OF THE BASLE CONVERGENCE AGREEMENT IN THE UNITED KINGDOM 1, 10 (1988).

161. Hu, *supra* note 27, at 388.

162. *Id.* at 389. The haircuts applied to the notional amount use the following table:

Residual Maturity	Percentage Adjustment
Less than one year	0.0%
One year and over	0.5%

As under the original exposure method, banks then apply a risk weight to the credit equivalent amount.¹⁶³ Like the original exposure method, this approach represents a revamping of the SEC's "comprehensive" standard of haircuts.

TOWARDS A MODERN TREATMENT OF INTEREST RATE SWAPS

Modification of the net capital rules poses a significant challenge for the SEC. The Commission must tread a fine line between developing meaningful capital regulations that will protect against risk and requiring painfully high levels of capital that will drive swaps dealers overseas or into unregulated subsidiaries.¹⁶⁴ Furthermore, the Commission must develop a set of rules sophisticated enough to account for risks from derivatives but simple enough for broker-dealers to follow.

In attempting to protect against the risk from swaps, regulators revising the net capital rules need to consider four factors. First, current formulas fail to adequately calculate the risks of existing swaps and do not consider at all the dangers posed by sunken options now commonplace in interest rate swaps.¹⁶⁵ These elements must factor into any risk-attributing equation. Second, the current and proposed valuation methods do not fully reflect either the risk-decreasing attributes of hedging techniques or the risk-increasing attributes of arbitrage.¹⁶⁶ Regulators must develop a system that weighs risk on more than an instrument-by-instrument basis. Third, effective capital adequacy rules must contain mark-to-market provisions requiring bro-

Id. Again, this table reflects the adjustments made for interest rate contracts only.

163. See *supra* note 157 and accompanying text.

164. See Net Capital Rule, Exchange Act Release No. 34-32256, 58 Fed. Reg. 27,486, 27,488 (May 10, 1993) (commenting on the concentration of swaps business in the non-broker-dealer affiliates of investment banks); *Executive Summary*, *supra* note 12, at 755 ("The issue is one of striking a proper balance between (1) allowing the U.S. financial services industry to grow and innovate and (2) protecting the safety and soundness of the nation's financial system."); Cunningham et al., *supra* note 25, at 121, 162 (remarking that most banks do not execute swaps through broker-dealers because of the onerous capital adequacy standards currently in place); Doty, *supra* note 107, at S79 (noting that regulators must consider how the international ramifications of their actions will affect domestic markets and investors).

165. See *supra* notes 46-49 and accompanying text.

166. See *supra* notes 50-60 and accompanying text.

ker-dealers to reevaluate the risk on their books daily. Finally, any new capital adequacy standards should merely represent a next step down the road to harmonized international capital adequacy standards. Internationalization of capital adequacy standards will make the market more efficient by decreasing the cost of information gathering,¹⁶⁷ while halting any race to the bottom among competing regulatory regimes.¹⁶⁸

The SEC's current proposals for revision of the net capital rule are steps in the right direction; nevertheless, they do not go far enough in making the changes necessary to rein in risky derivatives activity without hobbling the broker-dealers who engage in swaps. This section will consider the responsiveness of the proposed regulations to the four aforementioned factors and then propose means for fitting these factors into future regulations.

Modification To Reflect Submerged Options

A significant inadequacy in the current and proposed capital standards is their inability to adjust in order to reflect the sunk-en options in swap instruments.¹⁶⁹ Such embedded options, however, have become increasingly important in multilateral swap contracts.¹⁷⁰ As noted previously, swaps frequently con-

167. See Steven C. Pirrong, *The Economics of Risk-Based Capital Requirements*, in MODERNIZING U.S. SECURITIES REGULATIONS: ECONOMIC AND LEGAL PERSPECTIVES 467, 468-69 (Kenneth Lehn & Robert W. Kamphuis, Jr. eds., 1992).

168. Blanc, *supra* note 45, at 14. James Doty writes that:

[t]he challenge for the future will be to avoid employing lower capital standards as a magnet to attract securities firms to a "gamblers' market" as nations seek to maintain or enhance their exchange volume. On the other extreme, higher capital standards may be employed as a trade barrier to entry.

Doty, *supra* note 107, at 586. See generally William Cary, *Federalism and Corporate Law: Reflections Upon Delaware*, 83 YALE L.J. 663 (1974) (advocating imposition of a federal corporate code). But see Barry D. Baysinger & Henry N. Butler, *The Role of Corporate Law in the Theory of the Firm*, 28 J.L. & ECON. 179 (1985) (arguing for sufficient variety in state corporation codes to allow firms to select compatible governance structures); Roberta Romano, *The State Competition Debate in Corporate Law*, 8 CARDOZO L. REV. 709 (1987) (priority statistical models in rejecting arguments for a federal corporate system).

169. See *supra* notes 46-49 and accompanying text.

170. See *supra* notes 46-49 and accompanying text.

tain cap, floor, or collar provisions, as well as other options that permit the end user to unravel the contract should prespecified events occur.¹⁷¹

Despite their improvements on the current treatment of swaps under 17 C.F.R. § 240.15c3-1, the SEC's present capital adequacy proposals and the BIS Accord nevertheless take an antiquated approach to state-of-the-art financial instruments. Although regulators must continue to pay close attention to the shared characteristics of broad kingdoms of financial organisms, such as interest rate or equity instruments,¹⁷² they must nevertheless make greater strides towards documenting the unique behavior of narrower phyla within these kingdoms. To do so, regulators must develop capital adequacy formulas that incorporate "option valuation methodology"¹⁷³ when determining risk weights for individual swaps.¹⁷⁴ To ensure accurate quantification of risk, such an approach would again require dealers to share up-to-date pricing models with regulators. Only by factoring in the peculiar characteristics of submerged options can regulators assign reasonable risk weights to individual swaps.

Portfolio-Based Risk Analysis

Swaps developed as useful mechanisms for controlling risk;¹⁷⁵ only later did they assume importance as arbitrage devices.¹⁷⁶ Even today, end users value swaps more for use as hedging devices than as speculative instruments.¹⁷⁷ Because swaps often exist purely to offset the risks stemming from other instruments, regulators must consider the aggregate risk associated with a combination of instruments. Furthermore, even in the case of swaps used for arbitrage, dealers may employ syn-

171. See *supra* note 49 and accompanying text.

172. See Pirrong, *supra* note 167, at 472.

173. *Id.* at 473. "Option-pricing methodology" refers to the use of formulas, such as the groundbreaking Black-Scholes model, to calculate theoretical prices for the market value of options. See Hu, *supra* note 108, at 1469.

174. See Hu, *supra* note 108, at 1469-77; Pirrong, *supra* note 167, at 473.

175. See *supra* notes 50-60 and accompanying text.

176. See Hu, *supra* note 27, at 363-65.

177. See *supra* note 52 and accompanying text.

thetic hedging techniques to limit risk.¹⁷⁸ Again, only an examination of the interwoven financial products provides a true view of the potential risks.

Because swaps are frequently used to hedge against negative interest rate swings, and because broker-dealers often employ sophisticated techniques to control the risks posed by arbitrated swaps, regulators cannot look only at individual derivative instruments when assigning risk weights. They must consider instead the riskiness of entire portfolios.¹⁷⁹

The SEC's current and proposed net capital rules do factor offsetting swaps into the risk equation.¹⁸⁰ Under the current regulatory regime, the haircut applied to a swap's notional amount changes if the swap has been matched.¹⁸¹ Under one of the two proposed capital adequacy rules, "[t]he capital charges of long and short positions in swaps could be offset depending on the relative maturities of the two swaps, or could be hedged with other debt instruments."¹⁸²

The proposed formula hints at the difficulties faced by regulators trying to devise portfolio-wide capital adequacy rules. The maturity dates of swaps within a portfolio may vary widely,

178. See *supra* note 109 and accompanying text.

179. See Net Capital Rule, Exchange Act Release No. 34-32256, 58 Fed. Reg. 27,486, 27,491 (May 10, 1993) (noting that most derivatives users would look to the entire portfolio of "contracts and related assets and liabilities that a particular dealer holds" to evaluate the risk of financial loss); *Executive Summary*, *supra* note 12, at 756 (commenting that the intertwining of derivatives with other assets and liabilities means that measuring the risk of individual instruments does not adequately calculate risk).

180. Net Capital Rule, 17 C.F.R. §§ 240.15c3-1(c)(2)(vi), 240.15c3-1a (1995); Net Capital Rule, Exchange Act Release No. 34-32256, 58 Fed. Reg. 27,486, 27,492 (May 10, 1993). The BIS Accord does not show the same sensitivity to the risk offsetting abilities of swaps. Professor Bhala notes that the Basle Agreement failed to recognize an important distinction between the form of a swap as a potentially risky interest rate mechanism and a swap's substantive function as a risk-mitigating instrument: "In sum, the Basle Agreement looks to whether the substantive function of loss absorption can be performed in establishing what counts as capital. But in requiring capital support for all swap transactions, the Basle Agreement does not look to the substantive function each swap fulfills." BHALA, *supra* note 98, at 13 (emphasis in original).

181. 17 C.F.R. §§ 240.15c3-1(c)(2)(vi), 240.15c3-1a (1995).

182. Net Capital Rule, Exchange Act Release No. 34-32256, 58 Fed. Reg. 27,486, 27,492 (May 10, 1993).

which means that offsetting swaps may exist in one year and not in another. Likewise, through synthetic hedging, embedded options, and a diversified portfolio of debt and equity holdings, broker-dealers can offset the risks from swaps without actually maintaining matched books. Although the proposed rule does acknowledge the effect of diversity on risk, "the existing haircut calculation methodology does not adequately recognize the different risk characteristics of securities that fall within a particular class."¹⁸³

The SEC's proposed rules certainly evince an understanding of the risk-abating effects of matched books and a diversified portfolio. The final rules should, however, spell out more explicitly the process by which regulators would measure offsetting risks. The regulations should concentrate not only on the risk inherent in an entire portfolio; they should also recognize the similar behavioral characteristics of certain classes of instruments, such as rate swaps and mortgage-backed securities, that, on their face, may appear dissimilar.¹⁸⁴ More importantly, the SEC's new rules should not discourage broker-dealers from attempting to control risk by requiring them to retain significant amounts of capital for swaps held as risk-abating instruments.¹⁸⁵

Marking-to-Market

Under the BIS Accord's current exposure method of calculating capital requirements, U.S. and British regulators require commercial banks to "mark-to-market" all swap contracts with positive values.¹⁸⁶ When marking-to-market, bankers must calculate the cost of covering the defaulted swap with a replacement contract.¹⁸⁷ The SEC's proposed regulations contain no such mandate.

Because the degree of risk inherent in a swap contract fluctu-

183. Pirrong, *supra* note 167, at 471. In one example, Pirrong would have regulators consider mortgage-backed securities in the same class as interest rate swaps because the underlying index, i.e., interest rates, is the same. *Id.*

184. *Id.*

185. See BHALA, *supra* note 98, at 136-44.

186. See Hu, *supra* note 27, at 388-89.

187. *Id.* at 360.

ates constantly with the underlying interest rate index, parties to swaps should reevaluate their exposure from day to day.¹⁸⁸ Although figures indicate that a substantial majority of end users do mark-to-market their derivatives on a daily basis,¹⁸⁹ the SEC should nevertheless follow the lead of commercial bank regulators and require all broker-dealers to follow this process.¹⁹⁰

The process of marking-to-market would not only allow regulators to better quantify the risk that threatens dealers, it would also encourage the dealers themselves to take stock of their risk.¹⁹¹ Because management frequently has an incomplete understanding of the behavior and risks associated with derivatives, and because regulators have an even poorer understanding of novel financial instruments, mandating that dealers regularly analyze their exposure would have an important preservative effect.¹⁹²

188. See *Executive Summary*, *supra* note 12, at 758.

189. *Last Group*, *supra* note 50, at 554.

190. See THE GROUP OF THIRTY, DERIVATIVES: PRACTICES AND PRINCIPLES 7 (1994).

191. See Jerry W. Markham, "Confederate Bonds," "General Custer," and the Regulation of Derivative Financial Instruments, 25 SETON HALL L. REV. 1, 48 ("Dealers must also have an effective system of internal controls to assess and control risks once they are identified in the accounting and reporting systems of the firms.").

By encouraging organizational self-examination, regulators may also reduce the "moral hazard problem." See Benjamin Weiser, *Wall Street Weighs Its Own Vulnerability to Rogue Traders*, WASH. POST, Feb. 28, 1995, at C1, C4 (discussing the forces that encourage traders to take risks). Individuals such as Nick Leeson, the trader at the center of the Barings Bank failure, have little incentive *not* to take dangerous risks when confronted with looming losses. If the trader wins, he will recoup his losses and, because of his performance-based bonuses, profit handsomely. If he loses, only the bank bears the financial risk of loss. Regardless of the unconscionable risks taken, the trader usually stands to lose only his job. See *id.* (quoting Columbia University Law School professor John Coffee's statement that "He's out the door if his losses are detected so the only rational incentive, from his perspective, is to see if he can, by doubling his bet, turn his loss into a gain."). Because his misconduct reached the level of criminality, however, Leeson has been sentenced to six and a half years in prison. John Gapper, *Ex-Barings Chief Denies Leeson Cover-Up Attempt*, FIN. TIMES, Dec. 9-10, 1995, § 2, at 1.

192. See Hu, *supra* note 108, at 1463 ("If the puzzle is why banks know so little, then the dilemma is how can regulators, who know even less, be effective. How can the blind guide the nearsighted?"). Indeed, even upper-level bank managers and end users frequently have an inadequate understanding of swaps. *Id.* at 1462 (noting that some bankers admit that they do not fully appreciate the risk of derivatives and quoting Gerald Corrigan, former President of the Federal Reserve Bank of New

The high percentage of derivatives users who mark-to-market of their own accord suggests that organizations recognize the merit of self-evaluation. Requiring broker-dealers to regularly recalculate the cost of replacing their outstanding swaps would thus not only allow regulators to assess risk, it would also encourage organizational introspection and push broker-dealers to consider the level of exposure that would make them attractive counterparties to swap transactions.¹⁹³

Harmonization of Net Capital Standards

For the SEC truly to ensure that its capital adequacy requirements function to protect all derivatives users from the risk of undercapitalized counterparties, the Commission must follow the lead of commercial bank regulators and establish uniform international capital standards.¹⁹⁴ The need for a unified net capital system becomes more pressing in the face of the ever increasing globalization of the securities industry generally and of derivatives in particular.¹⁹⁵

York, as stating that derivatives "must be understood by top management, as well as by traders and rocket scientists"); see also *Derivatives Survey Measures Lack of Understanding at Top*, INVESTMENT DEALERS' DIG., Apr. 4, 1994, at 4 (noting that many "directors of derivatives dealer firms do not fully understand the uses and risks of derivatives").

193. See generally Blanc, *supra* note 45, at 10 (advocating imposition of tighter internal controls by market participants). Because many swaps dealers operate as affiliates to registered broker-dealers in order to raise their credit rating, see Net Capital Rule, Exchange Act Release No. 34-32256, 58 Fed. Reg. 27,486, 27,487-88 (May 10, 1993), they would likely take steps to reduce their economic exposure and thus make themselves more attractive to potential counterparties. A requirement of regularly marking-to-market might, therefore, spur the development of systems of "private ordering" and "internal evaluative regimes" that would help to limit counterparty credit risk. See Blanc, *supra* note 45, at 13.

194. See *Executive Summary*, *supra* note 12, at 759 (calling on federal regulators to harmonize disclosure, capital, examination, and accounting standards for derivatives). See generally *supra* note 155 (providing Federal Reserve, Federal Deposit Insurance Corporation, and Office of the Comptroller of the Currency regulations adopting the BIS Accord).

195. See Hu, *supra* note 108, at 1502; *Executive Summary*, *supra* note 12, at 758 (stating that the intertwining of global markets caused by the rise of derivatives "increase[s] the likelihood that a crisis involving derivatives will be global"); Alex Brummer, *For the City Gravy Train, Change at Whitehall*, GUARDIAN, Oct. 20, 1994, at 17 (citing regulator Andrew Large's warning of "increasing global systemic risk in the financial markets"); Coggan, *supra* note 9, at 24 (noting theory that derivatives

The imposition of reasonable, harmonized net capital requirements furthers the interests of the financial industry, for such standards would simplify the task of "measuring and monitoring counterparty risk."¹⁹⁶ Harmonization would also put an end to any "regulatory 'arbitrage' between and among the major regulatory systems."¹⁹⁷ Under the "race to the bottom" theory of regulation,¹⁹⁸ countries will compete in an effort to entice swaps dealers to do business within their boundaries. Only by standardizing the international regulation of derivatives will regulators prevent regulatory comparison shopping by derivatives brokers. The SEC should, therefore, regard any new capital adequacy standards as laying the groundwork for a future, unified net capital system.¹⁹⁹

CONCLUSION

Derivatives hold at least partial responsibility for the giant losses suffered by entities such as Barings Bank and Orange County and for the significant swings in stock and bond indexes that accompanied those losses. Although no segment of the financial industry has buckled under these forceful blows, the sensitivity of financial markets to derivatives losses suggests that a system-wide meltdown fueled by derivatives is not inconceivable.

The SEC's net capital rule plays an important role in mitigating systemic risk. In order to ensure that the rule continues to abate risks, however, the Commission must redesign it to protect against the dangers of derivatives. However, the require-

may have contributed to the decline in world bond markets that accompanied a rise in U.S. interest rates in early 1994).

196. Blanc, *supra* note 45, at 12 (commenting, however, that "it is unlikely that there will be true uniformity internationally in the near term").

197. *Id.* at 14.

198. See *supra* note 168 and accompanying text.

199. Even a step-by-step process of harmonization would contribute greatly to risk reduction in the derivatives industry. Many of the suggestions in this Note, such as scrutinizing portfolio-wide risk and marking-to-the-market, are sound business practices that help promote a "system[] of private ordering." Blanc, *supra* note 45, at 15; see *Executive Summary*, *supra* note 12, at 755-56. The International Securities Dealers Association has already standardized its agreement forms and other documentation, thus facilitating private ordering. Blanc, *supra* note 45, at 12.

ments should not become so restrictive as to force swaps dealers into jurisdictions imposing laxer regulatory regimes.

To this end, regulators must consider four factors as they revise the net capital rule's treatment of interest rate derivatives. First, they must design rules that adequately reflect the risks posed by swaps, taking into account the idiosyncratic behavior of submerged options. Second, any revised regime must differentiate between swaps held for hedging purposes and those held for arbitrage purposes and must, therefore, calculate risk on a portfolio-wide basis. Third, regulators must encourage institutional introspection by requiring that broker-dealers mark-to-market their swaps on a frequent and regular basis. Finally, new capital adequacy standards must represent a first step down the road to international harmonization of net capital requirements. Only then can the SEC be certain that all swaps dealers will fall under an enlightened regulatory regime that protects the market against the dangers of speculation while encouraging broker-dealers to take the measured, well-considered risks that fuel economic progress.

Matthew Calhoun Frost