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## NOTE

# A FLAWED SOLUTION: THE DIFFICULTIES OF MANDATING A LEVERAGE RATIO IN THE UNITED STATES

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### TABLE OF CONTENTS

I. INTRODUCTION.....	714
II. THE RELATIONSHIP BETWEEN CAPITAL REQUIREMENTS AND LEVERAGE .....	718
A. THE PURPOSE AND FORM OF CAPITAL REQUIREMENTS .....	718
B. LEVERAGE.....	720
1. The Role of Leverage in Increasing the Risk of Insolvency .....	721
2. The Role of Leverage in Increasing Systemic Risk.....	722
III. CAPITAL RATIOS IN THE UNITED STATES.....	723
A. RISK-BASED CAPITAL RATIOS.....	723
1. Commercial Bank Regulation.....	723
2. Broker-Dealer Regulation.....	728
B. THE LEVERAGE RATIO .....	730
C. BASEL III: THE BASEL COMMITTEE’S NEW CAPITAL REQUIREMENTS .....	731

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IV. ARGUMENTS FOR AND AGAINST THE U.S. LEVERAGE RATIO .....	733
A. ARGUMENTS FOR THE U.S. LEVERAGE RATIO.....	733
1. Simplicity and Transparency .....	733
2. Complementary, Backstop Measure .....	733
3. Decreased Opportunities for Regulatory Arbitrage .....	734
4. Reduced Systemic Risk Due to Limits on the Size of Bank Positions .....	735
5. Motivation for Regulators to Sanction.....	736
B. ARGUMENTS AGAINST THE U.S. LEVERAGE RATIO .....	736
1. Exclusion of Off-Balance Sheet Exposures .....	736
2. Bluntness Increasing Opportunities for Regulatory Arbitrage.....	737
3. Magnified Systemic Risk Due to Procyclicality During a Downturn .....	737
V. THE PERFORMANCE OF THE U.S. LEVERAGE RATIO IN LIMITING LEVERAGE IN THE YEARS PRIOR TO AND DURING THE CRISIS .....	738
VI. ANALYSIS OF THE BASEL RATIO.....	743
VII. CONCLUSION.....	748

## I. INTRODUCTION

While the causes of the recent financial crisis<sup>1</sup> have been debated extensively,<sup>2</sup> the conclusion that excessive leverage by financial institutions

1. This Note uses the term “recent financial crisis” to refer to the economic hardship experienced worldwide as a result of the recession that began in the United States in December 2007 and ended in June 2009, according to the National Bureau of Economic Research (“NBER”). See *U.S. Business Cycle Expansions and Contractions*, NAT’L BUREAU ECON. RES. (Sept. 20, 2010), [http://www.nber.org/cycles/US\\_Business\\_Cycle\\_Expansions\\_and\\_Contractions\\_20100920.pdf](http://www.nber.org/cycles/US_Business_Cycle_Expansions_and_Contractions_20100920.pdf); Steve Schaefer, *Street Rallies into Fed Meeting*, FORBES.COM (Sept. 20, 2010), <http://www.forbes.com/2010/09/20/briefing-markets-recession-over-stocks-rally.html?boxes=Homepagechannels> (noting the surge in stock prices upon the NBER’s announcement that the recession had ended in June 2009). Despite the NBER’s selection of an endpoint for the recession, an end to the crisis is difficult, if not impossible, to define, as many continue to suffer the consequences of the recession. This is perhaps best evidenced by persistent high rates of unemployment. See Cordell Eddings & Daniel Kruger, *Treasuries Rally on 9.8% Unemployment Rate, Low Inflation, European Crisis*, BLOOMBERG (Dec. 31, 2010), <http://www.bloomberg.com/news/2011-01-01/treasuries-rally-on-9-8-unemployment-rate-low-inflation-european-crisis.html>; Schaefer, *supra* (“[T]he [NBER announcement] comes as cold comfort for the 9.6% of Americans that are unemployed . . .”).

2. See, e.g., Ben S. Bernanke, Chairman, Fed. Reserve, Speech at Morehouse College: Four Questions About the Financial Crisis (Apr. 14, 2009), available at <http://www.federalreserve.gov/newsevents/speech/bernanke20090414a.htm> (“What caused our financial and economic system to break down to the extent it has? Not surprisingly, the answer to this question is complex, and experts disagree on how much weight to give various explanations.”).

contributed to the crisis has garnered widespread support.<sup>3</sup> Concerns over the role of leverage have spurred a renewed focus on banks' ability to exploit the presence of moral hazard due to limited liability and the government's tendency to rescue banks in distress.<sup>4</sup> The crisis painfully underscored how banks use leverage to increase their expected returns while simultaneously shifting risk to creditors and the public at large.

To help address the negative externalities that result from the leveraging process, the United States has traditionally set capital requirements for its banks by using a non-risk-based leverage ratio in addition to risk-based capital ratios. The United States is one of only a few countries to supplement the risk-based ratios with a binding leverage ratio.<sup>5</sup> Indeed, in 2004, the Basel Committee on Banking Supervision (the "Committee")<sup>6</sup> created a new international capital-requirement framework that included only risk-based ratios,<sup>7</sup> reflecting a general consensus prior to

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3. See, e.g., BASEL COMM. ON BANKING SUPERVISION, BANK FOR INT'L SETTLEMENTS, STRENGTHENING THE RESILIENCE OF THE BANKING SECTOR 1 (2009) [hereinafter BASEL DEC. 2009 PROPOSALS], available at <http://www.bis.org/publ/bcbs164.pdf> ("One of the main reasons the economic and financial crisis became so severe was that the banking sectors of many countries had built up excessive on- and off-balance sheet leverage."); INST. OF INT'L FIN., RESTORING CONFIDENCE, CREATING RESILIENCE: AN INDUSTRY PERSPECTIVE ON THE FUTURE OF INTERNATIONAL FINANCIAL REGULATION AND THE SEARCH FOR STABILITY 43 (2009) [hereinafter IIF REPORT], available at <http://www.iif.com/download.php?id=11YetxP3hE=> ("There is agreement that excessive leverage had developed in the [financial] system, and this must be controlled in the future."); Philipp M. Hildebrand, Vice-Chairman of the Governing Bd., Swiss Nat'l Bank, Financial Markets Group Lecture at the London School of Economics: Is Basel II Enough? The Benefits of a Leverage Ratio 3 (Dec. 15, 2008), available at [http://www.snb.ch/en/mmr/speeches/id/ref\\_20081215\\_pmh/source/ref\\_20081215\\_pmh.en.pdf](http://www.snb.ch/en/mmr/speeches/id/ref_20081215_pmh/source/ref_20081215_pmh.en.pdf) ("There is increasing international recognition that excessive leverage has been a crucial contributing factor to the current crisis.").

4. See, e.g., DANIEL K. TARULLO, BANKING ON BASEL: THE FUTURE OF INTERNATIONAL FINANCIAL REGULATION 16–21 (Peterson Inst. for Int'l Econ. ed., 2008); Karl S. Okamoto, *After the Bailout: Regulating Systemic Moral Hazard*, 57 UCLA L. REV. 183, 189–91 (2009); Hildebrand, *supra* note 3, at 4–5.

5. See Katia D'Hulster, *The Leverage Ratio: A New Binding Limit on Banks*, CRISIS RESPONSE, Dec. 2009, at 1, 2, available at <http://rru.worldbank.org/documents/CrisisResponse/Note11.pdf>. Canada also supplements the risk-based ratios with a binding leverage ratio, and Switzerland plans to do so by 2013. *Id.*

6. "The Basel Committee on Banking Supervision is a committee of banking supervisory authorities which was established by the central bank Governors of the Group of Ten countries in 1975." BASEL DEC. 2009 PROPOSALS, *supra* note 3, at 1 n.1. The Committee seeks to formulate broad supervisory standards to "improve the quality of banking supervision worldwide." *About the Basel Committee*, BANK FOR INT'L SETTLEMENTS, <http://www.bis.org/bcbs/index.htm> (last visited Mar. 10, 2011). The Committee's members include "Argentina, Australia, Belgium, Brazil, Canada, China, France, Germany, Hong Kong SAR, India, Indonesia, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, Russia, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States." *Id.*

7. BASEL COMM. ON BANKING SUPERVISION, BANK FOR INT'L SETTLEMENTS, INTERNATIONAL CONVERGENCE OF CAPITAL MEASUREMENT AND CAPITAL STANDARDS 12–14 (2004) [hereinafter 2004

the crisis that a leverage ratio was not needed to control bank risk. Bank regulators in the United States, for their part, stressed the importance of the leverage ratio as a “safety-net” and insisted that it be retained.<sup>8</sup>

After the onset of the recent financial crisis, the Basel Committee experienced extreme pressure to revise its capital requirements in order to strengthen the global banking system’s ability to withstand financial shocks.<sup>9</sup> The Committee responded by releasing a series of concrete proposals in December 2009<sup>10</sup> and a set of new requirements in December 2010.<sup>11</sup> The new requirements include the introduction of a binding global leverage ratio (“Basel ratio”), which will differ from the U.S. leverage ratio in certain respects.<sup>12</sup> Given the Committee’s prior stance that a leverage ratio was unnecessary, the Committee’s actions represent a major reversal of course. The Committee appears to have accepted the argument that the leverage ratio can serve as an effective backstop to the risk-based ratios. Despite the Committee’s about-face, banks continue to oppose a binding leverage ratio on the ground that the ratio’s insensitivity to risk can encourage banks to incur more risk, thereby undermining the ratio’s

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BASEL II FRAMEWORK], available at <http://www.bis.org/publ/bcbs107.pdf?noframes=1>. Using the word “requirements” to describe the Basel framework may be somewhat misleading, as the Committee does not issue binding regulations, but rather “guidelines” that member countries can decide to implement through their own banking systems. See *About the Basel Committee*, *supra* note 6. Nevertheless, the framework does resemble requirements in the sense that the Committee expects its members to implement its standards, and any member considering not doing so may experience pressure from other members.

8. See *Interagency Proposals Regarding the Basel Capital Accord and Commercial Real Estate Lending Concentrations: Hearing Before the Subcomm. on Fin. Insts. & Consumer Credit of the H. Comm. on Fin. Servs.*, 109th Cong. 10–12 (2006) (statement of Sheila C. Bair, Chairman, Federal Deposit Insurance Corporation), available at <http://financialservices.house.gov/media/pdf/091406scb.pdf>; TARULLO, *supra* note 4, at 266.

9. Joel Clark, *Capital Punishment?*, RISK, Dec. 2009, at 38, 38.

10. See BASEL DEC. 2009 PROPOSALS, *supra* note 3, at 1 (presenting “proposals to strengthen global capital and liquidity regulations with the goal of promoting a more resilient banking sector”).

11. BASEL COMM. ON BANKING SUPERVISION, BANK FOR INT’L SETTLEMENTS, BASEL III: A GLOBAL REGULATORY FRAMEWORK FOR MORE RESILIENT BANKS AND BANKING SYSTEMS (2010) [hereinafter BASEL III FRAMEWORK], available at <http://www.bis.org/publ/bcbs189.pdf>. The Committee actually agreed on the new requirements in September 2010, Press Release, Basel Comm. on Banking Supervision, Bank for Int’l Settlements, Group of Governors and Heads of Supervision Announces Higher Global Minimum Capital Standards (Sept. 12, 2010), available at <http://www.bis.org/press/p100912.pdf>, but it did not release the detailed text of these requirements until December 2010, Press Release, Basel Comm. on Banking Supervision, Bank for Int’l Settlements, Basel III Rules Text and Results of the Quantitative Impact Study Issued by the Basel Committee (Dec. 16, 2010), available at <http://www.bis.org/press/p101216.htm>.

12. See BASEL III FRAMEWORK, *supra* note 11, at 4, 60–63. As discussed later in this Note, the Basel ratio will differ most from the U.S. leverage ratio in that the Basel ratio will account for off-balance sheet exposures and credit derivative exposure beyond that reflected by a derivative’s fair value on the balance sheet. See *infra* text accompanying notes 102–04.

objectives.<sup>13</sup>

This Note seeks to contribute to the debate over the attractiveness of using a leverage ratio as a binding complement to risk-based capital ratios. By analyzing the U.S. leverage ratio's performance in limiting leverage in the years prior to and during the crisis, this Note attempts to increase awareness of the flaws inherent in using either the U.S. or Basel leverage ratio. The analysis suggests that while the Basel ratio is an improvement to the U.S. ratio, the Basel ratio is unlikely to reduce leverage by a significantly greater extent than does the U.S. ratio. Though this Note emphasizes the leverage ratios' flaws, it does not call for U.S. bank regulators simply to abandon the leverage ratio in favor of risk-based ratios. Rather, this Note hopes that a better understanding of the flaws will encourage regulators to explore alternative measures to substitute for or serve alongside the leverage ratio as a binding complement to the risk-based ratios. Should a leverage ratio be retained in the United States, either in its current format or in that of the Basel ratio, such an understanding will also better prepare regulators to oversee bank risk.

This Note will not analyze the leverage ratio's impact on bank profits, nor will it discuss the merits of raising the current mandatory minimum U.S. leverage ratio; each of these issues is worthy of extensive scholarly analysis in and of itself. This Note will also not examine the impact of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 ("Dodd-Frank Act") on the implementation of the new Basel requirements.<sup>14</sup> To be sure, the Dodd-Frank Act carries implications for capital standards in the United States. Notable provisions include the ability of banking agencies to set higher leverage ratio requirements than those in effect during the crisis;<sup>15</sup> the ability of the Federal Reserve ("Fed") to

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13. See IIF REPORT, *supra* note 3, at 44. Many foreign banks oppose the ratio for this same reason. See, e.g., Mia Shanley, *Swedish FSA Against Binding Bank Leverage Ratio*, REUTERS, Dec. 22, 2009, available at <http://www.reuters.com/article/idUSLDE5BH16N20091222> ("It would be very ironic if relatively stable Swedish banks would have to unload very low-risk assets from their balance sheets . . . ." (quoting Lars Frisell, a Basel Committee member)).

14. Signed into law by President Barack Obama on July 21, 2010, the Dodd-Frank Act is a sweeping overhaul of financial regulations passed in response to the recent financial crisis. Dodd-Frank Wall Street Reform and Consumer Protection (Dodd-Frank) Act of 2010, Pub. L. No. 111-203, 124 Stat. 1376 (to be codified in scattered sections of 12 and 15 U.S.C.). See also *Obama Signs Sweeping Financial Overhaul, Pledges "No More" Bailouts*, FOXNEWS.COM, July 21, 2010, <http://www.foxnews.com/politics/2010/07/21/obama-poised-sign-sweeping-financial-overhaul>. Some consider the Act to be the largest assertion of government power over the financial system since the Great Depression. See, e.g., Damian Paletta & Aaron Lucchetti, *Law Remakes U.S. Financial Landscape*, WALL ST. J., July 16, 2010, at A1.

15. See Dodd-Frank Act § 171, 124 Stat. at 1435-38 (to be codified at 12 U.S.C. § 5371).

permit reduced capital requirements during economic downturns;<sup>16</sup> and the establishment of a Financial Stability Oversight Council (“FSOC”) to identify and respond to threats to the stability of the U.S. financial system.<sup>17</sup> But these issues are best explored in another paper, given their complexity and the fact that the effects of the provisions depend largely on significant future rulemaking efforts.<sup>18</sup>

Part II of this Note begins by discussing capital requirements in general and the use of capital ratios to limit risks created by banks. Part II then describes the term “leverage,” the incentive bank shareholders and managers have to increase leverage, and the role of leverage in increasing both the risk of individual bank insolvency and that of a systemic shock to the financial system. Part III outlines the two types of capital ratios U.S. bank regulators use to restrict bank leverage, namely, risk-based ratios and the leverage ratio. This part also details the Basel Committee’s new capital requirements, which were released in December 2010, including the Basel ratio. Part IV considers the theoretical arguments for and against using the U.S. leverage ratio as a binding complement to the risk-based ratios. Part V illustrates how the performance of the leverage ratio in the years prior to and during the crisis exemplified concerns held by its opponents. Part VI explains how the Basel ratio improves on the U.S. ratio and also why the Basel ratio is nonetheless unlikely to reduce leverage by a significantly greater extent. Finally, in Part VII this Note concludes with a call for U.S. bank regulators to explore alternatives to the leverage ratio before fully committing to the Basel ratio.

## II. THE RELATIONSHIP BETWEEN CAPITAL REQUIREMENTS AND LEVERAGE

### A. THE PURPOSE AND FORM OF CAPITAL REQUIREMENTS

Capital requirements are widely considered the primary form of regulation used by U.S. bank regulators to monitor the “safety and

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16. *Id.* sec. 616, §§ 5(b), 10(g)(1), 908(a)(1), 38A, 124 Stat. at 1615–16 (to be codified in scattered sections of 12 U.S.C.).

17. *Id.* §§ 111–12, 124 Stat. at 1392–98 (to be codified at 12 U.S.C. §§ 5321–22).

18. See Margaret E. Tahyar, Davis Polk & Wardwell LLP, *Summary and Implementation Schedule of the Dodd-Frank Act*, HARV. L. SCH. F. ON CORP. GOVERNANCE & FIN. REG. (July 15, 2010, 9:17 AM), <http://blogs.law.harvard.edu/corpgov/2010/07/15/summary-and-implementation-schedule-of-the-dodd-frank-act> (“The legislation is complicated and contains substantial ambiguities, many of which will not be resolved until regulations are adopted, and even then, many questions are likely to persist that will require consultation with the staffs of the various agencies involved.”).

soundness” of banks.<sup>19</sup> The requirements are embodied in the form of capital ratios. The denominator of a capital ratio represents a bank’s aggregate level of risk,<sup>20</sup> most often thought of as some arbitrary totaling of the potential losses to which the bank is subject, due to borrower defaults on scheduled payments to the bank, losses on the bank’s securities positions, or both. The numerator represents the bank’s total amount of capital.<sup>21</sup> Mandatory minimum capital ratios thus require banks with greater aggregate risk to hold greater amounts of capital. The traditional role of capital ratios has been to protect a bank’s creditors, especially depositors, by preserving the solvency of the bank. The ratios can also serve an additional role, however, in that they may be used to limit systemic risk.<sup>22</sup>

There are two primary methods by which capital ratios attempt to reduce the risk of insolvency and limit systemic risk. The first is by establishing a capital buffer that can absorb bank losses.<sup>23</sup> Without such a buffer, a bank could fail as a result of an unexpected loss, possibly threatening the vitality of the entire financial system. The second method is by restricting the ability of shareholders and managers to take on excessive risk, mainly through limits on their use of leverage.<sup>24</sup>

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19. See, e.g., TARULLO, *supra* note 4, at 15; Arturo Estrella, Sangkyun Park & Stavros Peristiani, *Capital Ratios as Predictors of Bank Failure*, FED. RES. BANK N.Y. ECON. POL’Y REV., July 2000, at 33, 33 (“Capital ratios have long been a valuable tool for assessing the safety and soundness of banks.”); Stephen Morris & Hyun Song Shin, *Financial Regulation in a System Context*, BROOKINGS PAPERS ON ECON. ACTIVITY, Fall 2008, at 229, 230 (“Traditionally, capital requirements have been the cornerstone of bank regulation.”).

20. Estrella, Park & Peristiani, *supra* note 19, at 36. Measures of bank size often serve as an adequate proxy for the overall risk level of a bank, as aggregate risk is frequently correlated with size. *Id.*

21. *Id.*

22. TARULLO, *supra* note 4, at 21–22; Morris & Shin, *supra* note 19, at 230–32. This latter function has received renewed attention since the onset of the recent financial crisis. See, e.g., INT’L MONETARY FUND, *GLOBAL FINANCIAL STABILITY REPORT: RESPONDING TO THE FINANCIAL CRISIS AND MEASURING SYSTEMIC RISKS* 111 (2009) [hereinafter IMF FINANCIAL STABILITY REPORT], available at <http://www.imf.org/external/pubs/ft/gfsr/2009/01/pdf/text.pdf>; U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-09-739, *FINANCIAL MARKETS REGULATION: FINANCIAL CRISIS HIGHLIGHTS NEED TO IMPROVE OVERSIGHT OF LEVERAGE AT FINANCIAL INSTITUTIONS AND ACROSS SYSTEM 7*, 67–71 (2009) [hereinafter GAO LEVERAGE REPORT], available at <http://www.gao.gov/new.items/d09739.pdf>; Morris & Shin, *supra* note 19, at 230–32.

23. TARULLO, *supra* note 4, at 16.

24. See GAO LEVERAGE REPORT, *supra* note 22, at 1–2, 5; TARULLO, *supra* note 4, at 16–18; Aaron Unterman, *Perverse Incentives: Risk Taking and Reform*, BANKING & FIN. SERVICES POL’Y REP., June 2009, at 11, 11–12.

## B. LEVERAGE

Broadly defined, “leverage” is any position that allows a bank “to increase the potential gains or losses on a position or investment beyond what would be possible through a direct investment of its own funds.”<sup>25</sup> The most widespread form of leverage—and that most commonly associated with the term—refers to the use of debt rather than equity to acquire assets. This may be referred to as “balance sheet” leverage because it can be observed simply by looking at the bank’s balance sheet and observing the extent to which the value of bank assets exceeds that of bank equity.<sup>26</sup> Leverage can be achieved not only through the issuance of debt, but also through other complex, non-mutually exclusive means. For example, a bank may hold a contingent liability not included on the balance sheet, such as a loan guarantee.<sup>27</sup> A bank may also hold a security or position, such as a derivative instrument, in which the volatility of that position may exceed the volatility of the underlying asset.<sup>28</sup>

All else equal, shareholders and managers have an incentive to increase the leverage of their bank due to the presence of moral hazard.<sup>29</sup> “Moral hazard arises when an actor does not bear all of the consequences of his actions.”<sup>30</sup> Shareholders’ ability to bear the consequences of a loss to the bank is restricted by the limited liability afforded to them by the

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25. D’Hulster, *supra* note 5, at 1. Leverage is not a concept that applies exclusively to banks; it can apply to any firm. This Note uses the term “bank” rather than “firm” when introducing the concept of leverage simply because the Note’s purpose is to assess tools designed to constrain leverage in the banking system.

26. *Id.*

27. *Id.*

28. JOHN DOWNES & JORDAN ELLIOT GOODMAN, *DICTIONARY OF FINANCE AND INVESTMENT TERMS* 174 (Barron’s ed., 7th ed. 2006) (“DERIVATIVE: short for *derivative instrument*, a contract whose value is based on the performance of an underlying financial asset, index, or other investment.”). *See also* GAO LEVERAGE REPORT, *supra* 22, at 1 n.1 (providing an expanded definition of “derivatives”). The following example illustrates the added volatility inherent in a derivative contract: Consider an investor with \$100 to spend. Suppose further that a stock option costs \$10 and gives the purchaser the right to buy for a limited time a certain stock currently priced at \$100 for \$110 (a “call option”). If the investor uses the \$100 to buy ten of these options and the stock price rises to \$130 within the designated time period, the investor can exercise each of the ten options, making a total of \$100 on the position ( $10 \times (\$130 - \$110) - \$100 = \$100$ ). By contrast, if instead of the options the investor initially purchases the stock at \$100 and the same scenario ensues, the investor will earn only \$30 ( $\$130 - \$100 = \$30$ ). Conversely, if the stock price does not rise but instead falls to \$70 by the end of the time period, the investor will lose \$100 if the investor owns the options ( $\$0 - \$100 = -\$100$ ) and lose only \$30 if the investor owns the stock ( $\$70 - \$100 = -\$30$ ).

29. The tax deductibility of interest on debt provides an additional motivation for banks to incur balance sheet leverage.

30. Okamoto, *supra* note 4, at 204.

corporate form.<sup>31</sup> Yet, limited liability places no restriction on their ability to participate fully in the bank's profits. Similarly, legal rules and directors' and officers' liability insurance often limit managers' personal liability for bad business decisions, often at the same time that the managers' compensation increases proportionally with the shareholders' gains.<sup>32</sup> Because both shareholders and managers share disproportionately in the positive and negative returns to the bank, they are incentivized to seek investments that offer the shareholders higher returns. Leverage affords them this opportunity, as it increases the bank's expected gains without raising the bank's equity.<sup>33</sup>

### 1. The Role of Leverage in Increasing the Risk of Insolvency

Given that higher returns are positively correlated with higher risk, coupled with the fact that shareholders and managers possess limited liability, leverage shifts risk from the managers and shareholders to other stakeholders. In this respect, leverage can properly be said to create an externality.<sup>34</sup> The stakeholders who usually bear most of the costs of this externality are the creditors, a group that for purposes of this Note includes depositors. Due to the bank's greater level of risk, creditors are less likely to have their loans repaid.

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31. TARULLO, *supra* note 4, at 17–18. See also Jürg M. Blum, *Why “Basel II” May Need a Leverage Ratio Restriction*, 32 J. BANKING & FIN. 1699, 1702 (2008) (“While the cost of capital has to be borne by the banks, the banks themselves do not benefit from the reduced insolvency costs.”).

32. See Okamoto, *supra* note 4, at 204–06; Unterman, *supra* note 24, at 13. It is not always true that managers' compensation increases proportionally with shareholder gains. For example, a manager may have a salary that in the short term remains fixed regardless of the stock price. Nevertheless, at least two tendencies suggest that managers' compensation generally increases as the stock price rises. First, boards of directors—the shareholders' representatives—often reward top managers with higher salaries if the stock price has risen during the managers' tenure. Second, many managers, particularly those in the financial services industry, receive a large portion of their compensation in stock as well as stock options (call options). Managers are therefore indirectly incentivized to increase leverage due to the effect of the stock price on their compensation. The incentive to increase leverage can be particularly strong when the managers hold a large quantity of stock options because the options generally increase in value when the potential upside in the stock price is greater, even if the potential downside is greater as well. See, e.g., James Surowiecki, *Performance-Pay Perplexes*, NEW YORKER, Nov. 12, 2007, at 34.

33. This may not technically be true with leverage in the form of a derivative contract. In that case, the bank might raise equity to pay for the cost of the contract, such as if the contract is an option. Nevertheless, as alluded to *supra* note 28 and accompanying text, participating in such a contract allows the bank to obtain a higher expected gain on the same initial investment than is possible if the bank purchases or sells the underlying asset. Thus, on a *per unit of expected gain basis*, the equity raised to purchase the derivative contract is less than in the more typical transaction, in which equity is raised to purchase the asset.

34. See Blum, *supra* note 31, at 1702; Matthew Beville, Comment, *Financial Pollution: Systemic Risk and Market Stability*, 36 FLA. ST. U. L. REV. 245, 262 (2009).

A major creditor of the banking system is the U.S. federal government. The Federal Deposit Insurance Corporation (“FDIC”) currently insures up to \$250,000 of each qualified deposit account,<sup>35</sup> and the Fed has the power to become a “lender of last resort” to financial institutions it believes are in danger of failing.<sup>36</sup> Indeed, the Fed utilized this power extensively during the recent financial crisis, with its rescue loan to AIG serving as a notable example.<sup>37</sup> Although the government’s role as a backstop is intended to alleviate the concerns of creditors (particularly depositors) and thereby prevent runs on the banks, such insurance may ironically increase leverage in the banking system.<sup>38</sup> Aware that their loans are insured, creditors have a far weaker incentive to monitor banks to verify that the banks are adequately capitalized. Moreover, the knowledge that the government will likely rescue distressed banks encourages the banks to take on greater leverage despite the fact that doing so can increase their probability of distress.

## 2. The Role of Leverage in Increasing Systemic Risk

While difficult to characterize, “systemic risk” may be defined as “the risk that a negative shock to a firm or asset will result in losses or failure across the financial system.”<sup>39</sup> Leverage can amplify systemic risk as a result of the progressively numerous connections among financial institutions.<sup>40</sup> For an example of just one of the several ways in which leverage can do so, consider the following scenario.

Suppose there are three banks, Bank A, Bank B, and Bank C, each of which owns a large block of securities in the same asset class as those held by the other two banks. Bank B has used leverage to purchase its securities by obtaining a very large secured loan from Bank C, and Bank A has a loan from Bank B for which Bank A securities serve as collateral. Bank B now

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35. *Deposit Insurance Summary*, FED. DEPOSIT INS. CORP., <http://www.fdic.gov/deposit/deposits/dis/index.html> (last updated Dec. 29, 2010). A depositor may have multiple accounts that qualify. *Id.*

36. See TARULLO, *supra* note 4, at 24; Steven M. Davidoff & David Zaring, *Regulation by Deal: The Government’s Response to the Financial Crisis*, 61 ADMIN. L. REV. 463, 477–78 (2009).

37. See Davidoff & Zaring, *supra* note 36, at 494–99.

38. See Hildebrand, *supra* note 3, at 4–5.

39. Beville, *supra* note 34, at 246. For additional and more expansive definitions, see Douglas W. Arner, *The Global Credit Crisis of 2008: Causes and Consequences*, 43 INT’L LAW. 91, 96 (2009), and Okamoto, *supra* note 4, at 194.

40. See GAO LEVERAGE REPORT, *supra* note 22, at 59–60; William C. Dudley, President & Chief Exec. Officer, Fed. Reserve Bank of N.Y., Remarks at the Eighth Annual BIS Conference: Lessons Learned from the Financial Crisis 1 (July 3, 2009), available at <http://www.bis.org/review/r090708a.pdf>.

suffers a large loss on the assets that are serving as collateral on its loan from Bank C. In response, Bank C issues a margin call, whereby it demands that Bank B pay down the balance on its loan so that the collateral covers the outstanding balance. To raise the cash to do this, Bank B sells its securities. This, in turn, causes the price of similar securities in the market to fall, to the point at which the collateral on Bank A's loan from Bank B no longer covers the outstanding balance. Just as Bank C did, so too does Bank B issue a margin call, which Bank A attempts to meet by selling its assets. This process repeats itself, eventually resulting in a downward asset spiral that can cause a financial crisis. In this scenario (and in others), greater leverage increases the odds of a widespread crisis by magnifying banks' losses relative to equity, increasing the value of collateral that banks must raise through asset sales.<sup>41</sup>

### III. CAPITAL RATIOS IN THE UNITED STATES

An overview of the capital ratios used in the United States can offer a clearer context in which to assess the attractiveness of a non-risk-based leverage constraint. Federal banking regulators use two types of binding capital ratios to limit the use of leverage in the banking system: (1) risk-based ratios established by the Basel Accords and the Securities and Exchange Commission ("SEC"), and (2) the leverage ratio established under U.S. law.<sup>42</sup> This part will begin by discussing the risk-based ratios, detailing the different forms of risk-based ratios used for commercial and investment banks. Next, it will describe the U.S. leverage ratio, before concluding with a summary of the Basel Committee's new capital requirements that introduced the Basel ratio.

#### A. RISK-BASED CAPITAL RATIOS

##### 1. Commercial Bank Regulation

Regulators adopted risk-based capital ratios in the United States in

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41. See GAO LEVERAGE REPORT, *supra* note 22, at 22–23.

42. Federal banking regulators include the Fed, the FDIC, the Office of the Comptroller of the Currency ("OCC"), the SEC, and the Commodity Futures Trading Commission. Regulators tasked with ensuring that the institutions they supervise maintain Basel risk-based capital ratios—specifically, the Fed, FDIC, and OCC—enact regulations implementing the Basel measures. The Dodd-Frank Act abolished the Office of Thrift Supervision ("OTS") as a federal regulator, transferring OTS functions and authorities to the Fed, FDIC, and OCC. See Dodd-Frank Act, Pub. L. No. 111-203, sec. 312, § 3, 124 Stat. 1376, 1521–23 (2010) (to be codified at 12 U.S.C. § 5412).

1990,<sup>43</sup> shortly after the first Basel Accord (“Basel I”) established an international capital requirement framework for commercial banks.<sup>44</sup> The Basel I framework classified each asset or off-balance sheet item held by a bank into one of five risk categories.<sup>45</sup> Each category received a weighting based on the risk of the assets it encompassed, and this weighting was assigned to the value of the asset.<sup>46</sup> Basel I then required banks to hold an amount of capital equal to at least 8 percent of the total value of their risk-weighted assets.<sup>47</sup> Because Basel I intended for an asset’s risk weighting to increase proportionally with the asset’s risk, it intended for riskier assets to produce higher risk-weighted asset values, thereby requiring banks to hold greater amounts of capital.

For an illustration of the Basel I framework in action, consider a simplified scenario in which a commercial bank owns \$100 million of assets and has no off-balance sheet obligations. Suppose further that the bank’s asset mix consists of the following: \$60 million in commercial loans, \$20 million in residential mortgage loans, \$10 million in government bonds, and \$10 million in cash. Under Basel I, these assets would receive risk weightings of 100, 50, 0, and 0 percent, respectively.<sup>48</sup> The total risk-weighted asset value of the bank’s assets would be equal to  $1.00 \times (\$60 \text{ million}) + 0.50 \times (\$20 \text{ million}) + 0.00 \times (\$10 \text{ million}) + 0.00 \times (\$10 \text{ million})$ , or \$70 million. Basel I would therefore require the bank to hold capital equal to at least  $0.08 \times (\$70 \text{ million})$ , or \$5.6 million.

The United States continued to apply the Basel I ratios throughout the 1990s and 2000s, but banks and the Fed increasingly began to clamor for Basel I to be changed.<sup>49</sup> Their calls were motivated largely by two

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43. See TARULLO, *supra* note 4, at 55, 65.

44. BASEL COMM. ON BANKING SUPERVISION, BANK FOR INT’L SETTLEMENTS, INTERNATIONAL CONVERGENCE OF CAPITAL MEASUREMENT AND CAPITAL STANDARDS (1988) [hereinafter BASEL I FRAMEWORK], available at <http://www.bis.org/publ/bcbasel111.pdf?noframes=1>. See also GAO LEVERAGE REPORT, *supra* note 22, at 101; TARULLO, *supra* note 4, at 55; Morris & Shin, *supra* note 19, at 230. Bank holding companies must meet risk-based and leverage ratio capital requirements similar to those imposed on commercial banks. GAO LEVERAGE REPORT, *supra* note 22, at 33. See also 12 C.F.R. pt. 225, app. D(II)(a)–(b) (2010) (listing mandatory minimum leverage ratios for bank holding companies); *id.* pt. 225, app. G(I)(1) (establishing risk-based capital requirements for bank holding companies).

45. BASEL I FRAMEWORK, *supra* note 44, at 7–13, 17–20.

46. *Id.* at 7–8.

47. *Id.* at 13.

48. *Id.* at 17–18.

49. See TARULLO, *supra* note 4, at 88–90. There appears to be no general consensus on the success of Basel I in enhancing the safety and soundness of banks. It is particularly difficult to assess Basel I’s success in the wake of the recent financial crisis, the causes of which are still under investigation. At the very least, some commentators have contended that Basel I provided a more

developments. First, banks had created a series of new financial instruments that did not adequately fit into the existing risk categories, such as certain types of derivatives and especially “securitizations.”<sup>50</sup> Second, banks claimed to have improved their own internal risk management techniques by using credit risk models, which estimated the probability of loss based on assets’ underlying risk characteristics, rather than on the assets’ categorizations.<sup>51</sup> Both developments concerned bank and Fed officials by highlighting the extent to which an asset’s actual risk could diverge from that implied by its Basel I rating.<sup>52</sup> Banks emphasized that blunt Basel I ratings tended to overstate bank risk,<sup>53</sup> while supervisory officials expressed fears that the ratings increasingly tended to understate it.<sup>54</sup>

Of particular concern to regulators was the notion that Basel I created easy opportunities for regulatory arbitrage. Regulatory arbitrage occurs when a bank exploits the difference between its actual risk level and that implied by its regulatory position.<sup>55</sup> Regulators worried that banks could engage in regulatory arbitrage under Basel I by manipulating their holdings so as to include the riskiest assets within each risk category.<sup>56</sup> Given that Basel I’s risk weightings were fairly blunt, banks’ tendency to manage their

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effective framework than the second Basel Accord (“Basel II”), which is discussed below. *See, e.g., id.* at 85 (“[T]he differences of political economy and institutional competence between the process and substance of Basel I and that of Basel II raise serious doubts whether the latter is on net a benign development.”); Erik F. Gerding, *Code, Crash, and Open Source: The Outsourcing of Financial Regulation to Risk Models and the Global Financial Crisis*, 84 WASH. L. REV. 127, 187–88 (2009) (advocating that international bank regulators return to Basel I).

50. *See* GAO LEVERAGE REPORT, *supra* note 22, at 103–04. Securitization is the “process of distributing risk by aggregating debt instruments in a pool, then issuing new securities backed by the pool.” DOWNES & GOODMAN, *supra* note 28, at 630. If the risk weights given to all of the securities backed by a certain pool of instruments are the same, a bank can hold securities that are riskier than others backed by the same pool, yet that nevertheless receive the same risk weighting. The bank can do so by dividing the securities into tranches, with the order in which each tranche receives payments from the pool determined by the relative quality of the tranche. *See* GAO LEVERAGE REPORT, *supra* note 22, at 104 n.5. For example, the securities constituting the highest-quality tranche could receive all of the initial payments from the pool up to a predetermined amount at which the securities in the tranche would have generated a specified rate of return. The bank can sell the higher-quality tranches and hold for itself a greater portion of the lower-quality tranches, which are riskier because they are the last tranches to be paid. *See id.*

51. *See* GAO LEVERAGE REPORT, *supra* note 22, at 104.

52. TARULLO, *supra* note 4, at 88–90.

53. *See* Randy Myers, *Basel’s New Balance: A New Accord May Soon Help Banks Lend More for Less*, CFO MAG. (Dec. 1, 2003), [http://www.cfo.com/article.cfm/3011059/c\\_3046603?f=magazine\\_](http://www.cfo.com/article.cfm/3011059/c_3046603?f=magazine_featured)

54. *See* TARULLO, *supra* note 4, at 89–90.

55. *See id.* at 79.

56. *See id.* at 79–83, 88–91.

holdings in this way could allow banks to carry less capital than their risk profiles warranted.

For a more specific example of regulatory arbitrage, return to the scenario of the hypothetical bank discussed above. Note that the bank's assets include \$60 million in commercial loans. It is important to understand that Basel I assigns all commercial loans a 100 percent risk weighting, regardless of the credit quality of the companies to which they are made.<sup>57</sup> Thus, the bank will be required to hold  $0.08 \times (\$60 \text{ million})$ , or \$4.8 million in capital for these loans, regardless of whether they are made to consistently profitable firms, such as Coca-Cola and Proctor & Gamble, or to firms whose earnings are extremely volatile, such as start-up technology companies. Even though the amount of capital it must hold is the same, the bank will expect higher returns from loans made to the companies with the more volatile earnings, as the bank will charge higher interest rates to compensate for the loans' higher level of risk. Because Basel I does not penalize the bank by forcing it to hold more capital when making the riskier loans, all else equal, the bank has an incentive to increase its risk.

Seeking capital requirements more sensitive than those of Basel I to the actual risks faced by banks, the Basel Committee proposed a revised framework ("Basel II") in 2004.<sup>58</sup> Under Basel II, large, internationally active banks must use "advanced approaches" to determine their mandatory risk-based capital ratios.<sup>59</sup> An important advanced approach is Basel II's

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57. GAO LEVERAGE REPORT, *supra* note 22, at 102; BASEL I FRAMEWORK, *supra* note 44, at 18.

58. See 2004 BASEL II FRAMEWORK, *supra* note 7. In 2006, the Committee released an updated, slightly modified version of the new framework. See BASEL COMM. ON BANKING SUPERVISION, BANK FOR INT'L SETTLEMENTS, INTERNATIONAL CONVERGENCE OF CAPITAL MEASUREMENT AND CAPITAL STANDARDS (2006) [hereinafter 2006 BASEL II FRAMEWORK], available at <http://www.bis.org/publ/bcbs128.pdf>.

59. See 2006 BASEL II FRAMEWORK, *supra* note 58, at 1, 4, 12–13, 59; Interagency Statement from the Fed. Reserve Bd., U.S. Implementation of Basel II Advanced Approaches Framework 1 [hereinafter U.S. Implementation of Basel II], available at <http://www.federalreserve.gov/boarddocs/srletters/2008/SR0804a1.pdf>. In the United States, a bank is required to implement Basel II's advanced approaches if it has at least \$250 billion in assets or \$10 billion in foreign exposure, or if it is the parent or subsidiary of a bank using the advanced approaches. See 12 C.F.R. pt. 3, app. C(I)(1)(b) (2010) (OCC); *id.* pt. 208, app. F(I)(1)(b), pt. 225, app. G(I)(1)(b) (Fed); *id.* pt. 325, app. D(I)(1)(b) (FDIC); U.S. Implementation of Basel II, *supra*, at 2 n.3, 3. Other banks may elect to use the advanced approaches provided these banks meet certain additional qualifications. See 12 C.F.R. pt. 3, app. C(III)(21)(a)(2) (OCC); *id.* pt. 208, app. F(III)(21)(a)(2), pt. 225, app. G(III)(21)(a)(2) (Fed); *id.* pt. 325, app. D(III)(21)(a)(2) (FDIC). If these banks do not elect to use the advanced approaches or elect to use the approaches but fail to meet the additional qualifications, they will continue to have their capital requirements determined by the Basel I categorization system. See *id.* pt. 3, app. A(1)(a)(1) (OCC); *id.* pt. 208, app. A(I), pt. 225, app. A(I) (Fed); *id.* pt. 325, app. A(II)(A), (C) (FDIC). Basel II seeks to apply a "Standardized Approach" for these banks, whereby the category weightings for their assets

“internal ratings-based” (“IRB”) approach. It allows a bank to use its own credit risk models to estimate the values of the inputs to the Committee’s risk model, which in turn determines how much capital the bank must hold.<sup>60</sup> Although Basel II changes the way in which bank risk is measured, it does not change the actual minimum capital ratio, which remains 8 percent of total risk-weighted assets.<sup>61</sup>

The rule allowing Basel II’s advanced approaches to be implemented in the United States became effective in April 2008.<sup>62</sup> This rule requires a four-year transitional period before a bank can fully convert to using the approaches. This includes a one-year “parallel run,” during which a bank must prove that its IRB measures are adequate while it remains subject to Basel I ratios.<sup>63</sup> Following successful completion of a parallel run, a bank proceeds through three year-long transitional periods.<sup>64</sup> During these periods, the bank begins to apply Basel II capital ratios, but floors are placed on the potential declines in the bank’s capital relative to Basel I standards.<sup>65</sup> The implementation timeline shows that commercial banks were still adhering to Basel I during the recent crisis and that the earliest year in which they could fully transition to Basel II’s advanced approaches is 2012.

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would no longer remain completely predetermined but would instead be established by external credit-rating agencies when possible. See 2006 BASEL II FRAMEWORK, *supra* note 58, at 19. Unlike the advanced approaches discussed *infra* note 62 and accompanying text, however, Basel II’s Standardized Approach has yet to be implemented in the United States. See *Basel II Standardized Approach Implementation*, FED. RES. BD., [http://www.federalreserve.gov/generalinfo/Basel2/USImplementation.htm#Basel\\_II\\_Standardized](http://www.federalreserve.gov/generalinfo/Basel2/USImplementation.htm#Basel_II_Standardized) (last updated Nov. 5, 2008) (showing that the most recent initiative concerning the Standardized Approach in the United States was the initial proposal for rulemaking to implement the Basel II Framework on June 26, 2008).

60. See 2006 BASEL II FRAMEWORK, *supra* note 58, at 2, 5, 52.

61. See *id.* at 2; BASEL III FRAMEWORK, *supra* note 11, at 12. As discussed later in this Note, the Basel Committee’s new capital requirements released in late 2010 provide for a 2.5 percent “capital conservation buffer” to be added to the minimum capital ratio. BASEL III FRAMEWORK, *supra* note 11, at 55–57. Thus, when the buffer becomes effective (currently planned for 2019), banks seeking to avoid constraints on capital distributions will need to hold minimum capital equal to at least 10.5 percent of total risk-weighted assets. *Id.* at 55, annex 4.

62. U.S. Implementation of Basel II, *supra* note 59, at 1.

63. See 12 C.F.R. pt. 3, app. C(III)(21)(c)–(d) (OCC); *id.* pt. 208, app. F(III)(21)(c)–(d), pt. 225, app. G(III)(21)(c)–(d) (Fed); *id.* pt. 325, app. D(III)(21)(c)–(d) (FDIC); U.S. Implementation of Basel II, *supra* note 59, at 4–5.

64. 12 C.F.R. pt. 3, app. C(III)(21)(e) (OCC); *id.* pt. 208, app. F(III)(21)(e), pt. 225, app. G(III)(21)(e) (Fed); *id.* pt. 325, app. D(III)(21)(e) (FDIC). See also U.S. Implementation of Basel II, *supra* note 59, at 5–6.

65. See 12 C.F.R. pt. 3, app. C(III)(21)(e) (OCC); *id.* pt. 208, app. F(III)(21)(e), pt. 225, app. G(III)(21)(e) (Fed); *id.* pt. 325, app. D(III)(21)(e) (FDIC); TARULLO, *supra* note 4, at 118 n.48, 128 n.65; U.S. Implementation of Basel II, *supra* note 59, at 5–6.

## 2. Broker-Dealer Regulation

Broker-dealers, a category of financial institutions that includes the largest investment banks, are not subject to the same risk-based capital ratios as commercial banks. Rather, they and their subsidiaries must limit their leverage in accordance with the SEC's "net capital rule," which requires them always to carry a minimum amount of net capital.<sup>66</sup> The net capital calculation entails discounting a firm's securities positions by percents that vary with, "among other things, the type of security, . . . the type of issuer, . . . the availability of a ready market to trade the security, and, if a debt security, the time to maturity and credit rating."<sup>67</sup> Although the mandated minimum amount of net capital can be determined in several ways, the minimum amount for most broker-dealers is equal to 6 $\frac{2}{3}$  percent of total debt.<sup>68</sup>

The SEC adopted the net capital rule in 1975 and continues to employ it today.<sup>69</sup> A series of events starting in 2002, however, compelled the agency to create an alternative, more relaxed rule to regulate certain large broker-dealers. In 2002, the European Union ("E.U.") issued a directive giving itself authority to regulate the parent companies of "financial conglomerates" conducting business in Europe.<sup>70</sup> The directive exempted banks regulated in a manner considered "equivalent" to that planned by the directive.<sup>71</sup> Whereas U.S. commercial banks fell under the exemption because they were subject to group-level supervision, U.S. investment banks did not because the SEC did not have regulatory authority over the banks' holding companies.<sup>72</sup> Fearing potential E.U. oversight, the banks

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66. Net Capital Requirements for Brokers or Dealers, 17 C.F.R. § 240.15c3-1 (2010). For a brief summary of the net capital rule, see Letter from Michael A. Macchiaroli, Assoc. Dir., Div. of Trading & Mkts., U.S. Sec. & Exch. Comm'n, to Orice M. Williams Brown, Dir., Fin. Mkts. & Cmty. Inv., U.S. Gov't Accountability Office 1-2 (July 17, 2009) [hereinafter SEC Net Capital Letter], reprinted in GAO LEVERAGE REPORT, *supra* note 22, at 117-18.

67. SEC Net Capital Letter, *supra* note 66, at 2. See also 17 C.F.R. § 240.15c3-1(c)(2)(vi)-(vii).

68. See 17 C.F.R. § 240.15c3-1(a)(1)(i) ("No broker or dealer . . . shall permit its aggregate indebtedness to all other persons to exceed 1500 percent of its net capital . . ."). Requiring a broker-dealer to hold net capital in an amount equal to at least 6 $\frac{2}{3}$  percent of total debt is equivalent to requiring the broker-dealer to maintain a debt-to-net capital ratio not greater than fifteen to one. In other words, the bank must hold at least \$1 of net capital for every \$15 of debt. A broker-dealer may elect to be governed by an alternative standard requiring the broker dealer to hold net capital in an amount not "less than the greater of \$250,000 or 2 percent of aggregate debit items computed in accordance with [the established formula]." *Id.* § 240.15c3-1(a)(1)(ii).

69. See *id.* § 240.15c3-1.

70. See Parliament and Council Directive 2002/87, 2003 O.J. (L 35) 1, 4 (EC), available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:035:0001:0027:EN:PDF>.

71. See *id.* at 12.

72. See John C. Coffee, Jr. & Hillary A. Sale, *Redesigning the SEC: Does the Treasury Have a*

lobbied the SEC for a system of regulation that would meet the “equivalent” criterion advanced by the directive.<sup>73</sup>

The SEC responded in 2004 by forming its Consolidated Supervised Entity (“CSE”) program.<sup>74</sup> The CSE program allowed broker-dealers to apply to the SEC for an exemption to the traditional net capital rule. Those whose applications were approved could use their internal risk models instead of the usual discounts to determine the deductions applied to their securities positions when calculating their net capital.<sup>75</sup> As was the case before the SEC established the program, the broker-dealers did not have to comply with a non-risk-based leverage constraint.<sup>76</sup> In exchange for participating in the CSE program, each consented to SEC supervision over its holding company.<sup>77</sup> Each CSE holding company also agreed to calculate its net capital ratio in accordance with Basel II standards and to notify the SEC if the ratio were likely to breach 10 percent, the ratio associated with a “well-capitalized” institution under Basel II.<sup>78</sup> Although the SEC was required to take “remedial action” if it received a notification, maintaining

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*Better Idea?*, 95 VA. L. REV. 707, 738 (2009); Patricia A. McCoy, Andrey D. Pavlov & Susan M. Wachter, *Systemic Risk Through Securitization: The Result of Deregulation and Regulatory Failure*, 41 CONN. L. REV. 1327, 1359–60 (2009). The SEC does not currently have statutory authority to regulate the holding companies of investment banks. See Christopher Cox, Chairman, U.S. Sec. & Exch. Comm’n, Speech at the Seniors Summit: Protecting Senior Investors in Today’s Markets (Sept. 22, 2008), available at <http://www.sec.gov/news/speech/2008/spch092208cc.htm> (“[T]he merger of Bear Stearns and J.P. Morgan highlighted the inherent problems with the lack of any statutory authority for the SEC . . . to regulate investment bank holding companies.”). Note that while investment banks are frequently referred to as “banks,” their holding companies are not necessarily the same as “bank holding companies.” See 12 U.S.C. § 1841(a)–(b) (2006). “Bank holding companies” most often refer to companies that possess control over one or more deposit-taking institutions. See *id.* Under the Dodd-Frank Act, an investment bank will be subject to regulation by the Fed even if it is not part of a bank holding company (defined in the traditional sense), provided that either of the following applies: (1) the bank is deemed a “systemically important” nonbank financial company; or (2) the bank is not already subject to comprehensive supervision by a federal agency or foreign regulator, and registers with the Fed to become a “supervised securities holding company.” Dodd-Frank Act, Pub. L. No. 111-203, § 618, 124 Stat. 1376, 1616–20 (2010) (to be codified at 12 U.S.C. § 1850a).

73. Coffee & Sale, *supra* note 72, at 738.

74. Alternative Net Capital Requirements for Broker-Dealers That Are Part of Consolidated Supervised Entities, 69 Fed. Reg. 34,428, 34,428 (June 21, 2004) (codified as amended at 17 C.F.R. pts. 200, 240 (2010)).

75. *Id.*

76. GAO LEVERAGE REPORT, *supra* note 22, at 39. See also OFFICE OF INSPECTOR GEN., U.S. SEC. & EXCH. COMM’N, No. 446-A, SEC’S OVERSIGHT OF BEAR STEARNS AND RELATED ENTITIES: THE CONSOLIDATED SUPERVISED ENTITY PROGRAM 20 (2008) [hereinafter SEC CSE REPORT], available at <http://www.sec-oig.gov/Reports/AuditsInspections/2008/446-a.pdf> (“[T]he CSE program has not established a leverage ratio limit.”).

77. 69 Fed. Reg. at 34,428.

78. GAO LEVERAGE REPORT, *supra* note 22, at 39.

a ratio of at least 10 percent was not a regulatory requirement.<sup>79</sup>

The five largest U.S. investment banks—Merrill Lynch, Goldman Sachs, Morgan Stanley, Lehman Brothers, and Bear Stearns—all applied for entry into the CSE program. All were accepted, and no others were allowed to participate.<sup>80</sup> From 2005 to 2008, the banks calculated their net capital in accordance with the new rule.<sup>81</sup> During that time, they increased their leverage significantly.<sup>82</sup> The financial crisis then brought about the end of the CSE program in 2008, after Goldman Sachs and Morgan Stanley had converted themselves into bank holding companies (which are under the supervision of the Fed), Lehman Brothers had failed, and Bear Stearns and Merrill Lynch had been hastily acquired by larger commercial banks.<sup>83</sup> Although financial companies are no longer supervised by the SEC on a consolidated basis under the CSE program, certain broker-dealers owned by bank holding companies continue to use the alternative net capital rule.<sup>84</sup>

#### B. THE LEVERAGE RATIO

The leverage ratio serves as a binding complement to the Basel risk-based ratios in the United States. The “leverage ratio” is a simple, non-risk-based standard that is “[t]he most widely used measure of leverage for regulatory purposes.”<sup>85</sup> The ratio has been employed for many years in the United States, where it is determined by dividing Tier 1 capital by total adjusted assets.<sup>86</sup> Tier 1 capital includes common stock and related surplus, retained earnings, and noncumulative perpetual preferred stock and related

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79. *Id.*

80. Coffee & Sale, *supra* note 72, at 735.

81. See GAO LEVERAGE REPORT, *supra* note 22, at 38.

82. See *infra* text accompanying notes 144–47.

83. See Press Release, U.S. Sec. & Exch. Comm’n, Chairman Cox Announces End of Consolidated Supervised Entities Program (Sept. 26, 2008), available at <http://www.sec.gov/news/press/2008/2008-230.htm> (“With each of the major investment banks that had been part of the CSE program being reconstituted within a bank holding company, they will all be subject to statutory supervision by the Federal Reserve. Under the Bank Holding Company Act, the Federal Reserve has robust statutory authority to impose and enforce supervisory requirements on those entities. Thus, there is not currently a regulatory gap in this area. The CSE program within the Division of Trading and Markets will now be ending.”).

84. GAO LEVERAGE REPORT, *supra* note 22, at 42.

85. D’Hulster, *supra* note 5, at 2. The presence of the word “leverage” in the term “leverage ratio” should not give one the impression that the ratio necessarily measures leverage more effectively than the risk-based ratios. Rather, the presence of the word is likely due to the fact that the leverage ratio most frequently measures *balance sheet* leverage, the most commonly understood form of leverage.

86. *Id.*

surplus.<sup>87</sup> The adjusted assets calculation excludes off-balance sheet exposures.<sup>88</sup> Banks in the United States generally must maintain a minimum leverage ratio of between 3 and 4 percent,<sup>89</sup> although those that are subsidiaries of a “financial holding company” must possess one of at least 5 percent.<sup>90</sup> If a bank fails to meet its required ratio, Prompt Corrective Action (“PCA”) rules require federal banking regulators to take action against it, which may include forcing it to submit a capital restoration plan and requiring regulator approval of any acquisitions and expansions into new lines of business.<sup>91</sup> If the bank becomes further undercapitalized, regulators may impose more coercive measures, such as forcing the bank to issue debt or equity, restricting its transactions with affiliates, and even requiring it to be closed down.<sup>92</sup>

Broker-dealers (including investment banks) are not subject to the U.S. leverage ratio.<sup>93</sup> But if a broker-dealer is a subsidiary of a bank holding company, the bank holding company remains subject to its usual leverage ratio requirement.<sup>94</sup>

### C. BASEL III: THE BASEL COMMITTEE’S NEW CAPITAL REQUIREMENTS

The Basel Committee issued new capital requirements in December 2010 (“Basel III”) to build on and strengthen the standards imposed by Basel II.<sup>95</sup> Basel III requires improvements to the quality and transparency of the capital base used to determine risk-based requirements,<sup>96</sup> stricter capital constraints on counterparty credit risk exposures arising from instruments such as derivatives,<sup>97</sup> and a “capital conservation buffer” that

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87. See, e.g., 12 C.F.R. pt. 325, app. A(I)(A)(1) (2010) (FDIC); Estrella, Park & Peristiani, *supra* note 19, at 37.

88. Joel Clark, *No Accounting for Leverage*, RISK, Nov. 2009, at 28, 28. See also D’Hulster, *supra* note 5, at 2.

89. See 12 C.F.R. § 3.6(b)–(c), § 6.4(b) (OCC); *id.* § 208.43(b) (Fed); *id.* § 325.3(b) (FDIC); Clark, *supra* note 88, at 28; D’Hulster, *supra* note 5, at 2.

90. See 12 C.F.R. § 6.4(b)(1)(iii) (OCC); *id.* § 208.43(b)(1)(iii) (Fed); TARULLO, *supra* note 4, at 145. A “financial holding company” is a bank holding company or securities firm affiliate that meets regulatory qualifications and is permitted to engage in securities activities. DOWNES & GOODMAN, *supra* note 28, at 249. See also 12 C.F.R. § 225.81 (listing the requirements to be considered a financial holding company). As of 2008, financial holding companies controlled each of the top twenty U.S. banks. TARULLO, *supra* note 4, at 145.

91. See 12 U.S.C. § 1831o(e) (2006).

92. See *id.* § 1831o(f); GAO LEVERAGE REPORT, *supra* note 22, at 30–31.

93. GAO LEVERAGE REPORT, *supra* note 22, at 39.

94. See 12 C.F.R. pt. 225, app. D(I)(a)–(b).

95. BASEL III FRAMEWORK, *supra* note 11.

96. *Id.* at 2–3, 12–29.

97. *Id.* at 29–51.

can be drawn down during periods of distress.<sup>98</sup> Most importantly for purposes of this Note, Basel III introduces a global leverage ratio (“Basel ratio”).<sup>99</sup> Although the Basel ratio will initially serve as a supervisory measure designed to supplement Basel II requirements, the Committee’s goal is for it to become a binding constraint in 2018.<sup>100</sup>

The Committee states that the Basel ratio is “a simple, transparent, independent measure of risk” designed to “introduce additional safeguards against model risk and measurement error.”<sup>101</sup> Unlike the current U.S. leverage ratio, the Basel ratio will account for certain off-balance sheet exposures by using a 100 percent credit risk conversion factor.<sup>102</sup> In addition, it will account for exposure created by a derivative beyond that reflected by the derivative’s fair value on the balance sheet; by applying an add-on for potential future exposure to the accounting measure of exposure, the ratio will capture loss potential due to negative future performance of the security underlying the derivative contract.<sup>103</sup> In sum, the denominator

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98. *Id.* at 54–57. With the release of Basel III, the Committee also recommended that member countries impose a “countercyclical buffer” during periods in which excess credit growth results in increased system-wide risk, *id.* at 57–60, and announced its intention to develop a better approach for “systemically important financial institutions,” *id.* at 7. The latter approach could require the imposition of further capital standards. *Id.* Additionally, the Committee released new minimum liquidity standards, including a thirty-day liquidity coverage ratio and net stable funding ratio. *Id.* at 9. For a complete explanation of these standards, see BASEL COMM. ON BANKING SUPERVISION, BANK FOR INT’L SETTLEMENTS, BASEL III: INTERNATIONAL FRAMEWORK FOR LIQUIDITY RISK MEASUREMENT, STANDARDS AND MONITORING (2010), available at <http://www.bis.org/publ/bcbs188.pdf>.

99. BASEL III FRAMEWORK, *supra* note 11, at 60–63.

100. *Id.* at 63. Although it remains to be seen how the transition will play out, the Committee’s goal is for member countries to implement the Basel ratio according to the following timeline: Beginning January 1, 2011 and lasting through 2012, a supervisory monitoring period will occur during which the Committee will track banks’ leverage data to examine the appropriateness of the proposed design and calibration of the Basel ratio—tentatively set to require Tier 1 capital (as newly defined in the Basel III framework) of at least 3 percent. From 2013 to 2017, a parallel run period will take effect, during which banks will calculate their Basel ratios for review by regulators, even though the ratio will not yet constitute a binding constraint. Beginning in 2015, banks will be required to disclose their Basel ratios. Final adjustments and calibration to the Basel ratio will be implemented in the first half of 2017, and the finalized ratio will become a formal requirement on January 1, 2018. *Id.*

101. *Id.* at 4.

102. *See id.* at 62–63; BASEL DEC. 2009 PROPOSALS, *supra* note 3, at 61 (“[C]ertain off-balance sheet items should be included . . .”).

103. *See* BASEL III FRAMEWORK, *supra* note 11, at 62. Note that the fair value of a derivative contract differs from the notional economic exposure underlying the contract. For example, consider a credit default swap (“CDS”). A CDS is a type of credit derivative that functions like insurance, in that a protection buyer agrees to make a series of payments to a protection seller over a set period, in exchange for the seller’s promise to cover any loss on a reference bond or loan due to a credit event (such as a general default, bankruptcy, or restructuring) occurring within that period. *See* Matthew Phillips, *The Monster That Ate Wall Street*, NEWSWEEK, Oct. 6, 2008, at 46; Janet Morrissey, *Credit Default Swaps: The Next Crisis?*, TIME (Mar. 17, 2008), <http://www.time.com/time/business/article/0,8599,1723152,00.html>. To illustrate, suppose a CDS gives the protection seller the right to receive

of the Basel ratio representing a bank's aggregate risk, or "total exposure," will include the notional value of certain off-balance sheet items and a calculation for exposure to derivatives.<sup>104</sup>

#### IV. ARGUMENTS FOR AND AGAINST THE U.S. LEVERAGE RATIO

Risk-based capital ratios and the leverage ratio both seek to reduce insolvency risk and systemic risk by limiting banks' use of leverage. The two types of ratios employ a similar method to limit leverage, namely, attempting to decrease the presence of moral hazard by forcing shareholders to bear a greater proportion of bank losses. Given the ratios' similarities, the following sections consider the theoretical arguments for and against using the U.S. leverage ratio as a binding complement to the risk-based ratios.

##### A. ARGUMENTS FOR THE U.S. LEVERAGE RATIO

###### 1. Simplicity and Transparency

Perhaps the most obvious advantage of the leverage ratio—and one acknowledged by its supporters and detractors alike—is the ratio's simplicity and transparency.<sup>105</sup> As discussed above, calculating the ratio entails a relatively straightforward division of Tier 1 capital by total adjusted assets.<sup>106</sup> This calculation does not necessitate the complex modeling techniques required by Basel II's IRB approach. The ratio's supporters thus argue that the ratio is not only practically costless for banks to report, but also that it is easier for regulators to monitor than are the risk-based approaches.<sup>107</sup>

###### 2. Complementary, Backstop Measure

Proponents of the leverage ratio argue that it may account for risks not

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\$100 payments annually over a five-year period and the seller will pay out \$1 million in the event of default on a reference bond. Assuming the period is still in effect, the fair value of the CDS will fluctuate as circumstances alter the probability that the bond will default and the seller will have to pay \$1 million. The seller's notional economic exposure will remain at \$1 million, however, as that is the maximum amount the seller will have to pay.

104. BASEL III FRAMEWORK, *supra* note 11, at 61–63.

105. See, e.g., Estrella, Park & Peristiani, *supra* note 19, at 36; D'Hulster, *supra* note 5, at 4. Cf. IIF REPORT, *supra* note 3, at 44 ("A *simple* leverage ratio runs the risk of undermining its own objectives." (emphasis added)).

106. See *supra* text accompanying notes 85–88.

107. See, e.g., Estrella, Park & Peristiani, *supra* note 19, at 36; D'Hulster, *supra* note 5, at 4.

captured by the credit risk models utilized so heavily under Basel II.<sup>108</sup> Errors in risk modeling are numerous.<sup>109</sup> They can include the use of inadequate inputs, such as historical data that is unrepresentative of future risks or data that does not extend back far enough to include loss statistics. A lack of historical data may pose a particularly significant problem when modeling the risk associated with new financial instruments. Even if a model contains accurate inputs, the design of the model itself may be flawed. The prevalence of modeling error due to flaws such as these has motivated some to question whether the risk-based ratios adequately capture a bank's aggregate risk.<sup>110</sup> Supporters of the leverage ratio argue that the leverage ratio functions as a backstop in the event modeling error leads to an understatement of risk.<sup>111</sup> They also note that the leverage ratio serves as a useful complement to the risk-based ratios, assisting regulators' assessment of a bank's risk.<sup>112</sup>

### 3. Decreased Opportunities for Regulatory Arbitrage

Relying on the assumption that the leverage ratio captures risk unaccounted for by the risk-based ratios, many proponents of the leverage ratio have argued that the ratio lessens opportunities for regulatory arbitrage.<sup>113</sup> Those who share this view caution that by allowing banks to use their own models to determine minimum capital ratios, Basel II creates "a strong incentive" for certain banks "to lie about their true [risk] type."<sup>114</sup> The proponents maintain that the leverage ratio restricts banks' ability to misstate their actual risk level, however, because "it is much more difficult for banks to arbitrage around two capital ratios than around just one."<sup>115</sup> At least one supporter of the leverage ratio has further asserted that the ratio is itself difficult to misrepresent, as "[t]he elements of tier 1 capital and the total assets of the bank are central to a bank's statement of financial

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108. See GAO LEVERAGE REPORT, *supra* note 22, at 63, 70.

109. For a detailed discussion of flaws in risk modeling, see Gerding, *supra* note 49, at 169–85.

110. See, e.g., *id.* at 186–87 (arguing that "[t]he spectacular failure of the proprietary risk models of financial institutions to predict or adequately protect against the current crisis" demonstrates the need for a reversal of the Basel II framework).

111. See, e.g., GAO LEVERAGE REPORT, *supra* note 22, at 63; D'Hulster, *supra* note 5, at 4 (stating that the leverage ratio's function as a backstop may help mitigate the incentive for banks to exploit the risk sensitivity of the Basel II framework by structuring their products in such a way that they qualify for lower capital requirements than their actual structural risk).

112. See, e.g., Blum, *supra* note 31, at 1706; Estrella, Park & Peristiani, *supra* note 19, at 50; Hildebrand, *supra* note 3, at 9–10.

113. See, e.g., Blum, *supra* note 31, at 1700, 1706; D'Hulster, *supra* note 5, at 4; Hildebrand, *supra* note 3, at 10.

114. Blum, *supra* note 31, at 1703.

115. Hildebrand, *supra* note 3, at 10.

position, as certified by its accountants.”<sup>116</sup>

#### 4. Reduced Systemic Risk Due to Limits on the Size of Bank Positions

Some advocates of the leverage ratio claim that it may limit systemic risk more effectively than do the risk-based ratios.<sup>117</sup> In making this argument, they emphasize that an asset may simultaneously be safe from a credit perspective and risky from a systemic perspective.<sup>118</sup> As an example, consider a bank (“Bank A”) that has issued a large amount of debt relative to its equity. The bank has used the proceeds from this debt to extend a very large, fully secured short-term loan to another bank (“Bank B”). Bank B’s obligation to repay the loan is reflected as an asset on Bank A’s balance sheet. From a credit risk perspective, the asset is very safe because it is fully secured and short-term, the latter meaning that not much time exists for the asset’s price to fluctuate.<sup>119</sup> Yet, from a systemic perspective, the asset can still be risky. Because Bank A’s balance sheet is highly levered, Bank A is susceptible to any decrease in the maximum level of leverage at which banks will lend to it.<sup>120</sup> In order to reduce its leverage, Bank A may choose not to reextend the short-term loan to Bank B once it comes due.<sup>121</sup> If Bank B has no other sources of financing to cover its operations, it may be forced to sell its assets, which, especially if the assets are illiquid, can lead to a downward asset spiral and financial crisis.<sup>122</sup>

Advocates of the leverage ratio believe that, compared to risk-based ratios, the leverage ratio “may [better] serve to restrict the aggregate size of positions that might need to be simultaneously unwound during a crisis.”<sup>123</sup> Thus, they argue, whether the unwinding is due to excessive leverage on the part of the debtor as discussed in Part II.B.2, excessive leverage on the part of the lender as discussed above, or a combination of the two, the leverage ratio may more effectively limit systemic risk.<sup>124</sup>

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116. TARULLO, *supra* note 4, at 229.

117. See IMF FINANCIAL STABILITY REPORT, *supra* note 22, at 111, 141; Morris & Shin, *supra* note 19, at 232, 252.

118. See Morris & Shin, *supra* note 19, at 232, 239–42, 254.

119. *Id.* at 240.

120. See *id.* at 241.

121. See *id.* at 241–42.

122. See GAO LEVERAGE REPORT, *supra* note 22, at 21–22; Morris & Shin, *supra* note 19, at 241, 257.

123. GAO LEVERAGE REPORT, *supra* note 22, at 63.

124. See Morris & Shin, *supra* note 19, at 232, 252–54.

## 5. Motivation for Regulators to Sanction

A final argument in favor of the leverage ratio is that it encourages regulators to impose sanctions on banks that have misrepresented their true risk levels.<sup>125</sup> By forcing shareholders to invest a greater proportion of their own capital, the ratio increases the amount of shareholder funds that regulators can appropriate in the form of a fine or penalty.<sup>126</sup> This may decrease the incentive shareholders have to push managers to understate the bank's risk as a result of the moral hazard created by limited liability. Furthermore, the more capital the bank is required to hold, the more a regulator can dip into that capital to impose a fine or penalty without threatening the solvency of the bank.<sup>127</sup>

### B. ARGUMENTS AGAINST THE U.S. LEVERAGE RATIO

#### 1. Exclusion of Off-Balance Sheet Exposures

Commentators frequently criticize the U.S. leverage ratio for failing to account for risks associated with assets not included on the balance sheet.<sup>128</sup> A Special Purpose Entity ("SPE") presents an example of a source of risk unaccounted for by the ratio.<sup>129</sup> An SPE is considered an off-balance sheet entity because its assets and liabilities are legally separate from the bank and are not required to be consolidated into the balance sheet of the bank that formed the SPE. The SPE may nevertheless create risk for the bank because the bank's reputation among clients may suffer if the SPE experiences financial difficulty.<sup>130</sup> For example, clients may be more hesitant to deposit their money with the bank, fearing that the distress of the SPE implies a similar level of distress on the part of the bank.<sup>131</sup> To

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125. See Blum, *supra* note 31, at 1705–06.

126. See *id.*; Hildebrand, *supra* note 3, at 12 ("In other words, banks have to bear a larger share of their potential losses themselves.").

127. See Blum, *supra* note 31, at 1706.

128. See, e.g., *The Risks of Financial Modeling: VaR and the Economic Meltdown: Hearing Before the Subcomm. on Investigations & Oversight of the H. Comm. on Sci. & Tech.*, 111th Cong. 8 n.15 (2009) [hereinafter *Risks of Financial Modeling*], available at <http://gop.science.house.gov/Media/hearings/oversight09/sept10/bookstaber.pdf> (statement of Richard Bookstaber); TARULLO, *supra* note 4, at 229; D'Hulster, *supra* note 5, at 4–5.

129. SPEs are "finite life entities created by corporations, usually as subsidiaries but sometimes as partnerships, trusts, or other forms of unincorporated structures, for a single, well-defined, and narrow purpose." DOWNES & GOODMAN, *supra* note 28, at 662–63.

130. GAO LEVERAGE REPORT, *supra* note 22, at 57.

131. See BASEL COMM. ON BANKING SUPERVISION, BANK FOR INT'L SETTLEMENTS, REPORT ON SPECIAL PURPOSE ENTITIES 29 (2009), available at <http://www.bis.org/publ/joint23.pdf> (noting that "reputational risk" concerns a firm's desire not to have "its own perceived credit quality . . . blemished

avoid the negative consequences associated with bad publicity, the bank might fund the SPE, even though it is not contractually obligated to do so.<sup>132</sup>

## 2. Bluntness Increasing Opportunities for Regulatory Arbitrage

Opponents of a binding leverage ratio also argue that the ratio is too blunt because it does not differentiate assets by their individual levels of risk, but instead requires a capital charge based on the value of the assets on the balance sheet.<sup>133</sup> Opponents contend that the ratio's bluntness and exclusion of off-balance sheet exposures allow banks to hold less capital than warranted by their assets' risk levels. This, in turn, presents opportunities for the banks to engage in regulatory arbitrage by holding riskier assets and moving assets off the balance sheet.<sup>134</sup> In fact, concerns about regulatory arbitrage both motivated the United States to move to risk-based ratios in the 1980s and helped prompt the negotiation of Basel II.<sup>135</sup> Similarly, banks have demonstrated a willingness to move assets off the balance sheet in order to evade capital requirements. In the 1980s, for example, banks created SPEs "to hold assets against which they would have been required to hold more capital if the assets had been held in their institutions."<sup>136</sup>

## 3. Magnified Systemic Risk Due to Procyclicality During a Downturn

According to certain reports, the leverage ratio may actually magnify systemic risk due to the ratio's procyclical nature during a downturn.<sup>137</sup> Even if, from an ex ante perspective, the leverage ratio appears to lessen the probability of a downturn by limiting the size of bank positions that might eventually need to be unwound,<sup>138</sup> once a downturn has actually begun, a leverage ratio that is more stringent than risk-based ratios can increase systemic risk by further restricting banks' ability to extend credit.<sup>139</sup> Given that banks are already typically reluctant to lend in poor

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by the underperformance or default of an affiliated or sponsored SPE").

132. *See id.* at 3, 28–29.

133. *See, e.g.,* Blum, *supra* note 31, at 1699; D'Hulster, *supra* note 5, at 4; Morris & Shin, *supra* note 19, at 254.

134. *See Risks of Financial Modeling*, *supra* note 128, at 8 n.15; D'Hulster, *supra* note 5, at 4.

135. *See* TARULLO, *supra* note 4, at 88, 244. The United States continued to employ a binding leverage ratio after implementing Basel I.

136. GAO LEVERAGE REPORT, *supra* note 22, at 56.

137. *See id.* at 23–24; Hildebrand, *supra* note 3, at 11.

138. *See supra* text accompanying notes 123–24.

139. *See* GAO LEVERAGE REPORT, *supra* note 22, at 23–24 ("[T]he concern is that banks, because of their leverage, will need to cut back their lending by a multiple of their credit losses to restore their

economic environments, the ratio can thus compound a general decline in lending. A widespread decline can, in turn, lead to lower consumption and investment, resulting in lower economic growth.

#### V. THE PERFORMANCE OF THE U.S. LEVERAGE RATIO IN LIMITING LEVERAGE IN THE YEARS PRIOR TO AND DURING THE CRISIS

An analysis of the performance of the U.S. leverage ratio in the years preceding and during the recent financial crisis reveals that the ratio failed to limit leverage adequately. The ratio's poor performance largely rebutted arguments in favor of its use and exemplified concerns stated in arguments against it.

The financial crisis demonstrated that the U.S. leverage ratio does not serve as an effective backstop to risk-based ratios. The leverage ratio failed to prevent the collapse of 140 banks in 2009<sup>140</sup> and 157 in 2010,<sup>141</sup> both numbers far greater than in any year since 1992.<sup>142</sup> Moreover, numerous sources have concluded that excessive leverage was a major factor in causing or exacerbating the crisis.<sup>143</sup> A Government Accountability Office ("GAO") report on leverage ("GAO leverage report"), for example, specifically found that leverage in the banking system increased steadily until mid-2007, after which banks sought to reduce their leverage, possibly through actions resulting in negative economic growth such as selling assets and restricting lending.<sup>144</sup> An effective backstop to the risk-based capital ratios would not have allowed the banks to increase leverage to such a large extent as to threaten the entire financial system with collapse.

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balance sheets or capital-to-asset ratios."); Hildebrand, *supra* note 3, at 11 ("Banks would be forced to cut down on lending in a downturn in order to comply with the leverage ratio requirements.").

140. *Failures and Assistance Transactions 2009*, FED. DEPOSIT INS. CORP., <http://www2.fdic.gov/hsob/HSOBSummaryRpt.asp?BegYear=2009&EndYear=2009&State=1> (last visited Mar. 14, 2011). See also Michael R. Crittenden & Marshall Eckblad, *Lending Falls at Epic Pace*, WALL ST. J., Feb. 24, 2010, at A1 ("[T]he number of bank failures in 2010 will likely eclipse the 140 recorded last year."); Huw Jones, *U.S. Turns Up Heat on Basel Bank Reform*, REUTERS, Sept. 4, 2009, available at <http://www.reuters.com/article/idUSTRE58336120090904> ("[A]lthough [the United States was] operating a leverage ratio for many years this doesn't seem to have prevented more than 400 U.S. banks being on the [FDIC's] problem list right now." (quoting Simon Hills, a British Bankers' Association executive director)).

141. *Failures and Assistance Transactions 2010*, FED. DEPOSIT INS. CORP., <http://www2.fdic.gov/hsob/HSOBSummaryRpt.asp?BegYear=2010&EndYear=0&State=1> (last visited Mar. 14, 2011).

142. *Failures and Assistance Transactions 1934-2009*, FED. DEPOSIT INS. CORP., <http://www2.fdic.gov/hsob/HSOBSummaryRpt.asp?BegYear=1934&EndYear=2009&State=1> (last visited Mar. 14, 2011) (showing that 179 banks collapsed in 1992).

143. See, e.g., sources cited *supra* note 3.

144. GAO LEVERAGE REPORT, *supra* note 22, at 3-4, 23-24.

At first glance, the unsuccessful outcome of the CSE program seems to provide counterevidence that the ratio would in fact function as a necessary backstop. As discussed above, the five investment banks participating in the CSE program did not have to comply with a non-risk-based leverage constraint and were permitted to use internal risk models to determine their required amount of net capital.<sup>145</sup> The banks responded by taking on extraordinary amounts of leverage. By 2007, all but one of them possessed a leverage multiple of over thirty,<sup>146</sup> nearly three times the multiple of eleven for large commercial banks Bank of America and Wachovia.<sup>147</sup> Prompted by concerns over the extreme leverage characterizing the investment bank Bear Stearns at the time of its collapse, in 2008 the SEC Inspector General released a report (“2008 report”) criticizing the CSE program capital requirements.<sup>148</sup> Thus, on its face, the failure of the CSE program suggests that the absence of the U.S. leverage ratio allowed banks using internal models for capital requirements—as Basel II permits—to take on excessive leverage.

This conclusion is specious, however, because it assumes that the ratio would have succeeded in limiting CSE bank leverage had it been a requirement for CSE banks, whereas the ratio’s actual performance during the crisis indicates that it is unlikely that the ratio’s use would have mitigated the financial crisis. Instead, such performance lends credence to concerns that the ratio poorly accounts for risk. These concerns are perhaps best exemplified by the fact that as leverage increased prior to the crisis, commercial bank leverage ratios generally remained constant or even rose.<sup>149</sup> Were the leverage ratio to measure risk adequately, an increase in leverage would result in lower ratios because the bank’s Tier 1 capital included in the numerator of the ratio would increase by a lesser factor than the bank’s aggregate level of risk represented in the denominator. Indeed, in response to a GAO oversight review into regulators’ oversight of large banks during the crisis, banking examiners admitted that “in hindsight, the risks posed by parts of an institution do not necessarily correspond with their size on the balance sheet and that relatively small parts of the

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145. See *supra* text accompanying notes 75–76.

146. McCoy, Pavlov & Wachter, *supra* note 72, at 1359. Goldman Sachs possessed a multiple of twenty-eight. *Id.* A leverage multiple “is simply the inverse of the leverage ratio.” D’Hulster, *supra* note 5, at 2, 4 tbl.1.

147. Jon Hilsenrath, Damian Paletta & Aaron Lucchetti, *Goldman, Morgan Scrap Wall Street Model, Become Banks in Bid to Ride Out Crisis*, WALL ST. J., Sept. 22, 2008, at A1.

148. See SEC CSE REPORT, *supra* note 76, at viii–x, 19.

149. See GAO LEVERAGE REPORT, *supra* note 22, at 17, 19, 23–24; D’Hulster, *supra* note 5, at 4–5.

institution had taken on risks that the regulator[s] had not fully understood.”<sup>150</sup>

To be sure, it is true that whereas leverage ratios for commercial banks remained constant prior to the crisis, those for CSE banks fell.<sup>151</sup> Nevertheless, this decline does not indicate that the ratios fully captured the banks’ increased risk and thus could have limited it had the U.S. leverage ratio been employed as a binding capital requirement for the CSE banks. Consider, for example, that in the years preceding the crisis, investment banks amassed significant exposures to credit default swaps (“CDSs”), a form of credit derivative.<sup>152</sup> Because the total notional exposure underlying CDSs is more than their fair value reflected on the balance sheet,<sup>153</sup> a capital requirement that adequately accounts for such risk would have to require a greater capital charge than the one implied by the U.S. leverage ratio, which only captures balance sheet leverage. Hence, while the leverage ratios for the investment banks did fall in the years leading up to the crisis, they likely did not fall far enough to reflect accurately the banks’ increased risk. This raises doubts as to whether the U.S. leverage ratio would have actually succeeded in restricting CSE bank leverage.

Even if one were to assume that the leverage ratio would have adequately captured CSE bank risk as reflected on the balance sheet, the prevalent use of off-balance sheet items by commercial banks prior to the crisis suggests that had CSE banks been forced to comply with the leverage ratio, they would have simply shifted more assets off their balance sheets. Indeed, commentators generally agree that the failure of capital requirements to account for off-balance sheet exposures played a significant role in the buildup of leverage prior to the crisis.<sup>154</sup> Lending support to criticism that the U.S. leverage ratio fails to account for such

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150. U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-09-499T, FINANCIAL REGULATION: REVIEW OF REGULATORS’ OVERSIGHT OF RISK MANAGEMENT SYSTEMS AT A LIMITED NUMBER OF LARGE, COMPLEX FINANCIAL INSTITUTIONS 19 (2009) [hereinafter GAO OVERSIGHT REVIEW], available at <http://www.gao.gov/new.items/d09499t.pdf>.

151. See *supra* text accompanying notes 145–47.

152. See Phillips, *supra* note 103 (“The problem was exacerbated by the fact that so many institutions were tethered to one another through these [CDS] deals. For example, Lehman Brothers had itself made more than \$700 billion worth of swaps . . . .”); Nelson D. Schwartz & Julie Creswell, *What Created This Monster?*, N.Y. TIMES, Mar. 23, 2008, at BU0 (“‘If Bear went under, everyone’s solvency was going to be thrown into question. There could have been a systematic run on counterparties in general,’ said Meredith Whitney, a bank analyst at Oppenheimer. ‘It was 100 percent related to credit default swaps.’”). Bear Stearns alone was estimated to have held CDSs with an outstanding value of \$2.5 trillion. Schwartz & Creswell, *supra*. For a description of a CDS, see Phillips, *supra* note 103.

153. See *supra* note 103.

154. See, e.g., Arner, *supra* note 39, at 134–35; D’Hulster, *supra* note 5, at 4–5; Unterman, *supra* note 24, at 12–13.

exposures, the GAO leverage report found that in the years preceding the crisis many banks had created SPEs to hold mortgage securities formerly on the banks' balance sheets.<sup>155</sup> In many instances the banks appear to have formed the SPEs specifically to avoid the extra capital charges they would have confronted had they held the securities within their own institutions.<sup>156</sup> Experience from the crisis thus also supports arguments that the U.S. leverage ratio leads to greater regulatory arbitrage.

Regarding the ratio's ability to reduce systemic risk, it is inaccurate to conclude that, even if the ratio failed to prevent excessive leverage prior to the crisis, the ratio helped mitigate the crisis by restricting the aggregate size of bank positions, thus limiting the extent to which the distress of any one bank could affect other banks. This conclusion is flawed because the ratio's failure to require adequate capital charges encouraged banks to take the very same positions that increased their probability of financial distress. These positions included the CDSs and off-balance sheet exposures mentioned above.<sup>157</sup> The ratio's tolerance for these risky positions suggests that criticism of capital requirements' inability to limit systemic risk during the crisis should focus not only on the risk-based ratios, but on the leverage ratio as well.

Whereas it is evident that the ratio failed to prevent systemic risk from rising prior to the crisis, the extent to which the ratio may have restricted lending and thereby amplified systemic risk during the crisis remains a subject of debate. Studies of the financial sector during this period indicate that a sharp decline in lending accompanied the crisis.<sup>158</sup> During 2009, for example, U.S. banks cut their lending by a rate greater than that of any year since 1942.<sup>159</sup> Nevertheless, a general decline in the amount of available credit is typical in any financial crisis. Factors such as weak demand from borrowers, reduced borrower creditworthiness, and tightening of formerly loose lending standards can all cause lending to decline.<sup>160</sup> It is thus

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155. GAO LEVERAGE REPORT, *supra* note 22, at 56–57.

156. *See id.* at 56; Unterman, *supra* note 24, at 12 (“[I]n many cases the driving force behind the use of off-balance sheet instruments became regulatory arbitrage . . . [ , which] allowed banks to maintain balance sheet risks without the capital requirements.”).

157. *See supra* text accompanying notes 152–56.

158. *See, e.g.*, Philip van Doorn, *Banks Deteriorate as Loan Losses Mount*, STREET (Feb. 24, 2010), <http://www.thestreet.com/story/10687919/2/banks-deteriorate-as-loan-losses-mount.html> (“Lending continued to languish, with overall industry loan balances declining for the sixth consecutive quarter. Outstanding loan balances declined 5% during 2009, which the FDIC said was the largest year-over-year decline since the inception of the agency.”).

159. Crittenden & Eckblad, *supra* note 140. This “rate” refers to the annual percentage change in the total number of loans outstanding at FDIC-insured banks. *Id.*

160. *See id.*; Sara Murray, *Fewer Banks Decide to Tighten Credit*, WALL ST. J., Nov. 10, 2009, at

difficult to distinguish the portion of the decline caused by these other factors from any portion caused by the banks' need to comply with the leverage ratio.

That being said, statistics suggest that the ratio, or uncertainty about its future required levels, played at least some part in the decline. At the end of 2009, 163 banks were undercapitalized.<sup>161</sup> Accordingly, PCA rules<sup>162</sup> may have precluded many of these banks from increasing their lending. Moreover, three of the four largest banks—Citigroup, J.P. Morgan, and Bank of America—possessed a leverage ratio of between 6 and 7 percent.<sup>163</sup> While 6 to 7 percent was comfortably above the 5 percent required to be considered “well-capitalized,” publicly released correspondence between troubled banks and regulators suggested that the 5 percent requirement would be revised upward to between 6 and 7 percent within the following two years.<sup>164</sup> Therefore, the banks may have restricted lending based on their expectations of future leverage ratio requirements.

Finally, the recent financial crisis has cast doubt on the argument that the leverage ratio encourages supervisors to sanction banks that misstate their risk. The crisis has not challenged the main premise of the argument, namely, that forcing banks to hold more capital should provide a larger base from which regulators can extract financial penalties. Instead, the crisis has revealed the reluctance of regulators to monitor or take necessary action against the banks.

During the GAO oversight review alluded to above,<sup>165</sup> for example, bank regulators confessed that it had been difficult to appreciate the extent of weaknesses in banks' risk management processes until the financial crisis had already occurred.<sup>166</sup> At that point, it was too late to take action against the banks in order to prevent the crisis. Some regulators also admitted to having relied on management's representations of risk rather

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A2 (observing that from May to July 2009 a significant percentage of banks had tightened lending standards on loans to businesses, and demand for most types of loans remained weak as of November 2009).

161. Van Doorn, *supra* note 158.

162. See *supra* text accompanying note 91.

163. Jaime Peters, *Our Take on Post-Crisis Capital Requirements for Banks*, MORNINGSTAR (Feb. 19, 2010), <http://www.istockanalyst.com/article/viewarticle/articleid/3880248> (“Citigroup 6.8%, J.P. Morgan 6.9%, and B of A 6.91%.”).

164. See *id.*

165. See *supra* text accompanying note 150.

166. See GAO OVERSIGHT REVIEW, *supra* note 150, at 17–20 (noting that some regulators observed weaknesses in risk models and risk-management systems but failed to take action, perhaps because they could not appreciate these weaknesses).

than critically questioning the adequacy of the firm's risk models.<sup>167</sup> Certain regulators had actually identified weaknesses in the internal models used to calculate the amount of capital banks needed given their risk exposures.<sup>168</sup> Nevertheless, these same regulators failed to act on their findings, such as by demanding that the banks quickly solve these problems.<sup>169</sup>

Conclusions by scholars about the SEC's performance in regulating CSE banks mirror those of the GAO oversight review.<sup>170</sup> And even more telling is that in its 2008 report, the SEC Inspector General stated that "it is undisputable that the CSE program failed to carry out its mission in its oversight of Bear Stearns."<sup>171</sup> This report described how the SEC had knowledge that Bear's leverage was too high and that its risk models were outdated, yet the SEC did not require Bear to reduce its leverage or update its models.<sup>172</sup> Furthermore, the SEC assigned only three staff members to oversee each CSE bank.<sup>173</sup> Considering that a CSE bank likely had numerous quantitative economists and financial analysts designing its credit risk models, three staffers assigned to oversee such models seems woefully inadequate.<sup>174</sup>

## VI. ANALYSIS OF THE BASEL RATIO

The Basel ratio is an improvement over the leverage ratio currently employed in the United States. One notable advantage is its inclusion of off-balance sheet exposures. Incorporating such exposures directly addresses the potential for off-balance sheet entities to become significant sources of leverage, as they were in the years leading up to and during the recent financial crisis.<sup>175</sup> Including these exposures will help preclude banks from engaging in regulatory arbitrage as it will limit banks' ability to use certain entities such as SPEs without increasing their capital reserves.

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167. *Id.* at 19.

168. *See id.* at 20–22.

169. *See id.*

170. *See, e.g.,* Coffee & Sale, *supra* note 72, at 740–44; Gerding, *supra* note 49, at 167; McCoy, Pavlov & Wachter, *supra* note 72, at 1360.

171. SEC CSE REPORT, *supra* note 76, at viii.

172. *See id.* at ix–x, 22–23.

173. *Id.* at 2.

174. *See* Coffee & Sale, *supra* note 72, at 741–42; John C. Coffee, Jr., Remark, *What Went Wrong? A Tragedy in Three Acts*, 6 U. ST. THOMAS L.J. 403, 414–15 (2009); Stephen Labaton, *Agency's '04 Rule Let Banks Pile Up New Debt*, N.Y. TIMES, Oct. 3, 2008, at A0 (citing the low number of staff members assigned to oversee the CSE banks as evidence that the program was a "low priority" for the SEC).

175. *See supra* text accompanying note 154.

Similar reductions in risk will be achieved from the Basel ratio's add-on to the accounting measure of exposure for credit derivatives, considering the prevalent use of instruments such as CDSs in the years immediately preceding the crisis.<sup>176</sup>

Despite these improvements, however, numerous factors suggest that the Basel ratio is unlikely to reduce leverage or systemic risk to an extent significantly greater than does the current U.S. leverage ratio. First, the Basel ratio accounts for only certain off-balance sheet exposures.<sup>177</sup> Considering the rapid pace at which financial innovation can occur, as well as the tendency of regulators to lag behind markets, it is likely that there will always be new forms of off-balance sheet items and derivatives with exposures inadequately captured by the ratio. Second, the Basel ratio does not appear to improve on the U.S. leverage ratio's potential to amplify systemic risk as a result of restricting lending after a crisis has begun. Though Basel III does provide for a capital conservation buffer from which banks could draw during periods of distress, this buffer would be imposed on top of the minimum risk-based capital requirements rather than on top of the Basel ratio.<sup>178</sup> Thus, if the Basel ratio were to impose a constraint preventing banks from increasing leverage during a crisis, the banks would not be more capable of lending than they would be under the U.S. ratio.<sup>179</sup>

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176. See *supra* text accompanying note 152. Although they constitute risk-based measures and are not part of the Basel ratio, Basel III's stricter capital constraints on counterparty credit risk exposures will also help protect against leverage incurred through derivatives. See BASEL III FRAMEWORK, *supra* note 11, at 29–51.

177. See BASEL III FRAMEWORK, *supra* note 11, at 62–63; BASEL DEC. 2009 PROPOSALS, *supra* note 3, at 61.

178. See BASEL III FRAMEWORK, *supra* note 11, at 55. A better case could be made for the Basel ratio if the capital conservation buffer were set on top of it rather than the risk-based capital ratios. Because the buffer requires banks that draw from it to limit their capital distributions (including discretionary bonuses) but not expenditures on their operations, see *id.* at 54–55, the constraints would be more lenient than those imposed by PCA rules on banks not meeting their minimum required U.S. leverage ratios. As a result, assuming that banks operated with enough capital to preserve the buffer before a period of distress, they might be more willing to lend during such a period, thus softening any decline in consumption and investment and preventing a further rise in systemic risk. Bankers have argued to the contrary, noting that “it may not be feasible [for banks] to eat into excess capital during a downturn.” Clark, *supra* note 9, at 40. And when combined with the constraints on distributions for drawing down the buffer, factors such as reduced borrower creditworthiness may sufficiently deter banks from lending. It should be noted that the provisions in the Dodd-Frank Act allowing the Fed to reduce capital requirements during downturns may lessen the ability for leverage ratios to increase systemic risk. The extent to which the Fed will exercise this new power remains to be seen.

179. The nature of having both risk-based and non-risk-based capital requirements implies that there will be moments when a bank cannot increase its leverage even though it would have been able to do so in the absence of the other type of requirement. For example, suppose the minimum risk-based requirement is to hold Tier 1 capital equal to 5 percent of risk-weighted assets, and that the minimum non-risk-based requirement is a leverage ratio in which Tier 1 capital equals 3 percent of total adjusted

An even more pressing cause for concern relates to the presence of a circularity flaw in the argument for a leverage ratio. That is, proponents of the ratio justify it on grounds that it will reduce regulatory arbitrage by capturing risk not reflected in the risk-based ratios.<sup>180</sup> Yet, the proponents also claim that these same risk-based ratios will make it difficult for banks to arbitrage around the leverage ratio, on the basis that these risk-based ratios account for risk not included in the leverage ratio.<sup>181</sup> Thus, the proponents' claims may be rendered inaccurate when risk is unaccounted for not only by the leverage ratio but also by the risk-based ratios. In those instances, banks may be able to arbitrage around both the risk-based ratios and the leverage ratio.

In theory, the inclusion of the notional value of off-balance sheet exposures as well as an add-on for credit derivatives in the total exposure measure should allow the Basel ratio to reduce the number of instances in which risk will be unaccounted for by both it and the risk-based ratios. Whether this is true in practice is less certain. As discussed above, the crisis indicated that many banks sought to engage in regulatory arbitrage or misstated their risk due to weaknesses in their models.<sup>182</sup> After the crisis, banks will continue to have an incentive to conceal their risk in order to utilize their costly capital most efficiently, assuming they are not penalized for doing so.<sup>183</sup> They will likely take on new positions with risk that is not fully accounted for by either the risk-based ratios based on the banks' risk models or by any leverage ratio. Given the past success banks have had with understating risk by using off-balance sheet entities and credit derivatives, it is unwise to bet against their achieving future success with new positions.

The poor supervision exercised by regulators prior to the crisis exacerbates concerns that the Basel ratio will be unable to reduce leverage to an extent significantly greater than the current U.S. ratio. Regulators already have the authority to monitor banks' risk models and demand

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assets. Suppose also that a bank possesses a risk-based capital ratio of 6 percent and a leverage ratio of 3 percent, and that the bank would like to take a levered position that would decrease both its risk-based capital ratios and leverage ratio between 0 and 0.5 percent. The bank will be unable to take the position because doing so would cause the bank's leverage ratio to fall below the minimum requirement. In the absence of the leverage ratio, the bank would have been able to take the position, as it would have had room under its risk-based requirements. The statement in the accompanying text refers to instances such as this one in which the leverage ratio, and not the risk-based ratios, is the requirement preventing banks from further incurring leverage.

180. See *supra* text accompanying notes 108–11.

181. See *supra* text accompanying notes 113–15.

182. See *supra* text accompanying notes 155–57, 167–72.

183. See Blum, *supra* note 31, at 1706.

improvements to them.<sup>184</sup> Yet, the Basel framework affords regulators “significant discretion . . . in determining when and how to audit the models of those banks.”<sup>185</sup> If, as apparently was the case prior to the crisis,<sup>186</sup> regulators use their discretion to shy away from demanding that banks improve their risk models, these models are more likely to understate the actual risk and allow banks to arbitrage around the leverage ratio more easily. Given the expansive discretion Basel affords them, regulators are unlikely to do a significantly better job supervising bank risk models with the Basel ratio in place than they did without it prior to the crisis.

One possible argument to the contrary is that the poor supervision of CSE banks by the SEC was a result of the SEC’s lack of inherent authority to regulate investment bank holding companies.<sup>187</sup> In other words, although investment banks entering the CSE program agreed to allow the SEC to regulate their holding companies—authority that the SEC did not otherwise have—such “voluntary regulation” was meaningless because the CSE banks could leave the program at any time.<sup>188</sup> Therefore, the argument posits, it is unfair to use the lack of oversight during the CSE program to claim that oversight will be similarly ineffective with Basel II, under which regulators do, in fact, have supervisory authority.

The central premise of this argument may misrepresent the actual situation faced by the CSE banks. While CSE banks did have the option to leave the program at any time, leaving would have exposed the banks to the potentially more restrictive E.U. oversight of their holding companies.<sup>189</sup> Given that the desire to avoid E.U. regulation motivated banks to join the CSE program in the first place, it is logical to conclude that the banks had a strong incentive to remain in the program. Even if they did not, the Inspector General’s own remarks about the failure of the program suggest that the SEC could have done far more to monitor CSE banks and demand improvements to CSE bank risk models.<sup>190</sup>

Moreover, even if one were to assume that the CSE experience is

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184. See GAO OVERSIGHT REVIEW, *supra* note 150, at 3–4.

185. Gerding, *supra* note 49, at 157. See also 2006 BASEL II FRAMEWORK, *supra* note 58, at 209–11; BASEL COMM. ON BANKING SUPERVISION, BANK FOR INT’L SETTLEMENTS, ENHANCEMENTS TO THE BASEL II FRAMEWORK 12 (2009), available at <http://www.bis.org/publ/bcbs157.pdf>.

186. See *supra* text accompanying notes 167–69.

187. See Coffee & Sale, *supra* note 72, at 743–44 (describing SEC Chairman Christopher Cox’s view that voluntary regulation did not work and that the SEC had no inherent authority to regulate CSE financial firms).

188. See *id.* at 743 (quoting SEC Chairman Christopher Cox).

189. See *supra* text accompanying notes 69–73.

190. See *supra* text accompanying notes 171–72.

irrelevant, the GAO oversight review provides further reason to believe that regulation will continue to be inadequate with the Basel ratio. The GAO oversight review found that regulators failed to exercise adequate oversight of commercial banks prior to the crisis.<sup>191</sup> This failure cannot be excused on the ground that the regulators did not have formal authority to regulate these banks because, unlike the SEC in the CSE program, they did in fact have such authority.<sup>192</sup>

General obstacles to oversight help explain why regulators have exhibited a tendency to exercise poor supervision. Bank risk models may simply be too complex for regulators to understand, especially when one considers how banks can more easily afford to hire quantitative economists to create the models than can regulatory agencies to monitor them.<sup>193</sup> Regulators may also have an incentive not to act because, while the costs of their efforts will be easy to measure, measuring the value preserved by their actions will be difficult when their actions prevent the very losses that could provide a measure of the value.<sup>194</sup> Conversely, if a regulator's failure to prevent losses contributes to a crisis, the failure may not appear that dramatic given that a host of other regulators have likely failed as well. Finally, regulators may experience significant political pressure not to regulate the banks,<sup>195</sup> as regulation can lessen bank profits.<sup>196</sup> This can be a strong deterrent considering the power of the bank lobby. In sum, major obstacles to effective supervision such as these are unlikely to disappear with the introduction of the Basel ratio, suggesting that banks will arbitrage around it by continuing to understate their risk without fear of severe sanctions.

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191. See GAO OVERSIGHT REVIEW, *supra* note 150, at 4–5.

192. See *id.* at 3 n.3 (“Informal enforcement actions include commitment letters, memoranda of understanding, and for bank regulators safety and soundness plan[s]. . . . Formal actions include consent orders, cease and desist orders and formal written agreements, among others.”); James Fanto, *Anticipating the Unthinkable: The Adequacy of Risk Management in Finance and Environmental Studies*, 44 WAKE FOREST L. REV. 731, 748 (2009) (contending that regulators do not need more authority but must exercise the authority they already possess).

193. See Coffee & Sale, *supra* note 72, at 742; Coffee, *supra* note 174, at 414–15.

194. See Okamoto, *supra* note 4, at 218–22.

195. See Blum, *supra* note 31, at 1703 (“Th[e] reluctance to punish dishonest banks is augmented, if the intended penalty threatens the bank’s solvency or even implies the closing down of an otherwise healthy bank.”).

196. See Duncan Wood, *Less Risk, Less Profit*, RISK, Dec. 2009, at 76, 78 (interviewing the head of financial stability at the Banque de France, who expected the then-forthcoming Basel Committee proposals to negatively affect the profitability of the banking sector).

## VII. CONCLUSION

Despite theoretical arguments that the U.S. leverage ratio serves as an effective backstop to risk-based ratios, it proved unsuccessful in restricting leverage in the years preceding the recent financial crisis. The crisis exposed notable flaws inherent in the ratio. These include its tendency to promote regulatory arbitrage as a result of its inability to reflect bank risk adequately, its apparent tendency to restrict lending during a downturn, and its failure to encourage regulators to supervise banks' risk-management processes adequately.

The Basel ratio is unlikely to reduce leverage or systemic risk to an extent significantly greater than that already achieved by the U.S. ratio. The inadequate supervision exercised by bank regulators in the years leading up to the crisis provides the most compelling reason to believe that the Basel ratio will fail to do so. Like the U.S. ratio, the Basel ratio is susceptible to regulatory arbitrage because of its non-risk-based nature. Ineffective oversight allows banks to capitalize on this susceptibility by using their internal models to understate their risk, thus retaining risk unaccounted for by both the Basel ratio and the risk-based ratios.

Given the flaws inherent in both the U.S. and Basel leverage ratios, this Note recommends that U.S. regulators search for an alternative measure to serve as a binding complement to the risk-based ratios.<sup>197</sup> Even if regulators ultimately find that no alternative would be more effective than the Basel or U.S. ratios, the possibility of making improvements to the current regime still warrants investigation. Only after regulators conduct this investigation and determine that an alternative measure would not be more effective should they commit to implementing fully the Basel ratio in place of the U.S. leverage ratio. Ironically, while ineffective regulatory oversight provides the best reason to search for an alternative to the Basel ratio, it also proves to be the strongest justification to institute the Basel ratio if no alternative can be found. The Basel ratio will capture at least some risks excluded from the models of banks that do not fear penalties from regulators. It also improves on the U.S. ratio by better accounting for

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197. A capital-to-gross-revenue ratio, for example, has been one measure proposed by certain commentators. See TARULLO, *supra* note 4, at 230–31; Estrella, Park & Peristiani, *supra* note 19, at 33, 36–37. Such a ratio has obvious drawbacks, most notably that it might penalize efficiently managed banks generating large amounts of revenue from low-risk activities. Nonetheless, as this ratio appears less susceptible to regulatory arbitrage than leverage ratio measures, exploration of its merits may lead to the discovery of similar non-risk-based measures more attractive than either the U.S. or Basel leverage ratios.

exposures associated with credit derivatives and off-balance sheet items.<sup>198</sup> Indeed, regulators may take solace in knowing that a ratio similarly accounting for off-balance sheet exposures has been cited as a factor in the strong performance of Canada's banking system during the recent crisis.<sup>199</sup>

Finally, with the 2010 passage of the Dodd-Frank Act and multiple investigations into inappropriate practices at hedge funds and investment banks, it may seem inconceivable that future bank oversight could be inadequate. But regulators will not experience a true test until the effects of the crisis no longer represent a primary matter of public concern. Taking the time now to consider the flaws of the leverage ratio will far better prepare regulators to prevent the next crisis, which is sure to occur when corporate profits have long grown and the recent crisis is a distant memory.

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198. The Basel Committee also recently engaged in talks to modify capital requirements for systemically important banks. Jim Brunsten, *Basel Committee Said to Reach Capital Rules for Largest Banks*, BLOOMBERG (Mar. 11, 2011), <http://www.bloomberg.com/news/2011-03-11/basel-committee-said-to-reach-capital-rules-for-too-big-to-fail-banks.html>. The modifications have not yet been made public, however, so the extent to which they complement the Basel ratio and risk-based ratios remains to be seen. *See id.*

199. D'Hulster, *supra* note 5, at 3.

