

ADDRESSING GAPS IN THE DODD-FRANK ACT: DIRECTORS' RISK MANAGEMENT OVERSIGHT OBLIGATIONS

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In the years leading to the recent financial crisis, finance theorists introduced innovative methods, including quantitative financial models and derivative instruments, to measure and mitigate risk exposure. During the financial crisis, financial institutions facing insolvency revealed pervasive misunderstandings, misapplications, and mistaken assumptions regarding these complex risk management methods. As losses in financial markets escalated and caused liquidity and solvency crises, commentators sharply criticized directors and executives at large financial institutions for their risk management decisions.

By adopting the Dodd-Frank Wall Street Reform and Consumer Protection Act, Congress directly and indirectly addresses certain risk management oversight concerns at large, complex financial institutions. To improve risk management oversight at these institutions, Congress imposed several structural reforms altering the composition and obligations of financial institutions' boards of directors. Unfortunately, even after the adoption of the Dodd-Frank Act reforms, financial institutions remain vulnerable to the same critical errors in enterprise risk management oversight that engendered systemic risk concerns during the recent financial crisis.

While the Dodd-Frank Act may enhance a board's risk management oversight capabilities, significant concerns persist regarding reliance on board committees. Organizational literature suggests that cognitive biases and structural limitations that influence group decision making will continue to plague boards' efforts to effectively manage risk. This Article argues that better-tailored reforms are necessary to address weaknesses in enterprise risk management regulation and to reduce the threat of systemic risk.

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“Too many . . . acted recklessly, taking on too much risk . . . Like Icarus, they never feared flying ever closer to the sun.”¹

“All the incentives—profits, compensation, glory, even job security—went in the direction of taking more and more risk, even if you half suspected it would end badly.”²

INTRODUCTION

Financial institutions’ business models often entail complex lending, underwriting and securitization arrangements, complicated investments, and structured finance products. Artful navigation of the risks inherent in these financial market activities may lead to significant financial rewards. However, failing to adopt risk oversight policies that adequately identify, monitor, and manage risk exposure related to these activities may lead to devastating losses. Success in financial markets rests, in large part, on the adoption and enforcement of effective risk management strategies.

Directors and executive officers of large, complex financial institutions are tasked with managing the risk exposure that these sophisticated transactions create.³ Similar to other publicly-traded corporations, the governance structure of financial institutions is characterized by the separation of ownership and control. An elected board of directors comprised of professionals (presumably with relevant expertise) manages the business on behalf of a large body of diverse and geographically dispersed shareholders.

State law and courts have long recognized the authority of corporate directors to manage the internal affairs of corporations.⁴ Moreover, state courts and legislatures accord significant deference to corporate managers’ decisions regarding internal affairs, including managers’ decisions related to risk taking and risk management.⁵ However, deferring to the directors and executive officers neglects a critical conflict that illustrates the classic agency problem.

Most public corporations compensate directors by granting them equity shares. Directors who are employees and serve as ex-

1. NAT’L COMM’N ON THE CAUSES OF THE FIN. AND ECON. CRISIS IN THE U.S., THE FIN. CRISIS INQUIRY REPORT (2011) at xviii–xix, *available at* <http://www.fcic.gov/report> [hereinafter FIN. CRISIS INQUIRY REPORT]. *See also* DAVID SKEEL, ICARUS IN THE BOARDROOM: THE FUNDAMENTAL FLAWS IN CORPORATE AMERICA AND WHERE THEY CAME FROM 3 (2005).

2. Joe Nocera, *Risk Mismanagement*, N.Y. TIMES, Jan. 2, 2009, (Magazine), at MM24.

3. *See infra* Part II.A.

4. *See infra* Part II.A.

5. *See id.*

ecutive officers receive options to purchase equity shares as part of their incentive-based compensation arrangements. Equity awards are often based on the valuation of the company's stock or the price at which the company's shares trade on a national exchange. Rewarding directors and executives equity compensation presumably discourages the predilection to shirk or steal from the company. This approach may also encourage managers to promote risk-taking practices that lead to short-term increases in the company's stock price at the expense of the company's long-term stability.

Because the conflicts created by equity compensation offer an ideal illustration of agency costs and because the anecdotes involving exorbitant compensation awards often involve salacious scandals, a robust literature has emerged exploring solutions to managers' conflicts of interest related to compensation structures.⁶ The prevailing view suggests that reforming the conflicts that relate to executive compensation awards and risk taking will reduce managers' incentives to engage in undesirable risk-taking and, consequently, reduce systemic risk.⁷

For the last several years, domestic and international authorities have dedicated unprecedented effort to develop regulation to reduce systemic risk. Commentators generally describe systemic risk as the threat that the failure of one or more significant financial institutions may trigger a domino effect of insolvencies, destabilizing the domestic and global economy.⁸ During the recent financial crisis, the threat of systemic risk led to a persisting contraction in credit markets as well as losses of over seven trillion dollars in U.S. equity markets and over fifty trillion dollars in global equity markets.⁹ With economic uncertainty persisting, the shadow of a deep, pervasive recession has settled across international financial markets.¹⁰ In light of the recent crisis, commentators agree that regulatory authorities must identify the sources of systemic risk and adopt appropriate measures to reduce the likelihood of future crises.

6. See Karl S. Okamoto & Douglas O. Edwards, *Risk Taking*, 32 CARDOZO L. REV. 159, 159 (2010); see also Lucian A. Bebchuk & Holger Spamann, *Regulating Bankers' Pay*, 98 GEO. L.J. 247 (2010); Frederick Tung, *Pay for Banker Performance: Structuring Executive Compensation for Risk Regulation* (Emory Public Law, Research Paper 10-93, 2010), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1546229

7. See *id.*

8. See Steven L. Schwarcz, *Systemic Risk*, 97 GEO. L.J. 193, 241-47 (2008).

9. See Vikas Bajaj, *Market Limp into 2009 After a Bruising Year*, N.Y. TIMES, Jan. 1, 2009, at A1; Heather Landy, *The Stock Slump of 2008: Wrecking Ball to Wealth*, WASH. POST, Jan. 11, 2009, at F05.

10. See *In Depth Coverage of Global Financial Crisis*, FIN. TIMES, <http://www.ft.com/indepth/global-financial-crisis>.

This Article demonstrates that successfully addressing systemic risk concerns *ex ante* requires reforms that encourage the adoption and implementation of effective enterprise risk management (ERM) strategies at systemically significant financial institutions.

In the last three decades, financial products engineers have innovatively engaged in the development of quantitative risk measuring models.¹¹ Today, financial institutions almost uniformly use quantitative financial modeling to measure risk exposure and employ a variety of derivatives strategies to hedge or mitigate their risk exposure.¹² Ironically, systemically significant financial institutions' use of these risk-measuring and risk-mitigating methods contributed to systemic risk concerns.¹³

Notwithstanding the significance of risk management oversight at large, complex financial institutions, some commentators describe ERM concerns as an internal affairs issue and strongly oppose federal regulatory oversight. These theorists argue that regulation of the internal affairs of corporations is traditionally the province of state law.¹⁴ According to these commentators, federal regulation of ERM is unwarranted, ineffectual, and therefore, undesirable.¹⁵ However, the critique of federal participation in the regulation of ERM misses three critical issues.

First, while systemic risk is important, the threat of systemic risk during the recent crisis emerged *after* expansive losses that resulted from ERM failures at significant financial institutions.¹⁶ Permitting private businesses to transfer the costs and negative externalities of their activities to the public reduces social welfare and engenders sub-optimal outcomes.¹⁷ Second, while theorists may correctly classify ERM as an internal affairs issue,¹⁸ this Article argues that state corporate governance inadequately regulates the conflicts between

11. See *infra* Part I.B.

12. *Id.*

13. *Id.*

14. See generally Roberta Romano, *The Sarbanes-Oxley Act and the Making of Quack Corporate Governance*, 114 YALE L. J. 1521 (2005).

15. See, e.g., Stephen M. Bainbridge, *Dodd-Frank: Quack Federal Corporate Governance Round II*, 95 MINN. L. REV. 1779, 1789–95 (2011); Norman Veasey, *The Challenges for Directors in Piloting Through State and Federal Standards in the Maelstrom of Risk Management*, 34 SEATTLE U. L. REV. 1, 2, 12–13 (2010).

16. See Kristin N. Johnson, *From Diagnosing the Dilemma to Divining a Cure: Regulating Financial Markets*, 40 SETON HALL L. REV. 1299, 1306–12 (2010) (discussing the collapse of Bear Stearns).

17. See Kristin N. Johnson, *Things Fall Apart: Regulating the Credit Default Swap Commons*, 82 U. COLO. L. REV. 167, 175 (2011).

18. See Stephen M. Bainbridge, *Caremark and Enterprise Risk Management*, 34 IOWA J. CORP. L. 967, 969 (2009); Robert Miller, *Oversight Liability for Risk Management Failures at Financial Firms*, 84 S. CAL. L. REV. 47, 106–07 (2011) (discussing how companies manage risks internally).

shareholders' long-term interests in the firm and directors and executive officers' short-term interests in increasing the equity share price.

Third, state legislatures and courts face significant pressure to adopt and maintain manager-friendly corporate governance policies. After decades of competition among states to increase the number of companies incorporated in their jurisdictions, Delaware's indisputable victory has led most states to conform their standards to Delaware's statutory and judicial standards. States have the authority to impose heightened fiduciary obligations to oversee ERM. However, if history is any indicator, it appears unlikely that state courts and legislatures will do so. Delaware courts' recent decisions applying the same highly deferential standard applied in claims alleging that directors breached their fiduciary duties of care or loyalty to claims alleging that directors failed to adopt reasonable ERM policies presents significant concerns.

In the absence of rigorous ERM obligations under state corporate law and in the wake of the recent financial crisis, Congress has taken steps to impose federal regulation on risk management oversight. In July of 2010, Congress adopted the Dodd-Frank Wall Street Reform and Consumer Protection Act (the Dodd-Frank Act).¹⁹ These federal reforms aim to address the gap in risk governance. Among the several provisions in the Dodd-Frank Act intended to reduce systemic risk, Congress incorporated reforms to alter the structure and composition of the board to better align director and executives' incentives to take risk with the long-term interests of the firm. Unfortunately, the Dodd-Frank Act does not sufficiently address the persistent organizational limitations that boards and other group decision-making bodies face.

According to behavioral theorists, the group deliberation process engenders many benefits for boards and, consequently, the corporations that they serve. A group engaging in a deliberative decision-making process aggregates the knowledge, experience, skills, wisdom, and expertise of all of the members of the group. However, adopting a board as the decision-making body of an organization also creates challenges. Cognitive biases and structural dynamics undermine the benefits of relying on the decisions made by boards of directors.

Consequently, reform of systemically significant financial institutions will not effectively address risk management unless the reform reflects consideration of the cognitive and structural limitations that

19. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) [hereinafter *Dodd-Frank Act*].

plague boards' decision making. While the Dodd-Frank Act is the most far-reaching and comprehensive financial regulatory reform since the Great Depression, its measures to address ERM are weak, misguided, and simply inadequate to improve stability in financial markets. A different approach, therefore, will be necessary to accomplish the goals of the Dodd-Frank Act.

Developing effective reform will require action by the four institutions that influence risk governance: state regulators, federal regulators, self-regulatory organizations, and the contractual relationship between shareholders and directors established in the corporate charter. Part I offers a primer on enterprise risk management and argues that innovative risk measuring and risk mitigating strategies enable directors to carefully monitor risk exposure. While directors' fiduciary obligations established under state corporate governance standards encompass a duty to monitor, Part II contends that Delaware courts' narrow and deferential interpretation of directors' fiduciary obligations may not offer a viable mechanism for imposing liability for directors' failure to monitor enterprise risk.

Part III analyzes Dodd-Frank's risk management oversight reforms. Part III concludes that these federal reforms laudably reflect an appreciation for the conflicts of interest and self-serving incentives that color directors' evaluation of risk-taking activities. However, the limited reach of these new regulations suggests that undesirable or excessive risk taking will persist and directors will not be subject to more rigorous accountability standards. Part IV presents a proposal for introducing reforms that consider the influence of cognitive biases and structural dynamics on risk governance. Reflecting on the influence of cognitive biases and structural dynamics will enhance authorities' ability to develop effective risk management regulation. Finally, this Article offers concluding remarks.

I. UNDERSTANDING RISK MANAGEMENT

Boards of directors are empowered with the highest level of decision-making authority in corporations—including the authority to make decisions regarding risk management. For directors at financial institutions, understanding the many facets of ERM is essential. Crafting an accountability standard for directors' duty to monitor risk and employ appropriate risk management tools requires careful consideration of the benefits and limitations of recent innovative developments in risk measurement, manage-

ment, and mitigation strategies. This Part explores the benefits and the tensions created by emerging and evolving ERM methods. Section A considers the attributes of risk and Section B offers a brief introduction to the role of ERM in financial institutions. Section C then explores two risk management methods: (1) quantitative risk models and (2) credit derivatives, specifically credit default swaps.

A. What is Risk?

Risk, broadly defined, describes an element of uncertainty regarding future outcomes.²⁰ Risks may arise as a result of weather phenomenon, inflation, changes in government policies, business cycles, or other natural or human-engineered events.²¹ While the term risk refers to the potential for either a beneficial or a detrimental outcome, financial institutions typically focus on the latter.²² As a consequence, methods developed to measure, mitigate, or manage risk generally focus on estimating the probability and magnitude of risks that lead to losses.²³

The business activities of financial institutions engender unique risk concerns.²⁴ In addition to facing risks common to all businesses, the principal commercial activities of financial institutions also entail risks associated with sophisticated investment decisions.²⁵ Financial institutions structure complex lending, underwriting,

20. See PHILIPPE JORION, *VALUE AT RISK: THE NEW BENCHMARK FOR MANAGING FINANCIAL RISK* 3 (3d ed. 2007). See also FRANK H. KNIGHT, *RISK, UNCERTAINTY, AND PROFIT* 15 (1921) (describing risk as calculable or measurable outcomes that may be expressed as numerical probabilities and distinguishing risk from uncertainty, which refers to random outcomes that occur in an unpredictable manner and may not be quantified).

21. See JORION, *supra* note 20, at 62.

22. See generally Andreas Krause, *Exploring the Limitations of Value at Risk: How Good is it in Practice?*, 4 J. RISK FIN. 19, 23–27 (2003) (discussing how companies estimate value at risk (VaR)).

23. *Id.*

24. The businesses described as financial institutions in this Article include investment banking firms; bank holding companies; and traditional savings and commercial deposit banks or thrifts that engage in investment businesses in the financial services industry including custodial, brokerage, lending, and underwriting services for securities and other assets. In addition, these businesses may offer advisory services for complex transactions such as mergers or acquisitions. Because of the services that these businesses provide, commentators also describe financial institutions as financial intermediaries. RICHARD S. CARNELL ET AL., *THE LAW OF BANKING AND FINANCIAL INSTITUTIONS* 36–38 (4th ed. 2009) (explaining financial intermediaries as business that “take money from investors, pool it, and invest the pooled money in other enterprises.”).

25. See Onnig H. Dombalagian, *Requiem for the Bulge Bracket?: Revisiting Investment Bank Regulation*, 85 IND. L. J. 777, 797–98 (2010).

and securitization arrangements.²⁶ Financial institutions that act as financial intermediaries serve as market-makers and trade securities for their proprietary investment portfolios and their clients' portfolios.²⁷

Within the internal governance framework of systemically significant financial institutions there are typically three classes of insiders: non-management directors or directors who are not employees of the company; management-directors who are executive officers and, therefore, employees of the company; and non-management employees. Each class of insiders faces conflicts of interest and incentives that may motivate excessive risk-taking.

Management directors who serve as executive officers arguably have the greatest personal incentives and opportunities to ensure that accounting statements and other material disclosures, including the company's disclosure of risk measuring methods, inspire an ever-increasing stock price. Management directors influence the development of risk management policy as members of the board and senior executive officers of the business. These executives, through their supervisory authority over non-management employees, also influence the implementation of corporate risk management policies. The link between compensation and risk taking creates a persisting conflict of interest for executive officers. If financial institutions fail to manage these conflicts effectively, insiders' incentives may lead to excessive risk-taking, ERM failures, and possibly, the realization of systemic risk concerns.

Among their many challenges, financial institutions face financial risk, or the risk of unanticipated losses related to the firm's proprietary investment portfolio or the inventory of financial

26. ANTHONY SAUNDERS & MARCIA MILLON CORNETT, *FINANCIAL INSTITUTIONS MANAGEMENT: A RISK MANAGEMENT APPROACH* 97–103 (6th ed. 2008).

27. *Id.* Through market-making activities, financial intermediaries “maintain an inventory of financial instruments or commodities in order to satisfy clients orders to purchase or sell such instruments.” See CARNELL ET AL., *supra* note 24, at 37. Acting in this capacity, financial intermediaries also create a market for illiquid assets by agreeing to acquire illiquid assets from investors and to hold the ownership interests in the assets in their own proprietary portfolios. *Id.* There is no readily available market for the illiquid assets. *Id.* Unlike the market for liquid assets, such as the market for publicly-traded securities, financial intermediaries may have difficulty finding counterparties to trade or exchange the illiquid assets. *Id.* “Market making can involve either agency or principle transactions,” meaning the market-maker can engage in proprietary transactions or transactions on behalf of clients. SAUNDERS & CORNETT, *supra* note 26, at 100. Serving as market-makers, financial intermediaries act as investors or dealers on behalf of clients for a fee or commission. Market-makers offer a secondary market for illiquid assets. *Id.*

products acquired to facilitate clients' transactions.²⁸ Financial institutions measure financial risk by calculating the statistical distribution or variance of possible portfolio returns in relation to a mean (expected return).²⁹ In simple terms, financial risk describes the likelihood that the return on an investment may be different from the expected return.³⁰ Having a measure of risk that compares actual and expected returns allows investors to better understand risk exposure. Effective management of financial risks often determines a financial institution's commercial success.³¹

Risk management involves organizational processes that generally include risk identifying, measuring, and mitigating procedures.³² Risk management policies analyze the diverse outcomes that may result from investment decisions and the probability that certain risks will lead to losses. Risk managers ensure alignment between an enterprise's risk practices and the company's risk preferences through audits, internal controls, and forward-looking strategies.³³ Risk management strategies typically analyze two important classes of risk: market risk and credit risk.³⁴

Commentators describe market risk as the potential for a dramatic change in the value of an asset class, such as a sudden decline in the value of equity securities traded on a national stock exchange, or a sharp spike in the price of a commodity, such as oil or gold.³⁵ Movements in the prices of assets may lead to significant

28. See LINDA ALLEN ET AL., UNDERSTANDING MARKET, CREDIT AND OPERATIONAL RISK 2 (2004); JORION, *supra* note 20, at 62 (explaining that "risk can be defined as the volatility of unexpected outcomes, generally the value of assets or liabilities of interest").

29. See Krause, *supra* note 22, at 23–27.

30. See JORION, *supra* note 20, at 62.

31. See Betty Simkins & Steven A. Ramirez, *Enterprise-Wide Risk Management and Corporate Governance*, 39 LOY. U. CHI. L.J. 571, 573–77 (2008) (discussing scenarios in which risk mismanagement led to adverse effects on financial institutions).

32. CHRISTOPHER CULP, THE RISK MANAGEMENT PROCESS: BUSINESS STRATEGY AND TACTICS 109 (2001).

33. *Id.*; JORION, *supra* note 20, at 13.

34. Johnson, *supra* note 17, at 211–14; see also Charles K. Whitehead, *Destructive Coordination*, 96 CORNELL L. REV. 323, 337 n.65 (2011) (citing JORION, *supra* note 20, at 75). Credit and market risks are only two of many classes of risk that affect financial institutions. SAUNDERS & CORNETT, *supra* note 26, at 598–99. Other significant risks include, among others, liquidity and operational risks. *Id.*

35. See generally BASEL COMM. ON BANKING SUPERVISION, AMENDMENT TO THE CAPITAL ACCORD TO INCORPORATE MARKET RISKS (Apr. 1998), available at <http://www.bis.org/publ/bcbsc222.pdf> (describing methods of measuring market risk); INTERNATIONAL CONVERGENCE OF CAPITAL MEASUREMENT AND CAPITAL STANDARDS, Amendment to the Capital Accord to Incorporate Market Risks 1 (Apr. 1998), available at <http://www.bis.org/publ/bcbs118.htm> (same); U.S. GOV'T ACCOUNTABILITY OFFICE, GAO/GGD 98-15323, RISK-BASED CAPITAL: REGULATORY AND INDUSTRY APPROACHES TO CAPITAL AND RISK (1998); HAL S. SCOTT & PHILIP A. WELLONS, INTERNATIONAL FINANCE, TRANSACTIONS, POLICY, AND REGULATION 252 (6th ed. 1999).

gains or losses in a financial institution's proprietary portfolio. For example, in the years leading to the recent financial crisis, the residential lending unit of Citigroup, Inc. (Citigroup), one of the largest financial institutions in the United States, aggressively originated increasing volumes of residential mortgages.³⁶ Citigroup earned significant fees for the loans and accumulated a sizeable inventory of mortgages that the bank repackaged as securities. As a result, by the fall of 2007, Citigroup had amassed an astounding level of exposure to the residential mortgage market. As defaults in the residential mortgage market began to climb, Citigroup and other lenders holding significant portfolios of residential mortgages experienced debilitating losses.

Unlike the general risk exposure related to market risk, credit risk describes the specific risk related to the creditworthiness of a contract counterparty. When entering into a credit agreement, a creditor faces the risk that the borrower may default on the principal and interest obligations under the terms of the loan agreement.³⁷ Under this traditional single borrower-lender model, a creditor faces the risk that a borrower might fail to satisfy or repay the remaining principal and interest obligations on the loan.³⁸ While examining the creditworthiness of a debtor in the single borrower-lender model involves a reasonably straightforward credit analysis, financial institutions' efforts to identify and manage credit risks are markedly more complicated.

Large, complex financial institutions originate loans to many types of borrowers including corporations with operations around the world; other banks, thrifts, and more sophisticated financial institutions; hedge funds; and private equity firms. While some of these borrowers issue securities that trade on national securities exchanges and make mandatory periodic disclosures of audited financial data, others borrowers are not required to make such disclosures.³⁹ The amount of the loan may be several hundred million or several billion dollars. The borrower may need the loan to repay outstanding debt obligations, acquire a new business or real estate,

36. See *infra* Part II.B

37. See Johnson, *supra* note 17, at 207; RENO GALLATI, RISK MANAGEMENT AND CAPITAL ADEQUACY 129–30 (2003) (citation omitted).

38. Johnson, *supra* note 17, at 206–07; SAUNDERS & CORNETT, *supra* note 26, at 598–99.

39. There are three types of companies subject to the periodic reporting requirements in the Securities Exchange Act of 1934. Companies whose securities trade on a national securities exchange, companies with more than \$10 million in assets and a class of equity securities held by at least 500 persons, and companies who filed a registration statement under Section 5 of the Securities Act of 1933 that has become effective. Security and Exchange Act of 1934, § 12(b),(g); Rule 12 g-1; and 15(d). The term “reporting company” describes any company that is subject to reporting requirements under federal securities law.

or invest in a diverse array of financial products. The assets that serve as collateral for the loan may include unregistered securities that are illiquid, meaning there may not be a readily available market for investors to sell or transfer the securities, and, therefore, the value of the securities may be difficult to assess.

In order to address market, credit, and other risks, market participants have long employed various risk management and risk measurement methods.⁴⁰ Recent developments in quantitative risk modeling have further enhanced these risk management practices. In addition, market participants have developed structured products tailored to address risk management concerns.⁴¹

B. The Development of Modern Risk Management Theory and Financial Institutions

In the last several decades, financial institutions began to develop quantitative risk models influenced by scientific and mathematical theories. These models introduce a more refined risk measurement method.⁴² The adoption of quantitative models illustrates a paradigm shift away from traditional risk management programs that employed a myopic, “silo” approach to more sophisticated risk management strategies. The traditional fragmented approach to risk management encouraged each business manager to evaluate risks relevant to her specific unit’s performance.⁴³

This approach suffered from two significant flaws. First, managers only focused on specific risks, such as interest rate risk, foreign currency exchange rate risk, or volatility in securities pricing that threatened the performance of their particular business units.⁴⁴ Managers did not consider the correlation of risks across the company’s business units.⁴⁵ Second, this approach failed to create incentives for managers to communicate risks up the chain to

40. JORION, *supra* note 20, at 8–9 (“[i]nsurance contracts which have been traced to the Babylonian system of robbery insurance for caravans, use diversification principles to protect against accidents and other disasters”). Frequently used modern risk management products, such as portfolio insurance and traditional insurance products, offer helpful but imperfectly designed protection against losses. See Kimberly D. Krawiec, *The Return of the Rogue*, 51 ARIZ. L. REV. 127, 140–41 (2009).

41. See Bainbridge, *supra* note 18, at 968; Michelle M. Harner, *Ignoring the Writing on the Wall: The Role of Enterprise Risk Management in the Economic Crisis*, 5 J. BUS. & TECH. L. 45 (2010); Johnson, *supra* note 16.

42. See Simkins & Ramirez, *supra* note 31, at 577–84 (describing the development of quantitative risk models).

43. *Id.* at 581.

44. *Id.*

45. *Id.*

directors and failed to encourage managers and lower-level employees to take responsibility for the ways that their risk-engendering decisions increased risks in other business units.

In the 1990s, theorists introduced ERM or enterprise-wide risk management methods.⁴⁶ ERM employs a more holistic, comprehensive, and integrated approach to risk management that considers a broader spectrum of potential risks and the correlation among risks in distinct business units.⁴⁷ ERM enhances businesses' ability to identify risks in one business unit that may lead to losses in another business unit, a risk management failure, widespread losses, or insolvency. Risk management programs that identify and predict correlations among risks engender a more meaningful assessment of risk.

The Committee of Sponsoring Organizations of the Treadway Commission (COSO) has introduced one of the most widely adopted ERM approaches.⁴⁸ COSO's ERM framework involves several elements, including careful evaluation of a firm's risk culture; articulation of a clear statement of the firm's risk objectives and risk management policy; development of responses to risks *ex ante*; and improvement of the flow of communication, information, and monitoring of risk across the enterprise.⁴⁹ COSO's proposed framework also assigns responsibility for risk management oversight to everyone who works for the business.⁵⁰ The framework requires everyone engaged in accomplishing an enterprise's business goals to act in a manner reasonably consistent with the company's risk management objectives.⁵¹

Under COSO's approach, a company's board of directors, management, and lower-level employees participate in the development and application of ERM strategies.⁵² COSO's approach intends for people at each level of an enterprise to act collectively to identify potential risks that may affect the business.⁵³ COSO's ERM methodology emphasizes best practices and other practical solutions to ERM concerns.⁵⁴

46. *Id.* at 580.

47. Michelle M. Harner, *Barriers to Effective Risk Management*, 40 SETON HALL L. REV. 1323, 1332 (2010).

48. COMM. OF SPONSORING ORGS. OF THE TREADWAY COMM'N, ENTERPRISE RISK MANAGEMENT—INTEGRATED FRAMEWORK: EXECUTIVE SUMMARY (2004), available at http://www.coso.org/Publications/ERM/COSO_ERM_ExecutiveSummary.pdf [hereinafter COSO FRAMEWORK].

49. *Id.*

50. *Id.* at 2.

51. *See id.* at 6.

52. *See id.* at 2.

53. *See id.* at 6–7.

54. *See id.*

ERM policies improve risk-related communications by enhancing the flow of information through vertical and horizontal channels within a business. Formal communication across business units and active participation by directors as well as managers and lower-level employees is vital to the successful development and implementation of effective ERM programs.⁵⁵ While the board designs risk management guidelines, managers supervise lower-level employees' compliance with ERM policies.

To be successful, ERM programs require lower-level employees to report concerns regarding unanticipated circumstances encountered in daily operations up the chain to managers. Managers periodically relay information to senior executives regarding frequently recurring risk management concerns or extraordinary events that are unaddressed by existing risk management policies. Senior executives interpret risk management guidelines adopted by the board and instruct managers regarding the application of the guidelines to unanticipated concerns or extraordinary events. In addition, senior executives advise the board of directors regarding amendments to or revisions of existing policies. Finally, senior executives from various business units, risk managers, and compliance professionals report risk policy concerns to a chief risk officer or a committee of the board designated to develop risk management policies. Firms that adopt ERM policies benefit from the enhanced communication across the firm and heightened sensitivity to risk from the bottom up.

In addition to changes in risk management practices in recent years, theorists have also developed more sophisticated approaches to measure and mitigate risk. Emerging ERM methods offer a mechanism for evaluating and reducing the risk associated with a specific business decision. The next Section describes two of these innovative risk measuring and risk mitigating techniques, and describes growing concerns that market participants' adaptation of risk mitigating methods may result in increased risk exposure.

C. Measuring and Mitigating Risk: Quantitative Risk Models and Credit Derivatives

For centuries, businesses have employed strategies or techniques to manage risks, and thereby enhance or preserve the value of

55. See Harner, *supra* note 47, at 1334.

their assets.⁵⁶ Businesses have employed a plethora of risk management methods,⁵⁷ from purchasing insurance to selectively avoiding business opportunities subject to volatile price movements, or simply limiting leverage.⁵⁸ Financial institutions have demonstrated self-discipline in risk oversight by adopting and enhancing their risk management strategies. Their efforts frequently include adopting comprehensive internal controls and developing quantitative risk models. Consistent with financial institutions' individual efforts to regulate risk, financial industry regulators also began to institute risk management disclosure and compliance obligations.⁵⁹ As a re-

56. See Simkins & Ramirez *supra* note 31, at 577–78; see generally Charles R.P. Pouncy, *Contemporary Financial Innovation: Orthodoxy and Alternatives*, 51 SMU L. REV. 505, 519–32 (1998) (discussing the history of financial innovation).

57. While a comprehensive review of all ERM methods is beyond the scope of this Article, the discussion focuses on two of the most significant and broadly adopted methods of measuring and mitigating risk.

58. Susan M. Phillips, *Derivatives And Risk Management: Challenges And Opportunities*, 15 Nw. J. INT'L L. & BUS. 239, 242–43 (1994).

59. See Simkins & Ramirez, *supra* note 31, at 589–90 (discussing the disclosure and compliance obligations of the Sarbanes-Oxley Act). Financial institutions in the United States, for example, face domestic banking regulation often influenced by efforts to adopt global risk management standards. While federal and state banking regulations date back more than two hundred years, the 1970s and the 1980s inspired a renewed commitment to develop more carefully crafted banking regulations. International banking authorities have recommended that countries with large banking institutions adopt conservative regulatory requirements, such as increased capital requirements. According to these authorities, ensuring the liquidity and consequently, the solvency, of the world's largest banks is critical to ensuring the stability of the global banking industry. See, e.g., Malcolm C. Alfriend, *International Risk Based Capital Standard: History and Explanation*, ECON. REV., Nov.–Dec. 1988, at 28, 34. Senior American banking regulators and government officials began to collaborate with banking officials in other countries with well-developed banking and financial services sectors. See *id.* at 33–34. In addition, regulators adopted requirements for companies subject to periodic reporting obligations under the Securities Exchange Act of 1934 to disclose the use and limitations of nascent methods to measure and manage risk. See 17 C.F.R. § 229.305(a)(1) (2008).

As a result of increasing use of derivatives in the 1990s, the SEC adopted regulations requiring firms to include disclosure of quantitative risk models in their financial statements. See 17 C.F.R. § 210.4-08(n) (2009) (requiring specific accounting policies for certain derivative instruments). In 1993, a report by the Group of Thirty, a committee of international banking executives, regulators, and academics, periodically meeting to discuss global macro-economic conditions, endorsed the use of quantitative financial models as a means of measuring risk exposure in derivatives markets. See GROUP OF THIRTY, GLOBAL DERIVATIVES STUDY GROUP, DERIVATIVES: PRACTICES AND PRINCIPLES 10 (1993). Shortly thereafter, international banking regulators adopted VaR. See BASEL COMMITTEE ON BANKING SUPERVISION, AMENDMENT TO THE CAPITAL ACCORD TO INCORPORATE MARKET RISKS 44 (1996), available at <http://www.bis.org/publ/bcb24.pdf>. Domestic banking regulators also imposed VaR disclosure obligations. See CAPITAL ADEQUACY GUIDELINES FOR STATE MEMBER BANKS; MARKET RISK MEASURE, 12 C.F.R. pt. 208, app. E, § 3(a)(2)(i) (2008) (state member banks); CAPITAL ADEQUACY GUIDELINES FOR BANK HOLDING COMPANIES: MARKET RISK MEASURE, 12 C.F.R. pt. 225, app. E, § 3(a)(2)(i) (2008) (bank holding companies); see also Darryll Hendricks & Beverly Hirtle, *Bank Capital Requirements for Market Risk: The Internal Models Approach*, FRBNY ECON. POL'Y REV., Dec. 1997, at 1, 8.

sult, financial institutions' boards of directors and senior executives now commit significant resources to identifying effective risk management, measurement, and mitigation methods to reduce their exposure to financial, market, and credit risks.

1. Risk Modeling

As Section A explained, all businesses face a diverse array of risks. Typically, financial institutions' business models include a business unit that executes securities, commodities, derivatives, and other capital and credit market transactions on behalf of the firm using the firm's capital or clients' capital.⁶⁰ In addition, the capital markets or underwriting business units of financial institutions often hold significant amounts of securities in the firm's own investment portfolio or to facilitate clients' transactions.⁶¹ As a result of the need to maintain these holdings, financial institutions are vulnerable to sharp declines in the value of assets traded in the capital, credit, and derivatives markets.⁶²

In response to the financial services industry's demand, theorists began developing quantitative risk measuring models in the 1950s.⁶³ In a seminal article published in the *Journal of Finance* in 1952, Harry Markowitz introduced one of the earliest quantitative models designed to measure portfolio risk.⁶⁴ Later models adapted Markowitz's theory to allow the model to measure risk more accurately across a broader group of assets.⁶⁵

While several quantitative financial models followed, financial institutions quickly began to adopt and adapt various iterations of one particular model, the Value-at-Risk (VaR) model. First introduced in the 1980s, VaR measures the potential loss in value of an asset or portfolio at a given confidence level over a specified period.⁶⁶ VaR is a statistical model that relies on historic market price

60. See SAUNDERS & CORNETT, *supra* note 26, at 97–103.

61. Dombalagian, *supra* note 25, at 807–08.

62. See SAUNDERS & CORNETT, *supra* note 26, at 97–103.

63. See generally HARRY MARKOWITZ, *Portfolio Selection*, 7 J. FIN. 77 (1952) [hereinafter Markowitz, *Portfolio Selection*]; HARRY M. MARKOWITZ, PORTFOLIO SELECTION: EFFICIENT DIVERSIFICATION OF INVESTMENT (1959) [hereinafter MARKOWITZ, EFFICIENT DIVERSIFICATION].

64. Markowitz, *Portfolio Selection*, *supra* note 63. Modern portfolio theory measures the expected return on a portfolio by calculating the weighted average of the returns of each of the portfolio's assets given the variance of possible returns or risk exposure created by each of the portfolio's positions.

65. See JORIAN *supra* note 20, at 159–86.

66. See generally GLYN A. HOLTON, VALUE-AT-RISK: THEORY AND PRACTICE (2003); *The Risks of Financial Modeling: VaR and the Economic Meltdown: Hearing Before the Subcomm. on*

data to determine what is likely to happen tomorrow to the value of an asset or portfolio.⁶⁷

VaR's most valuable benefit, the ability to predict exposure to future losses, makes the model highly attractive to financial institutions. Financial institutions measure their individual success and performance relative to industry benchmarks. Developing a successful track record of performance relative to a benchmark often depends on consistently and accurately predicting movement in the prices of securities, commodities, or other assets. VaR enables financial institutions to anticipate their losses related to certain investment positions, thereby reducing losses and enhancing their performance relative to an industry benchmark.⁶⁸ VaR has quickly become one of the most widely-adopted risk measuring tools in the financial services industry.⁶⁹ While original VaR models measured the risk of loss related to an individual portfolio, subsequent iterations allow the models to measure the cumulative risk of loss across a group of portfolios, multiple business divisions, or an entire firm.⁷⁰

VaR is a back simulation model, meaning the model measures the potential risk of loss by evaluating the current net asset value of

Investigations and Oversight of the H. Comm. on Science and Tech., 111th Cong. (2009) (statement of Richard Bookstaber), available at http://democrats.science.house.gov/Media/file/Commdocs/hearings/2009/Oversight/10sep/Bookstaber_Testimony.pdf. [hereinafter Risk of Financial Modeling Hearing]. Stated differently, VaR refers to the amount that may be lost on a specific portfolio over specified period. Relying on Carl Friedrich Gauss's work measuring portfolio risk along a normal distribution curve, VaR explains the probability of outcomes distributed along a "bell" curve. See JORION, *supra* note 20, at 84 (describing the seventeenth century experiments of Blaise Pascal exploring probability distributions and the subsequent discovery by eighteenth century scientist and mathematician Karl Gauss indicating that the normal distribution of outcomes resembles a bell-shaped curve). Scholars refer to a normal distribution curve as a bell curve because the normal distribution of statistically probable outcomes tend to cluster around smaller changes creating a rising pattern in the middle of the curve when illustrated, while the distributions of less-frequent outcomes tend to fall along the ends of the curve. See Philippe Jorion, *In Defense of VAR, DERIVATIVES STRATEGY* (Apr. 1997), available at <http://www.derivativesstrategy.com/magazine/archive>. For example, for a portfolio of stocks that is calculated to have a one-day 95 percent VaR of \$1 million, managers may conclude that there is a 5 percent probability that the portfolio will lose more than \$1 million in the twenty-four hours following the calculation of VaR, assuming markets function in a normal manner and no trading occurs on the assets in the portfolio. See *id.*

67. See Krause, *supra* note 22, at 23; see also ASWATH DAMOSARAN, STRATEGIC RISK TAKING: A FRAMEWORK FOR RISK MANAGEMENT 201 (2008).

68. DAMOSARAN, *supra* note 67, at 202 ("VaR enables financial institutions to anticipate their losses related to certain investment positions, thereby reducing losses and enhancing their performance relative to an industry benchmark.")

69. Whitehead, *supra* note 34, at 330.

70. See Krause, *supra* note 22, at 19. ("Originally VaR was intended to measure the risks in derivatives markets, but it became widely applied in financial institutions to measure all kinds of financial risks, primarily market and credit risks.")

a portfolio using a historic reference point.⁷¹ The reference point may be yesterday, a week ago, a month ago, or a year ago.⁷² The model revalues the portfolio's currently held assets or positions based on the market prices for the same investments on the selected historic date. VaR back simulation models typically use the market prices for the current assets over a five hundred day period.⁷³ The model then evaluates the portfolio's performance on each of the five hundred days and ranks performance according to the days that the portfolio had the highest returns and the lowest returns.⁷⁴ VaR estimates future losses based on the assumption that the market will perform in the future as it performed in the past.

VaR communicates risk exposure as a single dollar amount, allowing directors, executives, regulators, and investors to understand and better manage risk.⁷⁵ As described earlier in this Section, most financial institutions voluntarily implemented VaR models. Within ten years of the introduction of VaR, federal regulations introduced VaR-related disclosure obligations and VaR-related capital requirements.⁷⁶ In addition, innovative managers began to use these risk measuring financial models as tools for active risk management.⁷⁷

VaR back simulation models, however, have significant limitations. First, the back simulation models assume that past performance offers useful guidance for predicting future results.⁷⁸ This assumption disregards the inherent and continuous movement of asset prices in financial markets. However, financial market conditions may change rapidly because of unprecedented or unanticipated events, uncertainty, or disclosure of unexpected information.⁷⁹ The models fail to consider that rare, infrequent, or unprecedented events may lead to detrimental losses in financial markets.⁸⁰

While low probability events may cause the most significant disruptions in financial markets, VaR risk estimates often offer limited guidance regarding the likelihood and magnitude of low probability

71. JORION, *supra* note 20, at 8–9.

72. *Id.*

73. SAUNDERS & CORNETT, *supra* note 26, at 279.

74. *Id.*

75. *Id.*

76. *Id.*

77. Risk of Financial Modeling Hearing, *supra* note 66; see Krause, *supra* note 22, at 26.

78. Krause, *supra* note 22, at 20.

79. Rene M. Stulz, *Risk Management Failures: What Are They and When Do They Happen?*, HARV. BUS. REV., Oct. 2009, at 58.

80. *Id.* Theorists refer to the low probability events that represent less frequent distributions and occur on the ends of the distribution curve as “tail” risks. David Einhorn & Aaron Brown, *Cover Story: Point/Counterpoint: Private Profits and Socialized Risk*, GLOBAL ASSN. OF RISK PROF'LS, June–July 2008, at 11 (explaining VaR's shortcomings).

events.⁸¹ Second, VaR also fails to consider the correlations among risks or the coupling of risks. Some commentators posit that VaR's assessment of low probability events was reasonable and not the fatal flaw that popular media suggests.⁸² Rather, the critical error, according to these commentators, was market participants' complete dismissal of the potential occurrence and magnitude of low probability events.⁸³ VaR's shortcomings inspired efforts to develop financial models that more accurately reflect real world uncertainty.⁸⁴

Employing stochastic processes developed by botanists, mathematicians, physicists, and chemists, financial analysts developed Monte Carlo simulations to examine the interaction between deterministic variables (such as the historic changes in prices) and the randomness inherent in the price movements in specific financial products, such as changes in the price of equity securities, debt securities, or derivatives.⁸⁵ Monte Carlo simulation models permit financial institutions to better assess risks based on the correlations among risks.⁸⁶ Rather than relying solely on historic data and assuming that variables in the financial models change in isolation, Monte Carlo models simulate changes in market prices and the impact of related factors.⁸⁷ In a Monte Carlo simulation, a financial institution employs statistics to calculate the covariances, or correlations, among risks.⁸⁸

To conduct a Monte Carlo simulation, a financial institution first identifies risks and determines the relationships among the risks.⁸⁹ Next, the model simulates market prices and calculates an average price based on the simulated market prices.⁹⁰ The results reflect the net present value of the portfolio, the average net present value of the simulation, and the volatility, as well as other variables that may affect the value of the portfolio.⁹¹

Monte Carlo simulations are quite complex. The expensive and time consuming process of gathering the vast data that informs the models often deters financial institutions from using the models

81. Stulz, *supra* note 79, at 63–64.

82. See Nocera *supra* note 2.

83. *Id.*

84. STEPHEN A. ROSS, RANDOLPH W. WESTERFIELD, & JEFFREY JAFFEE, CORPORATE FINANCE 206–214 (8th ed. 2008).

85. See Nocera, *supra* note 2; see generally SCOTT PATTERSON, THE QUANTS: HOW A NEW BREED OF MATH WHIZZES CONQUERED WALL STREET AND NEARLY DESTROYED IT (2010).

86. JORIAN, *supra* note 20, at 265.

87. See generally Nicholas Metropolis, *The Beginning Of The Monte Carlo Method*, 1987 LOS ALAMOS SCIENCE 125, available at <http://library.lanl.gov/la-pubs/00326866.pdf>.

88. See MICHEL CROUHY, DAN GALAI & ROBERT MARK, RISK MANAGEMENT 543 (2001).

89. *Id.*

90. *Id.*

91. *Id.*

widely across their firms.⁹² The models' accuracy relies on the integrity of sophisticated technology, including proprietary software, that codes data and indicates the relevance of data based on the likelihood that a forecasted event may occur.⁹³ Modeling the "distributions of each variable or the interactions between variables" is difficult, and the evaluations generated by the programs are limited.⁹⁴ However, the results lack both human intuition and economic analysis informed by a more comprehensive understanding of markets and investors' behavior.

Stress tests offer another widely-adopted risk management methodology that allows financial institutions to examine results of identified risks and hypothetical events.⁹⁵ A stress test analyzes a company's loan and securities portfolios under the conditions of a "baseline" (normal) market scenario and a "more adverse" market scenario, and then calculates the amount of capital necessary for the business to maintain stability under the more adverse conditions.⁹⁶

During the recent financial crisis, federal regulators required systemically significant financial institutions to conduct stress tests to enable financial institutions to identify reasonable threats to their ability to weather adverse market conditions.⁹⁷ Stress tests incorporate hypothetical, exceptional, but plausible events into their analysis.⁹⁸ Stress tests require financial institutions to revalue the positions in their portfolios based on these hypothetical market conditions.⁹⁹ The stress tests reveal vulnerabilities in the portfolio of assets under the stress test scenarios.¹⁰⁰

The results of stress tests also face significant limitations. Similar to back simulation models, scenario stress tests analyze historically significant events to create the hypothetical events applied by the model. While the incorporation of hypothetical events into scenario stress tests supplements VaR's back simulation analysis by offering a more comprehensive view of future risk exposure, these models offer little or no indication of the impact of unprecedented

92. ROSS ET AL., *supra* note 84, at 218.

93. *Id.*

94. *Id.*

95. *Id.* at 210.

96. Andru Wall, *The 2009 Stress Tests: A Model for Periodic Transparent Examinations of the Largest Bank Holding Companies*, 128 BANKING L. J. 291, 295–96 (2011).

97. See BD. OF GOVERNORS OF THE FED. RESERVE SYS., THE SUPERVISORY CAPITAL ASSESSMENT PROGRAM: DESIGN AND IMPLEMENTATION (2009), available at <http://www.federalreserve.gov/newsevents/press/bcreg/bcreg20090424a1.pdf>.

98. *See id.*

99. *See id.*

100. *See id.*

events. In addition, scenario stress tests, like Monte Carlo simulations, do not account for other more elusive and perhaps more debilitating low-probability events. The utility of a stress test is significantly influenced by the creativity or the economic, social, and political forecasting abilities of the financial analysts who engineer the test.¹⁰¹

While stress tests are designed to measure a company's ability to weather a worst-case scenario, the effectiveness of the tests requires insightful and accurate business decisions regarding appropriate scenarios and simulations. Criticism regarding the model's limitations misunderstands the rationale for employing the tests. The models were never touted as a means to predict the future.

2. Credit Derivatives

Derivatives contracts offer another ERM tool that allows financial institutions to manage and mitigate risks. The history of derivative instruments dates back several hundred years.¹⁰² In their simplest form, derivatives contracts are bilateral contracts that allow a party facing the risk that an asset will decline in value to transfer some or all of the risk exposure to a counterparty.¹⁰³ In credit derivatives contracts, the reference asset is a debt instrument.¹⁰⁴ There are two classes of credit derivatives: credit default swap agreements and collateralized debt obligations.¹⁰⁵

In a credit default swap agreement, a party with risk exposure (a protection buyer) seeks to transfer a portion of the risk related to the reference asset to a counterparty (a protection seller) who believes that the value of the asset will not decline.¹⁰⁶ The agreement is referred to as a derivatives contract because the value of the agreement is derived from the value of the asset referenced in the contract (reference asset).¹⁰⁷ The reference asset may be a single-borrower/single-lender loan, a portfolio of loans, a debt security, or any debt asset. In the event that the reference asset declines in

101. JORION, *supra* note 20, at 357.

102. See Simkins & Ramirez, *supra* note 31, at 577–78; Johnson, *supra* note 17, at 192.

103. See generally Roberta Romano, *A Thumbnail Sketch of Derivative Securities and Their Regulation*, 55 MD. L. REV. 1 (1996).

104. See Frank Partnoy & David A. Skeel Jr., *The Promise and Perils of Credit Derivatives*, 75 U. CIN. L. REV. 1019, 1021 (2006).

105. Jongho Kim, *From Vanilla Swaps to Exotic Credit Derivatives: How to Approach the Interpretation of Credit Events*, 13 FORDHAM J. CORP. & FIN. L. 705, 727–28 (2008).

106. See Johnson, *supra* note 17, at 199–201 (explaining how risk is transferred in forwards contracts).

107. See *id.* at 194.

value or the issuer of the reference asset defaults, the protection seller agrees to pay the protection buyer a sum equal to the difference between the face value of the asset and the reduced market value of the asset or some previously agreed upon percentage of the face value of the debt asset.¹⁰⁸ After entering into the credit default swap agreement, the protection buyer faces reduced risk exposure. In exchange for agreeing to accept the transferred risk, the protection seller receives a lump sum or periodic payments.¹⁰⁹

Why do businesses enter into credit default swaps? Imagine an investor owns a bond (debt asset) issued by Boeing, Inc. that matures in ten years. If the bondholder becomes concerned that Boeing may default on its bond payment obligations, the investor enters into a credit default swap agreement. The agreement is a bilateral contract and its terms provide for the bondholder to obtain insurance-like protection against a decline in the value of the Boeing bond. If Boeing defaults, the credit default swap counterparty agrees to purchase the bond at face value or pay the bondholder the difference between the face value and the market price of the bond at the time of Boeing's default. Consequently, the bondholder avoids or mitigates his losses. Arguably, credit default swaps reduce the credit and market risk exposure related to debt investments.

Innovative developments in derivatives contracts now allow market participants to enter into swap agreements to reduce the risk of loss related to energy products, currency, precious metals, credit instruments, and equity and debt securities markets.¹¹⁰ Moreover, financial product engineers introduced variations of swaps that allowed protection buyers to enter into agreements that offered protection against the decline in the value of an asset that the protection buyer did not own. These so-called naked swap agreements allow protection buyers who suspect that a debt issuer will likely default on its debt obligations to profit from anticipating the debt issuer's default. Because the protection buyer in a naked swap does not have any risk exposure if the referenced asset declines in value,

108. *Id.* at 192; Romano, *supra* note 103, at 47.

109. See Arving Rajan, *A Primer on Credit Default Swaps*, in THE STRUCTURED CREDIT HANDBOOK 17, 17 (2007) ("A credit default swap . . . is a contract in which the buyer of default protection pays a fee, typically quarterly or semiannually, to the seller of default protection on a reference entity, in exchange for a payment in case of a defined credit event such as default.").

110. See generally ROBERT E. WHALEY, DERIVATIVES: MARKETS, VALUATION, AND RISK MANAGEMENT 679–80, 687–88 (2006) (discussing various types of debt obligations that a credit default swap agreement may reference, including credit-linked notes, collateralized debt obligations, and debt securities); Romano, *supra* note 103, at 25, 47–50 (explaining options in oil and swaps in currency).

many commentators strongly criticized these agreements as mere tools for speculation.¹¹¹

In addition to credit default swaps, market participants also use collateralized debt obligations (CDOs) to mitigate risk exposure. Financial institutions create CDOs through a process described as securitization in which an underwriter aggregates asset-backed debt obligations, converts the many collateralized debt obligations into securities, and distributes the securities to investors.

More specifically, the underwriter forms a special investment vehicle (SIV) for the purpose of acquiring and bundling CDOs into securities. Next, the underwriter arranges the investment units of the SIV into tranches and sells the investments to investors who expect to earn dividends based on the cash flows that the underlying debt instruments generate.¹¹² Under the terms of the SIVs governing agreements, owners in different tranches had different rights to dividend payments and were assigned levels of priority in case the SIV became insolvent.

Initially, market participants believed that this financing structure mitigated risk because, in the event of default by the debt issuers, the SIVs spread losses across a group of investors, reducing the risk that a series of defaults would be detrimental to any one investor or lender. Many senior banking and regulatory officials viewed the rise of securitization as beneficial because the related financial products spread risk among many market participants and reduced the concentration of risk.

In the years leading to the recent financial crisis, directors and executives emphasized the credit risk reduction benefits of credit derivatives while ignoring the credit and market risks that these instruments create. For example, many financial institutions increased their residential mortgage origination businesses or acquired significant volumes of residential mortgages from third-party originators in order to bundle debt obligations and underwrite additional CDOs.¹¹³

In 2007, as the interest rates adjusted on a large volume of adjustable-rate subprime mortgages and the borrowers for the mortgages began to default, financial institutions that participated in underwriting CDOs for SIVs faced mounting losses.¹¹⁴ These financial institutions maintained large inventories of subprime mortgages used in the creation of securitization products; when the value of the mortgages declined, the institutions' inventories

111. See, e.g., Gretchen Morgenson, *Naked Came the Speculators*, N.Y. TIMES, Aug. 10, 2008, at BU1.

112. See Johnson, *supra* note 17, at 197.

113. See *id.*

114. See *id.*

triggered concentrated losses. In addition, some banks, such as Citigroup, distributed SIV interests that granted investors a “liquidity put.”¹¹⁵ The unique terms of the liquidity put permitted investors to sell their SIV interests back to the underwriter of the SIV if credit markets contracted and the investments lost value.¹¹⁶

To protect against losses related to CDO interests or to speculate regarding the movement of the value of the mortgage-backed assets contained in CDOs, many market participants entered into CDS arrangements. The unraveling of the CDO market initiated a daisy-chain effect of losses in the credit default swap market.

Managers mistakenly assumed that CDOs and credit default swaps provided guarantees that eliminated exposure to risk of loss.¹¹⁷ The assumption that credit default swaps *eliminated* exposure to risk of loss for the owner of the reference asset, however, ignored the credit risk that the counterparty to the CDS agreement may default on its payment obligations. Moreover, risk models that failed to account for a decline in the value of residential mortgages and other debt assets created unanticipated market risk.

Financial institutions’ miscalculation of the known risks related to credit derivatives and their failure to address these risks through ERM policies fueled systemic risk concerns during the recent crisis.¹¹⁸ In an ironic twist, these errors undermined the risk-shifting benefits that credit derivatives offered and created crippling exposure to debilitating losses. Defaults on subprime mortgages created a tidal wave of losses that washed across financial institutions.¹¹⁹

The development and proliferation of risk measuring and risk mitigating strategies raise new questions regarding the breadth of directors’ risk oversight obligations. Legal standards typically aim to balance directors’ authority and accountability. If accountability

115. Franklin A. Gevurtz, *The Role of Corporate Law in Preventing A Financial Crisis: Reflections on In re Citigroup Inc. Shareholder Derivative Litigation*, 23 PAC. MCGEORGE GLOBAL BUS. & DEV. L. J. 113, 117 n.15 (2010) (citing *Citigroup*, 964 A.2d at 113).

116. *In re Citigroup Inc. S’holder Derivative Litig.*, 964 A.2d 106, 113 (Del. Ch. 2009). Upon discovering the correlation between devastating losses during the crisis and strategies such as warehousing subprime mortgages and offering liquidity puts, Citigroup equity investors initiated derivative law suits. *See id.* *See also* Gevurtz, *supra* note 115, at 117.

117. *See* AM. INS. GRP., ANNUAL REPORT (FORM 10-K) 94 (2007), available at <http://idea.sec.gov/Archives/edgar/data/5272/000095012308002280/y44393e10vk.htm> [hereinafter *AIG ‘07 ANNUAL REPORT*]; William K. Sjostrom Jr., *The AIG Bailout*, 66 WASH. & LEE L. REV. 943, 957 (2009); Carrick Mollenkamp et. al., *Behind AIG’s Fall, Risk Models Failed to Pass Real-World Test*, WALL ST. J., Oct. 31, 2008, at A4; Gretchen Morgenson, *Behind Biggest Insurer’s Crisis, Blind Eye to a Web of Risk*, N.Y. TIMES, Nov. 3, 2008, at A1; Adam Davidson, *How AIG Fell Apart*, REUTERS.COM, Sept. 18 2008, <http://www.reuters.com/article/2008/09/18/us-how-aig-fell-apart-idUSMAR85972720080918>.

118. *See* Johnson, *supra* note 16, at 1308.

119. Eric Dash, *Citigroup to Halt Dividend and Curb Pay*, N.Y. TIMES, Nov. 24, 2008, at A1.

standards are too restrictive, directors may act conservatively to avoid liability and, therefore, they may elect not to pursue profitable business strategies that involve acceptable levels of risk. If standards are too lenient, directors may have incentives to engage in excessive risk-taking and discourage the adoption of risk oversight policies, such as effective ERM strategies.

The next Part explores how state law evaluates derivative claims that directors breached their fiduciary duties by failing to adopt effective risk management policies and to uphold their obligations to monitor the risk exposure of a financial institution. In Part II, this Article argues that state courts and legislatures are a significant source of corporate law and the primary voice in corporate governance standards. Notwithstanding the critical role states play in corporate governance, it is unclear whether the legislators who adopt state law and state courts that enforce corporate governance obligations will implement sufficient mechanisms to address ERM concerns.

II. STATE-LAW SOLUTIONS TO RISK MANAGEMENT OVERSIGHT

Corporate governance, commonly perceived as a traditional province of state law, balances directors' accountability for risk management oversight with their authority to manage the business of the corporation. While the law should not stymie socially desirable entrepreneurial activities, ineffective ERM policies leave financial institutions vulnerable to individual risk management failures and the financial markets susceptible to systemic risk. In an effort to address these competing values, this Part explores significant normative questions regarding state law accountability standards involving claims that directors violated their duty to monitor. Corporate governance policies attempt to balance directors' and executive officers' accountability for corporate affairs with their authority to oversee the business of the corporation.¹²⁰

This Part argues that state statutes and common law are deferential to executives and directors and, therefore, fail to impose rigorous accountability standards for risk management oversight. Section A describes the development of directors' fiduciary obligations to monitor the business and affairs of corporations. Section B argues that state corporate governance measures offer

120. See STEPHEN M. BAINBRIDGE, *THE NEW CORPORATE GOVERNANCE IN THEORY AND PRACTICE* 104 (2008); see also Klaus J. Hopt, *Comparative Corporate Governance: The State of the Art and International Regulation*, 59 AM. J. COMP. L. 1, 8 (2011).

insufficient solutions for addressing ERM weaknesses and the conflicts between ERM policies and inside directors' and officers' short term incentives to engage in risk-taking.

A. The Road to Director's Duty to Monitor

Shareholders, the residual equity owners in a corporation, rarely participate in the management of the daily affairs of large, publicly traded corporations. While the merits of this classic separation of ownership and control have been debated for nearly one hundred years,¹²¹ state statutes clearly adopt an agency model and grant directors the authority to manage the business of the corporation.

The boards of directors of most large, publicly traded corporations are comprised of two classes of directors. Non-management directors, also described as outside directors, receive limited compensation from the company and are presumed to be critical of and impartial toward management proposals because of their limited material financial relationship with the company or its affiliates.¹²² In contrast, inside directors or management directors, receive compensation and other material benefits for their service as directors, as well as their service as employees—often executive officers—of the company. Financial institutions are generally publicly traded companies and their boards typically reflect this dual-class approach. Because the board generally articulates significant business policies, such as ERM policies, inside directors often act as both creators and enforcers of risk management plans.¹²³

Delaware state courts have long described the relationship between directors and shareholders as a fiduciary relationship.¹²⁴ Courts characterize directors' fiduciary obligations as encompassing several duties including (1) a duty of care, requiring directors to exercise care and to act with reasonable skill and prudence in service of the corporation's interests; and (2) a duty of loyalty,

121. See ADOLPH A. BERLE, JR. & GARDINER C. MEANS, *THE MODERN CORPORATION AND PRIVATE PROPERTY* (Transaction Publishers 2010) (1932); see also William Bratton, *Berle and Means Reconsidered at the Century's Turn*, 26 J. CORP. L. 737, 738 (2001).

122. Donald C. Clarke, *Three Concepts of the Independent Director*, 32 DEL. J. CORP. L. 73, 83–84 (2007).

123. Harner, *supra* note 47, at 48–49.

124. See *Cahall v. Lofland*, 12 Del. Ch. 299 (1921) (“Directors and officers of a corporation are trustees for the stockholders, and their acts are to be tested according to the well-established rules of equity . . . A trustee cannot profit by his office, and must be loyal and frank to those he represents.”).

requiring directors to avoid self-dealing, or, if conflicts arise, to place the corporation's interests ahead of their own interests.¹²⁵

Delaware is the jurisdiction of choice for a significant percentage of American corporations.¹²⁶ As a result, Delaware courts have a preeminent role in the development of corporate law and corporate governance standards.¹²⁷ Following the recent financial crisis, Delaware's standards regarding directors' fiduciary obligations to manage and monitor risk have attracted national attention.¹²⁸

Corporate law scholarship comprehensively examines Delaware's fiduciary obligations jurisprudence and the reasons Delaware continues to apply a management-friendly approach to directors' fiduciary duties. When businesses and investors urgently turned to Delaware for a clear liability standard for risk oversight, the quagmire of Delaware's standard left many unsatisfied.

Many commentators assumed that because boards were accountable for monitoring risk practices, the boards of systemically significant financial institutions had sufficient incentives to regulate themselves in a manner that would prevent these businesses from taking excessive risks. Moreover, the development of risk management measures and risk mitigation strategies further suggested that boards at systemically significant financial institutions had access to resources that should have enabled them to prevent or at least minimize exposure to the losses experienced during the crisis.

As the losses related to the financial crisis began to multiply rapidly, so too did the questions regarding directors' duty to monitor risk taking practices. Had the boards of directors been asleep at the switch? Delaware's director liability standards, fairly described as a quagmire, did not clearly resolve these questions regarding the risk oversight duties of a board with access to sophisticated risk management tools.

Graham v. Allis-Chalmers Manufacturing Company was one of the earliest Delaware cases recognizing a board of directors' obligation to monitor executives and employees' activities in order to detect violations of existing law or corporate misconduct.¹²⁹ The shareholders in *Graham* filed derivative claims alleging that directors breached their fiduciary duties by failing to discover and prevent

125. FRANK GEVURTZ, CORPORATION LAW 278 (2d. West 2010).

126. Faith Stevelman, *Regulatory Competition, Choice of Forum, and Delaware's Stake in Corporate Law*, 34 DEL. J. CORP. L. 57, 59 (2009).

127. *Id.*

128. Mark Roc, *Delaware's Shrinking Half-Life*, 62 STAN. L. REV. 125, 133-35 (2009).

129. 188 A.2d 125 (Del. 1963); see also Eric J. Pan, *A Board's Duty to Monitor*, 54 N.Y.L. SCH. L. REV. 717, 721 (2009-10).

employees' activities that violated federal antitrust law.¹³⁰ The *Graham* court rejected Plaintiff's claims and concluded that the board's oversight obligations arise only where directors "ignored, either willfully or through inattention, obvious danger signs of employee wrongdoing."¹³¹

Where directors had no actual knowledge of illegal activities and no cause for suspicion, the *Graham* court concluded that the duty to monitor does not impose an obligation "upon the directors to install and operate a corporate system of espionage to ferret out wrongdoing."¹³² Instead of creating incentives for the board to become better informed, *Graham* established a high threshold for liability. Under *Graham*, directors' liability rested on whether the board was aware of wrongdoing or misconduct and failed to address the prohibited activities.¹³³

Several decades later in *In re Caremark*, a Delaware Chancery Court read the *Graham* opinion to apply a lower threshold for liability. In 1994, Caremark International, Inc. (Caremark) entered into a plea agreement with the Department of Justice and several other federal agencies.¹³⁴ Caremark pled guilty to one felony count of mail fraud and agreed to pay approximately \$250 million in fines and penalties related to alleged kickbacks that violated federal law. Responding to the significant fines and penalties, in 1996, shareholders filed a derivative lawsuit to recover the corporations' losses related to the fines. The shareholders argued that directors breached their fiduciary duties by allowing "a situation to develop and continue which exposed the corporation to enormous legal liability and that in so doing they violated a duty to be active monitors of corporate performance."¹³⁵

According to the *Caremark* court, claims alleging that directors breached their fiduciary duty of care may arise in two distinct contexts: (1) When a board makes a decision that is grossly negligent that results in a loss¹³⁶ or (2) when there is "an unconsidered

130. *Graham*, 188 A.2d at 127.

131. *Id.* at 130.

132. *Id.*

133. Pan, *supra* note 129, at 722.

134. *In re Caremark Int'l Inc. Litig.*, 698 A.2d 959, 960 (Del. Ch. 1996) (explaining that Caremark's businesses revenues included Medicare and Medicaid reimbursement subject to the terms of the Anti-Referral Payments Law that prohibited health care providers from making payments to providers to induce them to make referrals for Medicare or Medicaid patients).

135. *Id.* The nature of plaintiffs' claims inspired the moniker "Caremark claims," adopted by subsequent courts in derivative suits alleging that directors breached their fiduciary obligations by failing to monitor corporate activities to ensure compliance with law and prevent detectable fraud.

136. *Id.* at 967.

failure of the board to act in circumstances in which due attention would, arguably, have prevented the loss.¹³⁷ The *Caremark* plaintiffs alleged that the directors' inattention—not a business decision—led to the losses. As a result, the court evaluated plaintiffs' claims according to the legal standard applied to the second category of claims.

Chancellor Allen interpreted *Graham* to explain that absent grounds to suspect deception, the board may not be held liable for merely trusting employees to act honestly or with integrity in executing their responsibilities.¹³⁸ *Caremark* was an enterprise with more than 7,000 employees and over 90 branches.¹³⁹ The board was not expected to monitor the daily activities of each employee.¹⁴⁰

However, departing from *Graham's* deferential standard Chancellor Allen further explained that the board has an obligation to act in good faith to ensure the company's compliance with legal and regulatory standards.¹⁴¹ Directors may breach their fiduciary duties by failing to make a good faith attempt to establish an internal reporting system designed to ensure the company and employees comply with the law.¹⁴² According to Chancellor Allen,

[a] director's obligation includes a duty to attempt in good faith to assure that a corporate information and reporting system, which the board concludes is adequate, exists, and that failure to do so under some circumstance may, in theory at least, render a director liable for losses caused by non-compliance with applicable legal standards.¹⁴³

Caremark introduces Delaware's duty to monitor doctrine. The duty emerges from *Caremark's* analysis and serves a crucial function in preserving directors' accountability for risk management over-

137. *Id.*

138. *Id.* at 967.

139. *Id.* at 962.

140. *Id.* at 968.

141. *Id.*

142. *Id.*

143. *Id.* Allen cited three reasons for this conclusion:

[I]n recent years the Delaware Supreme Court has made clear—especially in its jurisprudence concerning takeovers . . .—the seriousness with which the corporation law views the role of the corporate board. Secondly . . . [the] fact that relevant and timely information is an essential predicate for satisfaction of the board's supervisory and monitoring role . . . [and] thirdly . . . the potential impact of the federal organizational sentencing guidelines on any business organization.

sight. The *Caremark* court explained that a successful claim alleging that directors breached their fiduciary duty to monitor requires evidence that the board failed to act in good faith in implementing systems to monitor the company's compliance with the law.¹⁴⁴ For directors to be held personally liable, plaintiffs must establish that the board "utter[ly] fail[ed] to attempt to assure a reasonable reporting system exists."¹⁴⁵ Moreover, directors are only liable where there is a "sustained or systemic failure of the board to exercise oversight."¹⁴⁶ Applying this standard to the plaintiffs' allegations in *Caremark*, the court found that Caremark's directors were not personally liable. Caremark had appointed a committee to oversee corporate compliance, instituted employee-training programs, distributed ethics manuals to employees, and regularly reviewed the company's legal compliance system.¹⁴⁷

For litigants, the *Caremark* decision was not only surprising because it challenged the high threshold for liability articulated by the Delaware Supreme Court in *Graham*, but the decision also seemed to revive duty of care claims that the Delaware state legislature intended to eliminate by statute. A few years prior to the chancery court's decision in *Caremark*, the Delaware Assembly amended Section 102(b)(7) of the state's corporations statute. The newly adopted provision permits shareholders to amend corporate charters to include a provision that exculpates directors from claims for monetary damages in derivatives suits alleging that directors breached certain fiduciary duties.¹⁴⁸ However, under Section 102(b)(7), shareholders may not amend the corporation's charter in a manner that exculpates directors from claims alleging that the directors breached their fiduciary duty of loyalty or allegations that directors failed to act in good faith.¹⁴⁹

Subsequent to the adoption of Section 102(b)(7) and the Delaware Chancery court's decision in *Caremark*, Delaware courts have revisited the question raised in *Caremark* regarding the reach of Section 102(b)(7). Does the incorporation of a Section 102(b)(7) exculpation clause in a company's charter preclude all claims alleging directors breached their duties to monitor the business and affairs of the company, claims historically resulting in monetary damages? Does the duty to monitor encompass an obligation to monitor activities beyond those expressly prohibited by law? Does a

144. *Id.*

145. *Id.*

146. *Id.* at 971.

147. *Id.* at 962–63.

148. See DEL. CODE ANN. tit. 8, § 102(b)(7) (2010).

149. *Id.*

claim alleging that a director breached her obligation to act in good faith offer an independent basis for director liability, and if so, what types of behavior constitute good faith conduct?

The court's decision in *In re Walt Disney & Co. Derivative Litigation* began to address a few of these questions, explaining that good faith is not an independent basis for alleging that directors breached their fiduciary duties.¹⁵⁰ According to the *Disney* court, plaintiffs must demonstrate that directors failed to act in good faith to establish that directors violated their fiduciary duties. However, rather than adopting an explicit definition of good faith, *Disney* offers a non-exhaustive list of the behavior that constitutes bad faith. According to the *Disney* court:

[a] failure to act in good faith may be shown, for instance, where the fiduciary intentionally acts with a purpose other than that of advancing the best interests of the corporation, where the fiduciary acts with the intent to violate applicable positive law, or where the fiduciary intentionally fails to act in the face of a known duty to act, demonstrating a conscious disregard for his duties.¹⁵¹

The *Disney* court introduced is a state-of-mind inquiry, establishing that directors may only be liable where the directors had actual or constructive knowledge that they were not discharging their fiduciary obligations.

Despite its guidance regarding good faith, *Disney* did not clarify whether the exculpation of duty of care claims under Section 102(b)(7) precluded both of the categories of duty of care claims described in *Caremark*. *Guttman v. Huang* suggested that at least one class of *Caremark* claims continues to offer plaintiffs a means to hold directors accountable for their failure to monitor the company's compliance with existing legal and regulatory obligations. In *Guttman*, shareholders accused members of the board of failing to monitor the company's compliance with accounting regulations.¹⁵² As a result, the company presented inaccurate financial information to investors, creating liability for the company.¹⁵³

Although the claims described factual allegations consistent with the plaintiffs' assertions (described as directors' violations of their duty of care in *Caremark*), Vice Chancellor Strine recast the claims as allegations that directors breached their fiduciary duty of loyalty.

150. *In re Walt Disney & Co. Derivative Litigation*, 907 A.2d 693 (Del. Ch. 2005).

151. *Id.* at 755.

152. *Guttman v. Jen-Hsun Huang*, 823 A.2d 492, 494 (Del. Ch. 2003).

153. *Id.*

Vice Chancellor Strine opined that both fiduciary duty of loyalty and *Caremark* claims premise liability on directors having consciously disregarded their obligations, actions that demonstrate bad faith.¹⁵⁴

In a dramatic departure from precedent, the *Guttman* court applied the analysis historically applied to duty of loyalty claims to plaintiffs' *Caremark* claims alleging directors failed to monitor the company's business. According to *Guttman*, both *Caremark* claims and duty of loyalty claims involve allegations that directors acted in bad faith. If a court finds that the directors have acted in bad faith, directors cannot argue that they acted in a manner consistent with their obligations to perform their duties on behalf of the company with the utmost fidelity. Moreover, Section 102(b)(7) expressly prohibits the exculpation of claims alleging that directors acted in bad faith. Consequently, shareholders may not exculpate directors from *Caremark* claims that allege directors acted in bad faith even if the relevant corporation has amended its charter to include a Section 102(b)(7) exculpation clause. Prior to *Guttman*, scholars and commentators assumed that the adoption of Section 102(b)(7) precluded all duty of care claims because these claims seek monetary damages.¹⁵⁵ In a single opinion, the Delaware chancery court resurrected oversight liability in the second category of *Caremark* claims: claims alleging that directors failed to act in a manner consistent with their monitoring duties.

Interpreting the directors' conscious disregard of their obligations to monitor the business and affairs of the firm as an act of bad faith, *Guttman* subsumes *Caremark* claims under the standard for evaluating duty of loyalty claims. By preserving monitoring claims, this shift in the application of liability standard adjusts the balance of power between shareholders who entrust the maintenance and care of the businesses that they own to directors and the directors who exercise authority to act on behalf of shareholders. Directly challenging the state legislature's efforts to lower liability standards through the adoption of Section 102(b)(7), *Guttman* signals that shareholders may continue to use fiduciary claims to hold directors accountable for failures to monitor the business's compliance with legal and regulatory standards. However, because it was a lower court opinion, *Guttman's* application remained

154. *Id.* at 506 ("Although the *Caremark* decision is rightly seen as a prod towards the greater exercise of care by directors . . . the opinion articulates a standard for liability for failures of oversight that requires a showing that the directors breached their duty of loyalty by failing to attend to their duties in good faith.").

155. *Id.* at 502.

uncertain until the Delaware Supreme Court's decision in *Stone v. Ritter*.

In *Stone*,¹⁵⁶ the Delaware Supreme Court offered a more precise articulation of the shifting liability standard. The defendant directors in *Stone* faced allegations that they breached their fiduciary obligations by failing to monitor and detect employees' violations of federal and state banking laws.¹⁵⁷ In response to government investigations of persistent violations of banking regulations and the \$50 million in fines and civil penalties assessed against AmSouth Bancorporation, shareholders filed derivative litigation claims seeking to hold directors personally liable for these corporate losses.¹⁵⁸

For the plaintiffs, *Stone's* interpretation of *Caremark* and its progeny was both useful and limiting.¹⁵⁹ Notwithstanding the Section 102(b)(7) provision exculpating directors for claims alleging breaches of their fiduciary duty of care, the *Stone* court adopted *Guttman's* characterization of the second category of *Caremark* claims, concluding that these claims allege that directors have breached their duty of loyalty.¹⁶⁰ Facially, the decision signaled a victory for plaintiffs seeking to bring derivative suits alleging that directors breached their fiduciary duty to monitor. However, the *Stone* court explained that, reading *Disney* and *Caremark* together, the standard for oversight liability centers on demonstrating directors' failure to act in good faith.¹⁶¹ Thus, *Stone* preserved shareholders' ability to use derivative suits to hold directors personally liable for corporate losses resulting from directors' failure to uphold their monitoring obligations, but required plaintiffs to prove that directors acted in bad faith in their monitoring efforts. The imposition of a scienter-based standard, however, severely limits the likelihood that plaintiffs' claims would succeed.¹⁶²

While *Stone* clarified the court's approach to the second category of *Caremark* claims, the application of the good faith and loyalty analysis to allegations regarding directors' duty to monitor and manage the corporation's affairs remained unresolved. Did the scope of directors' duty encompass an obligation to monitor business matters not expressly regulated under state or federal law, such as management of financial, market, or credit risk management?

156. *Stone*, 911 A.2d at 369.

157. *Id.* at 364.

158. *Id.* at 371.

159. *Id.* at 369.

160. *Id.*

161. *Id.*

162. Bainbridge, *supra* note 18, at 977.

The extreme distress experienced by financial institutions during the recent financial crisis provided the courts with an opportunity to clarify the scope of directors' duty to monitor.

*B. The Case for Director Accountability for
Risk Management Monitoring*

Part A argued that Delaware's fiduciary obligations standard reflects a highly deferential approach to evaluating directors' liability for good faith decisions. However, even if such an approach seems rational for most business decisions, there are normative questions regarding the application of this standard to risk management decisions. The events leading to the financial crisis motivated litigation that raised further questions regarding the application of Delaware's deferential standard to directors' risk management oversight obligations.

In the wake of the crisis, Citigroup, Inc. shareholders initiated a derivative suit alleging that directors breached their fiduciary duties by failing to diligently monitor and manage the business's risks related to the subprime mortgage market.¹⁶³ Shareholders argued that the directors ignored "red flags" that warned of widespread defaults in the subprime mortgage market and, consequently, debilitating losses that left Citigroup nearly insolvent.¹⁶⁴ While the court agreed that plaintiffs' allegations were *Caremark* claims,¹⁶⁵ the court disagreed with plaintiffs' assertions regarding the type of *Caremark* claims reflected in the *Citigroup* complaint.¹⁶⁶

In *Caremark*, Chancellor Allen explained that plaintiffs might assert two different types of claims alleging that directors violated their fiduciary duty to monitor the affairs of the business. First, plaintiffs may allege that directors made a grossly negligent decision that led to corporate losses.¹⁶⁷ For this class of *Caremark* claims, courts assume that judges are ill equipped to evaluate the substance of business decisions.¹⁶⁸ Therefore, courts apply the business

163. The complaint alleged the defendant directors were liable for waste for allowing the company to purchase \$2.7 billion in subprime loans from mortgage originators; authorizing a share repurchase program; approving an excessive compensation package for the CEO, Charles Prince; and allowing the company to invest in structured investment vehicles that invested in residential mortgage related assets.

164. *In re Citigroup S'holder Derivative Litig.*, 964 A.2d 106, 114 (Del. Ch. 2009).

165. *Id.*

166. *Id.*

167. *In re Caremark Int'l Inc. Derivative Litig.*, 698 A.2d 959, 967 (Del. Ch. 1996).

168. *See id.* According to the *Caremark* Court:

judgment rule, a deferential standard that presumes that directors' decisions are informed, rational, and made in good faith.¹⁶⁹ The business judgment rule avoids judicial second-guessing or hindsight bias that may occur if judges engage in after-the-fact evaluations of the substance or content of directors' decisions.¹⁷⁰ The business judgment rule protects directors' decisions in the first group of claims as long as directors employ a rational process in which all material information is given reasonable consideration.¹⁷¹ As a result, the business judgment rule limits judges and juries' evaluation of directors' decisions to an examination of the board's process.¹⁷²

Guttman and *Stone* illuminate the contours of the second category of *Caremark* claims. The second category of *Caremark* claims involves allegations that directors acted in bad faith by failing to establish a compliance and reporting system or by failing to monitor an existing compliance system. Because bad faith conduct is inconsistent with actions that reflect loyalty, the *Guttman* and *Stone*

[W]hat should be understood, but may not widely be understood by courts or commentators who are not often required to face such questions is that compliance with a director's duty of care can never appropriately be judicially determined by reference to *the content of the board decision* that leads to a corporate loss, apart from consideration of the good faith or rationality of the process employed. That is, whether a judge or jury considering the matter after the fact, believes a decision substantively wrong, or degrees of wrong extending through "stupid" to "egregious" or "irrational", provides no ground for director liability, so long as the court determines that the process employed was either rational or employed in a *good faith* effort to advance corporate interests. To employ a different rule—one that permitted an "objective" evaluation of the decision—would expose directors to substantive second guessing by ill-equipped judges or juries, which would, in the long-run, be injurious to investor interests.

Id. See also Elizabeth A. Nowicki, *A Director's Good Faith*, 55 *BUFF. L. REV.* 457, 468 (2007).

169. *Caremark*, 698 A.2d at 967.

170. See Michael Abramowicz & M. Todd Henderson, *Prediction Markets for Corporate Governance*, 82 *NOTRE DAME L. REV.* 1343, 1382–83 (2007) ("A justification of the business judgment rule, which grants great deference even to catastrophic decisions, is that the rule protects against hindsight bias. After all, litigation results only when corporate decisions turn out badly, and courts are worried that judging decisions in this light might be especially difficult given what seems like a reasonable business decision at time T1 might seem foolhardy at time T2."); Marleen A. O'Connor, *The Enron Board: The Perils of Groupthink*, 71 *U. CIN. L. REV.* 1233, 1247 (2003).

171. *Caremark*, 698 A.2d at 967; see also *Aronson v. Lewis*, 473 A.2d 805, 812 (Del. 1984) (holding that the business judgment rule protects directors if they have informed themselves "prior to making a business decision, of all material information reasonably available to them" and "then act with requisite care in the discharge of their duties," and also finding that during the decisionmaking process, the business judgment rule dictates that "director liability is predicated upon concepts of gross negligence.").

172. *Aronson*, 473 A.2d at 812; see also D. Gordon Smith, *Chancellor Allen and the Fundamental Question*, 21 *SEATTLE U. L. REV.* 577, 585 (1998).

decisions describe claims involving bad faith conduct as allegations that directors breached their fiduciary duty of loyalty.¹⁷³

Plaintiffs may demonstrate that directors acted in bad faith by offering evidence that directors (a) utterly failed to assure that a reasonable reporting or information system or controls existed, or (b) having created such systems, the directors consciously failed to monitor or oversee the operation of the program.¹⁷⁴ By failing to oversee the system or controls, directors limited their ability to remain informed regarding the risks or problems that most require their attention.

As the *Guttman* court explained, the standard “premises liability on a showing that the directors were conscious of the fact that they were not doing their jobs.”¹⁷⁵ The *Citigroup* court explained that proving bad faith requires demonstrating that the directors’ “insolence was so persistent that it could not be ascribed to anything other than a knowing decision not to even try to make sure the corporation’s officers had developed and were implementing a prudent approach to ensuring compliance with law.”¹⁷⁶

The *Citigroup* court posited that a scienter-based standard in the second category of *Caremark* claims the Delaware legislature’s intent under Section 102(b)(7) to limit directors’ liability for claims alleging that they breached their fiduciary oversight obligations.¹⁷⁷ The court addressed plaintiffs’ claims in the context of defendant directors’ motion to dismiss the derivative suit for failure to properly plead demand futility.¹⁷⁸

173. See *Guttman v. Huang*, 823 A.2d 492, 506 (Del. Ch. 2003); *Stone v. Ritter*, 911 A.2d 362, 369 (Del. 2006); *Desimone v. Barrows*, 924 A.2d 908, 935 (Del. Ch. 2007).

174. *Citigroup*, 964 A.2d at 123–24.

175. *Id.* at 123 n.46 (citing *Guttman*, 823 A.2d at 506).

176. *Id.* at 123 n.47 (citing *Desimone*, 924 A.2d at 935).

177. *Id.* (citing *Desimone*, 924 A.2d at 935 (“*Caremark* itself encouraged directors to act with reasonable diligence, but plainly held that director liability for failure to monitor required a finding that the directors acted with the state of mind traditionally used to define the mindset of a disloyal director—bad faith—because their indolence was so persistent that it could not be ascribed to anything other than a knowing decision not to even try to make sure the corporation’s officers had developed and were implementing a prudent approach to ensuring law compliance. By reinforcing that a scienter-based standard applies to claims in the delicate monitoring context, *Stone* ensured that the protections that exculpatory charter provisions afford to independent directors against damage claims would not be eroded.”)).

178. *Id.* at 112. *Citigroup* was a derivative suit brought by shareholders on behalf of the corporation seeking to enforce directors’ and officers’ fiduciary obligations. *Id.* at 111. Delaware requires plaintiffs bringing derivative suits to make demand on the board of directors, asking the directors to bring the claim and direct the litigation. Under Section 141(a) of Delaware General Corporations law, the board of directors exercises authority over the business and affairs of the corporation. See DEL. CODE ANN. tit. 8, § 141(a) (2008). The boards’ authority includes the decision to initiate a law suit on behalf of the corporation. The procedural requirement for demand may be excused and plaintiff shareholders may

Citigroup plaintiffs claimed that directors failed to manage financial, market, and credit risks related to the subprime mortgage market and the securitization industry.¹⁷⁹ Plaintiffs argued that directors failed to make a good faith effort to follow procedures designed to assure that directors would “be fully informed regarding *Citigroup*’s risk exposure to the subprime mortgage market.”¹⁸⁰ Plaintiffs in *Citigroup* argued that directors’ decisions ignored “red flags,” related to the subprime mortgage market. As described in Part II, *Citigroup* amassed a \$55 billion credit derivatives portfolio, ignoring warnings by risk managers from across the financial services industry.¹⁸¹ In 2007, the mounting losses propelled *Citigroup* toward insolvency.¹⁸² According to the shareholders’ complaint, directors and officers ignored these warnings in “pursuit of short term profit.”¹⁸³

The *Citigroup* plaintiffs argued that these “red flags” signaled a precipitous decline in the mortgage backed securities market.¹⁸⁴ Directors’ behavior, plaintiffs argued, was antithetical to their obligations to monitor and manage risks.¹⁸⁵

The *Citigroup* complaint clearly reflected plaintiffs’ intent to allege directors’ breached duties in the second category of *Caremark* claims. *Citigroup*’s shareholders argued that directors acted in bad faith and consciously disregarded their duties. The complaint alleged that managers *knew* or *should have known* that certain business practices, particularly those relating to the bank’s participation in the subprime mortgage market and the credit derivatives market, created a threat that the business might experience debilitating losses.¹⁸⁶

Looking “past the lofty allegations of duties of oversight and red flags used to dress up their claims,” Chancellor Chandler ex-

proceed with their claims if they demonstrate that demand is futile. Common law provides that demand would be futile if plaintiffs may raise a reasonable doubt that “(1) the directors are disinterested and independent [or] (2) the challenged transaction was otherwise the product of a valid exercise of business judgment.” *Aronson*, 473 A.2d at 814. Where shareholders’ claims do not challenge a business decision and instead the complaint alleges that directors’ inaction resulted in losses, then the plaintiff shareholders may demonstrate demand futility by pleading particularized facts that “create a reasonable doubt that, as of the time the complaint is filed, the board of directors could have properly exercised its independent and disinterested business judgment.” *Rales v. Blasband*, 634 A.2d 927, 933–34 (Del. 1993).

179. *Citigroup*, 964 A.2d at 123.

180. *Id.*

181. *See supra* Part II.A.

182. *Citigroup*, 964 A.2d at 115 n.6.

183. *Id.* at 111.

184. *Id.*

185. *Id.* at 111.

186. *Id.* at 121–23.

plained that the shareholders' claims aimed to hold directors personally liable "for making (or allowing to be made) business decisions that, in hindsight, turned out poorly for the Company."¹⁸⁷ Allegations that directors made bad business decisions fall into the first category of *Caremark* claims. Chancellor Chandler concluded that Citigroup shareholders' claims fell within the first group of claims. The court then evaluated the claims under the standard of liability applicable to the first category of *Caremark* claims, invoked the business judgment rule, and swiftly dismissed the claims.

After its re-characterization of *Citigroup* plaintiffs' claims, the court examined, in great detail, the purported "red flags" that signaled Citigroup's impending losses. Pointing to Citigroup's creation of an audit and risk committee and the company's decision to appoint financial experts to serve on the committee, Chancellor Chandler concluded that plaintiffs' allegations of "red flags" did not offer evidence of any wrongdoing.¹⁸⁸ According to the court, Citigroup's layered internal review policies and its long-standing efforts to manage risk through designated committees undermined plaintiffs' claims that the company lacked proper information systems and controls.¹⁸⁹ The evidence of so-called red flags offered by *Citigroup* plaintiffs—media articles, economists' predictions about the market, credit rating agencies' decision to downgrade credit assets in Citigroup's portfolio of mortgage-backed assets, and continuing mark-downs of the value of Citigroup's portfolio—did not demonstrate that the directors intentionally disregarded their oversight responsibilities.¹⁹⁰

The reason for the careful review of the alleged red flags is not quite clear. Chancellor Chandler's earlier conclusions regarding the application of the business judgment rule and the application of the exculpation clause each offered a reasonable basis for disposition of the shareholders' claims. One commentator argues that Chancellor Chandler includes the discussion to "leave open the possibility that, in an appropriate case, a board might be subject to liability under *Caremark* for failing to monitor the corporation's business risk."¹⁹¹ If *Caremark* claims allege that the board failed to monitor the company's business risk, the claims are not barred as a matter of law and state corporate law continues to offer

187. *Id.* at 123.

188. *Id.* at 128.

189. *See id.* at 127.

190. *Id.* at 128.

191. Robert T. Miller, *The Board's Duty to Monitor Risk After Citigroup*, 12 U. PA. J. BUS. L. 1153, 1159 (2010).

a mechanism for shareholders to hold directors liable for risk management oversight.

On the other hand, in the absence of a mechanism to ensure accountability for fiduciary duty claims under state corporate law for ERM failures, there may be limited mechanisms for shareholders to hold directors accountable for violating their oversight obligations. When we consider the innovative developments in sophisticated financial products described in Part I along with the Delaware courts' high bar for establishing director liability for breach of the fiduciary duty to monitor risk taking, there is just cause for concern about financial institutions' risk-taking decisions and the stability of financial markets. Delaware's approach severely weakens accountability for failed risk management oversight and leaves shareholders vulnerable to managerial inattention to risk concerns. Moreover, noting that Congress and federal regulators are often reticent to adopt corporate governance measures, the absence of an effective state corporate law remedy may leave shareholders without an appropriate tool for enforcing directors' fiduciary obligations to monitor risk management oversight.

III. WELL-CRAFTED AND BETTER-DRAFTED?: FEDERAL REGULATION OF RISK MANAGEMENT THROUGH DISCLOSURE AND SUBSTANTIVE CORPORATE GOVERNANCE REFORMS

While Delaware courts' approach to determining director liability for risk management oversight serves as one source of authority, federal regulators may also impose reforms that aim to encourage careful risk management and discourage excessive risk taking. During the recent financial crisis, ERM failures at systemically significant financial institutions prompted federal regulators to adopt sweeping federal regulatory reforms designed to enhance risk management oversight in financial markets. In 2008, Congress adopted the Emergency Economic Stabilization Act, which included the Troubled Asset Relief Program (TARP) and other measures designed to stabilize the economy.¹⁹² A year later, in 2009, Congress passed the American Recovery and Reinvestment Act.¹⁹³ These legislative acts, together with the Dodd-Frank Act, adopted on July 21, 2010, represent Congress's most pervasive efforts to regulate risk in financial markets through corporate governance reforms.

192. Emergency Economic Stabilization Act of 2008, Pub. L. No. 110-343, § 101(a)(1), 122 Stat. 3765 [hereinafter EESA].

193. American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, § 7001(a)(2) (codified at 12 U.S.C. § 5221(a)(3) (2011)) [hereinafter ARRA].

The Dodd-Frank Act introduces two types of regulatory reform: disclosure-oriented reform and substantive corporate governance reforms. The latter reforms are significant because, as Part II explains, regulation of corporate governance is traditionally a province of state law. The Dodd-Frank Act introduces federal corporate governance obligations for companies subject to periodic reporting requirements under the Securities Exchange Act of 1934 and systemically significant financial institutions; the latter group is even required to appoint a special board committee designated to monitor and manage risks.¹⁹⁴ Based on the presumption that risk management and risk mitigation concerns are best addressed through corporate governance reforms, the Dodd-Frank Act enhances oversight obligations through corporate governance mechanisms. The Act includes provisions that aim to reduce systemic risk, as well as provisions to address the conflicts of interest and personal incentives that directors and officers may have to take unreasonable or excessive risks.

Three classes of insiders, inside directors, executive officers, and employees face critical conflicts of interest and incentives that may motivate undesirable, excessive risk taking. Compensation for executive officers who serve as inside directors and other senior management employees is often awarded based on the valuation of the company's stock or the price at which the company's shares trade on a national exchange. Executive officers and senior management employees, therefore, have personal incentives to ensure that accounting statements and other material disclosures, including the company's disclosure of VaR or other risk measuring methods, encourage the market to value the company's stock at or above a particular price. Executives who act as inside directors influence the development of risk management policy as members of the board. These executives, through their supervisory authority over non-management employees, also influence the implementation of corporate risk management policies. The link between compensation and risk-taking creates a continuous conflict of interest for executive officers. If financial institutions fail to manage these conflicts effectively, insiders' incentives may lead to excessive risk-taking, enterprise risk management failures, and possibly, the realization of systemic risk concerns.

194. See *infra* Part III.B., Part IV.C.1.

A. Disclosure-Oriented, Stakeholder-Centered Reforms

The risk management reforms in the Dodd-Frank Act attempt to address the conflicts of interest and incentives that create enterprise and systemic risks through conventional and more creative approaches to securities regulation. Several provisions of the Dodd-Frank Act emphasize the importance of disclosure as a method for reducing information asymmetries. Executive officers and directors have intimate, real-time knowledge of a business's actual economic position; this advantage may tempt some insiders to exploit their positions for personal gain.¹⁹⁵ In contrast, shareholders or potential investors receive information in delayed-time; they lack access to information until it is disclosed to the public.

The Dodd-Frank Act introduces additional disclosure requirements aimed to address the disclosure gap. Section 956 of the Dodd-Frank Act requires financial institutions to disclose any incentive-based executive compensation arrangements that encourage excessive risk-taking or that may lead to a material financial loss.¹⁹⁶ Consistent with the statute's systemic risk-reducing objectives, the Dodd-Frank Act amends Section 14 of the Exchange Act and enhances proxy statement disclosure obligations for reporting companies.¹⁹⁷ While the Exchange Act required certain general executive compensation disclosures prior to the adoption of the Dodd-Frank Act, the newly introduced reforms require reporting companies to disclose the relationship between the performance of the company's equity shares and the CEO's compensation (pay versus performance)¹⁹⁸ and to provide a description of the median annual compensation of all employees (excluding the CEO), the annual total compensation paid to the CEO, and a ratio comparing the two measures.¹⁹⁹

Acknowledging the increasingly significant role of derivatives in financial markets, section 955 amends Section 14 of the Exchange Act to require reporting companies to disclose their internal policies regarding employees', executives', and directors' use of derivatives or other financial products designed to hedge their exposure to a decline in the value of the company's shares.²⁰⁰ Finally, reporting companies must disclose whether the company has

195. Insiders as used in this Article refers to the directors and executive officers who are employees of a company.

196. Dodd-Frank Act § 951(a)(i).

197. *Id.*

198. *Id.*

199. *Id.* at § 953.

200. *Id.* at § 955.

adopted policies to recover incentive-based compensation awarded to executives based on accounting statements that are later revealed to contain errors.²⁰¹

Managing executives' incentives to take appropriate risks through executive compensation policies is critical to financial institutions' ability to manage risk successfully.²⁰² Consistent with basic principles of entrepreneurialism, financial institutions reward employees when their risk-taking activities on behalf of the business generate profits. Compensation arrangements organized around benefiting successful risk-taking may create incentives for executives and other employees to take imprudent and excessive risks. Employees and executives benefit if their risk-taking activities are profitable, but may not face any consequences if the risks result in losses that harm the long-term health of the business.²⁰³ The enhanced disclosure mandates reflect legislators' presumption that increasing transparency through disclosure of compensation policies clarifies whether executives face consequences when they engage in excessive or poorly calculated risk-taking activities. Disclosure reduces information asymmetries and reveals financial institutions and other reporting companies' efforts to manage risk through careful risk management oversight.²⁰⁴

Unfortunately, there is no statutory definition for one of the most important elements in Congress's risk-reducing paradigm—excessive risk-taking. Regulators of financial institutions and other reporting companies subject to disclosure requirements must determine how to interpret “excessive” risk-taking. Delegating the authority to regulated entities and regulators makes sense because there is no single, one-size-fits-all method to ensure successful risk management.

The absence of a statutory definition, however, creates room for interested parties to influence regulators and weaken the effect of the reforms. Moreover, there may be gaps between the adoption of executive compensation policies, amendments to existing policies, the implementation of these policies, and the public disclosure of relevant information.

201. 15 U.S.C. § 78j-4 (2011).

202. Proposed Rule to Implement Section 956 of the Dodd-Frank Act, *available at* <http://www.sec.gov/spotlight/doddfrank956proposedruledraft.pdf>.

203. *Id.*

204. See generally Frank H. Easterbrook & Daniel R. Fischel, *Mandatory Disclosure and the Protection of Investors*, 70 VA. L. REV. 669 (1984). Disclosures strengthen the integrity of the marketplace and, among other benefits, foster greater stability and militate against systemic risks.

As the discussion in Part I regarding the use of VaR models and the development of Monte Carlo simulations and stress tests explains, risk management decisions are time-sensitive. Disclosing information only periodically—typically on a quarterly or annual basis—often leaves investors with very limited and likely stale information regarding risk management. Because of the intense competition among financial institutions engaged in investing, underwriting, lending, and other business activities subject to financial market risks, financial institutions are unlikely to disclose any information beyond that which is required; therefore, it is unclear that the provisions will have the intended transparency-enhancing effect.

Finally, similar to other federal disclosure obligations, the disclosure-oriented reforms in the Dodd-Frank Act create expenses for the companies subject to the Exchange Act. Commentators also argue that compliance with disclosure-oriented reforms frustrates businesses because there is often little evidence that the required disclosure will effectively address Congress's risk management concerns.²⁰⁵ Fortunately, Congress had a second tool available to address risk management concerns: substantive corporate governance reforms.

B. Much Ado About Nothing: Substantive Governance Reforms

Many of the disclosure mandates in the Dodd-Frank Act are accompanied by parallel corporate governance reforms that change either a structural or organizational attribute of the board of directors. For example, the Dodd-Frank Act directs federal regulators to direct national securities exchanges to impose listing rules requiring companies whose securities are traded on the exchange to appoint only independent directors to any board committee designated to adopt compensation policies.²⁰⁶ Moreover, the statute expressly tasks these board committees with the authority to decide salaries for executives, directors, and other employees.²⁰⁷

Section 956, which requires disclosure of incentive-based executive compensation policies, also prohibits financial institutions from adopting incentive-based compensation policies that encourage excessive risk-taking that may lead to a material financial loss.²⁰⁸ "Say-on-pay" mandates accompany the executive compensation

205. See generally, Bainbridge, *supra* note 15, at 1801–1802.

206. 15 U.S.C. § 78j-3(f) (2011).

207. See generally 15 U.S.C. § 78j-3 (2011).

208. Dodd-Frank Act § 951(a)(i).

disclosures in Section 951 that require reporting companies to include a resolution in their annual proxy statements granting shareholders the authority to participate in an advisory, non-binding vote on executive compensation awards.²⁰⁹ Reporting companies must also include a resolution indicating whether votes on the say-on-pay resolutions will occur every one, two, or three years and a resolution on the frequency of the say-on-pay votes at least once every six years.²¹⁰ Finally, Section 951 requires a non-binding, advisory shareholder vote on any golden parachute arrangements related to mergers and acquisitions.²¹¹

Section 971 grants shareholders greater ability to influence the information contained in companies' annual proxy statements. Under recently adopted Rule 14a-11, the SEC now requires companies to include shareholders' nominees along with the incumbent directors and managements' nominees for board seats available during any board election.²¹² Rule 14a-11 allows shareholders to nominate board candidates for election if the shareholder owns at least three percent of the company's shares and has continuously owned at least three percent of the company's shares for the prior three years.²¹³ While companies subject to the rule cannot opt-out, Rule 14a-11 does not apply if a company's bylaws or the law of the company's state of incorporation prohibits shareholders from nominating directors.²¹⁴ Under the proposed rule, shareholders would be able to nominate the greater of one nominee or up to 25 percent of the total board seats.²¹⁵

There is skepticism about the effectiveness of the Dodd-Frank Act's substantive corporate governance reforms. While these shareholder-centric reforms strengthen shareholders' authority in the balance of power between shareholders and directors and officers, it is unclear whether these reforms will, in fact, impact risk management in the manner that Congress intended. For example, say-on-pay votes presumably give shareholders a more significant voice in determining executive compensation, an area described above as critical to effective risk management. However, the

209. The Securities Exchange Act of 1934, 15 U.S.C. § 78n-1, [hereinafter Exchange Act].

210. 15 U.S.C. § 78n-1 (2011).

211. Exchange Act § 14A(b)(1).

212. A shareholder must own at least 3 percent of the company's shares at the time that she proposes director nominees and she must have owned 3 percent of the company's shares for the period beginning three years prior to the submission of the nominees and the submission of the director nominees for inclusion in the proxy statement.

213. 15 U.S.C. § 78n-1 (2011).

214. *Id.*

215. *Id.*

say-on-pay vote is merely advisory and nonbinding. It does not actually increase shareholders' authority over executive compensation. Consequently, the provision is largely symbolic.

Moreover, empirical studies cast doubt on the efficacy of say-on-pay reforms. Empirical studies evaluating say-on-pay voting policies adopted in other jurisdictions suggest that increasing the opportunities for shareholders to participate in director elections does not necessarily lead to more meaningful shareholder participation.²¹⁶ Jeffrey Gordon's study examining the effects of say-on-pay arrangements in the United Kingdom indicates that shareholder approval votes have limited influence on executive compensation.²¹⁷ Though there is some evidence that say-on-pay votes encourage modest reforms, shareholders almost always approve proposed executive compensation packages.²¹⁸ It is even less clear that say-on-pay votes have any effect on or enhance risk management oversight.

In addition, there is little evidence that reforms altering board organization, such as requiring boards to appoint compensation committees comprised of only independent board members, reduce undesirable risk-taking. Prior to the passage of the Dodd-Frank Act, the national securities exchanges imposed requirements regarding composition of listed companies compensation committees.²¹⁹ For example, Section 303A.01 of the New York Stock Exchange Listed Companies Manual requires listed companies to appoint only independent directors to their compensation committees.²²⁰ Section 5605(d) of NASDAQ's listing standards requires listed companies to appoint independent directors to a majority of the positions on the compensation committee.²²¹ Thus, the Dodd-Frank Act's provisions addressing compensation committee composition are redundant. The exchanges had already adopted relevant listing company requirements addressing these particular corporate governance concerns.²²²

216. Stephen M. Bainbridge, *Is 'Say On Pay' Justified?*, 32 REGULATION 42, 45 (2009).

217. Jeffrey N. Gordon, "Say on Pay": *Cautionary Notes on the U.K. Experience and the Case for Shareholder Opt-in*, 46 HARV. J. ON LEGIS. 323 (2009).

218. David McCann, *Say What? The Battle Over Executive Comp*, CFO.COM, June 4, 2008, http://www.cfo.com/article.cfm/11485334/c_2984338/?f=archives.

219. See NEW YORK STOCK EXCHANGE, LISTED COMPANY MANUAL § 303A.01 (2009), available at <http://nysemanual.nyse.com>.

220. *Id.*

221. NASDAQ, NASDAQ STOCK MARKET RULES, Listing Rule § 5605(d) (2009), available at <http://nasdaq.cchwallstreet.com/>.

222. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 952, 124 Stat. 1376, 1900 (2010).

More importantly, there is no evidence to suggest that appointing a wholly independent compensation committee will ensure better risk management.²²³ In a recent article, Lisa Fairfax offers thoughtful reflections regarding the fallacy of assuming that appointing independent directors leads to inherently better outcomes.²²⁴ The reason for this may be, at least in part, that the definition of “independence” is elusive; cognitive biases limit directors' ability to act or make decisions in a manner consistent with a theoretical perception of independence.²²⁵ Moreover, the results of empirical studies examining the influence of independent directors on board's decision-making process are inconclusive.²²⁶

The impact of proxy access reforms may be similarly disappointing. Ensuring that shareholders have greater influence regarding the content of annual proxy statements presumably allows shareholders to exercise greater authority in electing those who serve on the company's board of directors. Empirical studies reveal that efforts to upset incumbent directors are typically unsuccessful. Studies suggest that in contests, incumbent directors will grant concessions to shareholders in order to retain their board seats.²²⁷ Even after the Dodd-Frank Act reforms to increase shareholders' ability to nominate directors, the probability that shareholders will succeed in getting their candidates elected is extremely low.²²⁸ Moreover, even if shareholders succeed in placing candidates on the slate, it is unlikely that shareholder candidates will capture a majority or even a significant minority of seats on the board. Shareholders' selective targeting of directors also suggests that their efforts will not prompt a removal of the entire board in any given election or even a significant number of incumbent directors.²²⁹ As one commentator notes, because the Dodd-Frank Act long-debated reforms, the statute's impact will be uneventful:

223. Sanjai Bhagat & Bernard Black, *The Uncertain Relationship Between Board Composition and Firm Performance*, 54 BUS. LAW. 921, 923 (1999).

224. See Lisa Fairfax, *The Uneasy Case for the Inside Director*, 96 IOWA L. REV. 127 (2010).

225. *Id.* at 135.

226. See Bhagat & Black, *supra* note 223, at 924–26; Eliezer M. Fich & Lawrence J. White, *CEO Compensation and Turnover: The Effects of Mutually Interlocked Boards*, 38 WAKE FOREST L. REV. 935, 936 (2003); Idalene F. Kesner, Bart Victor & Bruce T. Lamont, *Board Composition and the Commission of Illegal Acts: An Investigation of Fortune 500 Companies*, 29 ACAD. MGMT. J. 789, 794–96 (1986).

227. See Bainbridge, *supra* note 216, at 157.

228. Lucian A. Bebchuk, *The Myth of the Shareholder Franchise*, 93 VA. L. REV. 678, 688–694 (2007).

229. Christopher M. Bruner, *Corporate Governance Reform in a Time of Crisis*, 36 IOWA J. CORP. L. 309, 332–334 (2011).

“there is nothing even remotely radical about anything in these” reforms.²³⁰

Legislators, regulators, and commentators often assume that addressing the specific issues that emerged during the recent crisis is sufficient to prevent a future crisis. Unfortunately, this approach is often frustrating because regulation chases market innovation and merely offers reforms that react to the catalysts of the last financial market disruption. Instead reforms should be agile, and that address forward-looking concerns. The measures introduced in the Dodd-Frank Act offer limited reforms specifically enhancing financial institutions’ enterprise and systemic risk oversight. The reforms continue to rely significantly on the board of directors to manage executives’ conflicts between their own self-interests in obtaining incentive-based compensation and risk management oversight.

At the heart of the reforms adopted in the Dodd-Frank Act are several ineffective attempts to address boards’ oversight of enterprise risk management. For the reasons noted in this Section, there are concerns that the recently adopted federal legislation will fail to accomplish its risk-reducing goals. The next Part offers a proposal for addressing the gaps in the proposed reforms. The proposal suggests reforms that would leverage the benefits of relying on the board as the leadership and authority of systemically significant financial institutions while addressing the unresolved but critical issues that undermine the effectiveness of boards’ decision-making processes: cognitive biases and structural dynamics.

IV. A PROPOSAL FOR REFORM: APPLYING LESSONS FROM BEHAVIORAL ECONOMICS AND ORGANIZATIONAL LITERATURE TO RISK MANAGEMENT REGULATION

The recent financial crisis renewed the debate over the effectiveness of federal corporate governance reforms. Parts II and III explored state and federal efforts to regulate risk management oversight and argued that state corporate law generally defers to directors’ judgment regarding risk management policies. Federal efforts to enhance risk governance, similar to legislation and regulation responding to other financial market disruptions, provide organizational reforms that altered the structure and composition

230. See, e.g., Joe Nocera, *A Dubious Way to Prevent Fiscal Crisis*, N.Y. TIMES, June 4, 2010, at B1 (“[T]here is nothing even remotely radical about anything in these bills.”).

of the board of directors.²³¹ However, neither regulatory approach reaches the more fundamental concerns inherent in boards' decision-making processes. Consequently, the reforms are unlikely to achieve intended risk management oversight goals.

This Part addresses the benefits and weaknesses of group decision-making. After exploring the promise and peril of group decision-making, this Part posits that organizational reforms must respond to shortcomings in risk management governance, namely, the impact of cognitive biases and structural limitations on group decision-making processes. Moreover, this Part contends that a more effective regulatory approach involves comprehensive risk governance implemented by each authority that influences corporate governance—federal and state regulatory authorities, self-regulatory organizations, and the contractual arrangement embodied in state corporate charters.

A. The Promise of Group Decision-Making

Boards of directors serve as mediating hierarchies or gatekeepers, balancing shareholder interests and management incentives.²³² State law authorizes boards to monitor and manage a company's business performance, offer advice and counsel to executive officers, and establish the objectives, goals, and policies that govern business activities.²³³ As an international committee on banking supervision recently observed, the board of directors of financial institutions serves a uniquely important role, creating an important "check" among the "checks and balances" that ensure the safety and soundness of banks' operations and risk management oversight.²³⁴ In turn, effective ERM at individual financial institutions reduces the threat of systemic risk.

Academic literature, common law, and statutes reflect a presumption that the board engages in a deliberative decision-making process. As Part II explains, state corporate law and judicial

231. See *e.g.*, Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, 116 Stat. 745 (2006) (codified as amended in scattered sections of 11, 15, 18, 28 & 29 U.S.C.).

232. Peter C. Kostant, *Breeding Better Watchdogs: Multidisciplinary Partnerships in Corporate Legal Practice*, 84 MINN. L. REV. 1213, 1267 (2000).

233. See DEL. CODE ANN. tit. 8, § 141(a) (2010) ("The business and affairs of every corporation . . . shall be managed by or under the direction of a board of directors"). The American Law Institute's Principles of Corporate Governance reflects similar designs. See AM. LAW INST., PRINCIPLES OF CORPORATE GOVERNANCE: ANALYSIS & RECOMMENDATIONS § 3.02(a)(2)–(3) (1992).

234. BASEL COMM. ON BANKING SUPERVISION, ENHANCING CORPORATE GOVERNANCE FOR BANKING ORGANISATIONS 13 (2006).

precedent employ a deferential standard of review when evaluating board decisions in derivative litigation as long as the board makes rational, well-informed decisions in good faith. Relying on boards may, in fact, lead to better decisions for corporations.²³⁵ Experimental psychologists and behavioral economists' research suggests that aggregating a group of individuals' knowledge, interests, and skills leads to qualitatively better decisions than relying on the decisions made by the average individual group member.²³⁶

The decisions that we make as individuals are subject to inherent cognitive limitations. As individuals, we have limited expertise, memory, and analytical and computational abilities. Individuals have a natural tendency to overestimate the quality of their own judgments and abilities.²³⁷ Group deliberative processes overcome the bounded rationality that limits an individual's decision-making process.²³⁸ Groups tend to commit fewer errors and discover more mistakes than the average individual group member.²³⁹

The benefits of group decision-making assume that groups engage in an honest, robust exchange of ideas.²⁴⁰ When groups engage in candid decision-making processes, the groups benefit from the rich diversity of talents, strengths, ideas, and personal and professional experiences of their members.²⁴¹

There is also a compelling efficiency rationale for adopting a collective decision-making process.²⁴² For a business to gain the best outcome when a task is assigned, it may be difficult to identify the individual who will outperform her peers in advance of the task. A group decision-making process offers the benefit of capturing the skills of the strongest member of the group without the necessity of having to identify the strongest member at the outset. However, the presumed attributes and benefits often fail to materialize and instead, group decision-making engenders a number of concerns.

235. Alan S. Blinder & John Morgan, *Are Two Heads Better than One?: An Experimental Analysis of Group vs. Individual Decisionmaking* 15 (Nat'l Bureau of Econ. Research, Working Paper No. 7909, 2000), available at <http://www.nber.org/papers/w7909>.

236. See e.g., Blinder & Morgan, *supra* note 235, at 15; see also Robert J. Haft, *Business Decisions by the New Board: Behavioral Science and Corporate Law*, 80 MICH. L. REV. 1, 9–12 (1981). For a survey of experiments, see also Stephen M. Bainbridge, *Why a Board? Group Decisionmaking in Corporate Governance*, 55 VAND. L. REV. 1, 12–19 (2002) (surveying several experimental studies and noting the conclusions demonstrating the benefits of group decision making as well as the weaknesses in the experiments); Melanie B. Leslie, *The Wisdom of Crowds? Groupthink and Nonprofit Governance*, 62 FLA. L. REV. 1179 (2010).

237. Bainbridge, *supra* note 236, at 11.

238. Leslie, *supra* note 236, at 1190.

239. Blinder et al., *supra* note 235, at 5.

240. Bainbridge, *supra* note 236, at 11.

241. *Id.*

242. *Id.*

B. The Limitations of Group Decision-Making

Studies by behavioral economists reveal that several significant cognitive biases and other structural dynamics may influence the effectiveness of deliberative, group decision-making processes.²⁴³ In the context of boards of directors, the impact of cognitive biases and structural dynamics create notable limitations.²⁴⁴ For boards of directors at systemically significant financial institutions and other financial services intermediaries, these limits may lead to perilous consequences, including ERM failures, insolvency, or market disruption.

Four significant cognitive biases—commitment bias, confirmation bias, overconfidence, and structural bias—limit group decision-making processes and pose significant problems for complex financial institutions. First, the theory of commitment bias posits that people have a natural propensity to identify information that supports a previously adopted strategy or course of action.²⁴⁵ Once a person has chosen a course of action, commitment bias suggests that the person will continue to act in a manner consistent with the chosen course even if later discovered information suggests that one should follow a different course.²⁴⁶ Commitment bias may make it difficult for a director to appreciate evidence that her decisions or the group's earlier decisions were misguided.

Second, confirmation bias describes a tendency to disregard information that contradicts an established conclusion and unconsciously gravitate to information that confirms a previously articulated opinion.²⁴⁷ Because of confirmation bias, groups will perceive information as supporting earlier decisions where an objective review of the same information suggests cause to question, re-evaluate, or abandon earlier conclusions.²⁴⁸ Confirmation bias

243. See e.g., Mark Seidenfeld, *Cognitive Loafing, Social Conformity, and Judicial Review of Agency Rulemaking*, 87 CORNELL L. REV. 486, 499 (2002).

244. See *id.*

245. Douglas G. Baird & Robert K. Rasmussen, *The Prime Directive*, 75 U. CIN. L. REV. 921, 936 (2007).

246. *Id.*

247. See *supra* Leslie, note 236, at 1191–92 (surveying the literature examining confirmation bias including the experiments and conclusions explored in Raymond S. Nickerson, *Confirmation Bias: A Ubiquitous Phenomenon in Many Guises*, 2 REV. GEN. PSYCHOL. 175, 175 (1998); J. Edward Russo et al., *The Distortion of Information During Decisions*, 66 Org. Behav. & Hum. Decision Processes 102, 107–08 (1996); David M. Sanbonmatsu et al., *Overestimating Causality: Attributional Effects of Confirmatory Processing*, 65 J. PERSONALITY & SOC. PSYCHOL. 892, 892–93 (1993)).

248. See *id.*

leads an individual or group to disregard information that contradicts their perceptions and established conclusions.²⁴⁹

Third, overconfidence bias describes a tendency to overestimate a group's abilities or the abilities of the leadership of a group.²⁵⁰ Overconfidence leads group members to defer to leadership without rigorously debating the issue and to adopt overly optimistic opinions regarding the performance of group leaders.²⁵¹ Overconfidence compromises objective decision-making.²⁵²

Fourth, structural bias impedes a director's ability to exercise objective judgment in circumstances that involve persons with whom a director has a relationship.²⁵³ Board members are generally selected from a small pool of qualified candidates.²⁵⁴ The small pool of director candidates also suggests that directors will likely participate in similar educational and professional circles and share multiple affiliations with one another.²⁵⁵ Drawing from a limited pool of qualified candidates often ensures that board members will have relationships with other board members prior to serving on a board.²⁵⁶ Or, through their service, board members may develop intimate personal relationships with one another.²⁵⁷

These relational ties and affiliations stymie board members' ability to evaluate one another's opinions and actions objectively. Structural bias refers to the tendency of group members to aban-

249. Troy A. Paredes, *Too Much Pay, Too Much Deference: Behavioral Corporate Finance, CEOs, and Corporate Governance*, 32 FLA. ST. U. L. REV. 673, 680 (2005).

250. See Leslie, *supra* note 236, at 1183 ("Board members' preferences for consensus, approval, and group solidarity can intensify the effect of pre-existing biases that impede rational decision-making, such as confirmation bias, ingroup bias, and overconfidence in one's ability to act fairly.")

251. See Donald C. Langevoort, *The Human Nature of Corporate Boards: Law, Norms, and the Unintended Consequences of Independence and Accountability*, 89 GEO. L.J. 797, 803 (2001).

252. See Leslie, *supra* note 236, at 1183.

253. See Antony Page, *Unconscious Bias and the Limits of Director Independence*, 2009 U. ILL. L. REV. 237, 250 (2009); see also Julian Velasco, *Structural Bias and the Need for Substantive Review*, 82 WASH. U. L. Q. 821, 824 (2004) (explaining that the "term 'structural bias' generally refers to the prejudice that members of the board of directors may have in favor of one another and of management"). Courts have also acknowledged the influence of structural bias. See *Beam v. Stewart*, 845 A.2d 1040, 1050–51 (Del. 2004) (indicating that structural bias "presupposes that the professional and social relationships that naturally develop among members of a board impede independent decision-making").

254. See Donald C. Langevoort, *The Human Nature of Corporate Boards: Law, Norms, and the Unintended Consequences of Independence and Accountability*, 89 GEO. L.J. 797, 810 n.60 (2001) (citing James D. Cox & Harry L. Munsinger, *Bias in the Boardroom: Psychological Foundations and Legal Implications of Corporate Cohesion*, 48 LAW & CONTEMP. PROBS. 83, 103–04 (1985)).

255. See generally *In re Oracle Corp. Derivative Litig.*, 824 A.2d 917, 938 (Del. Ch. 2003) (exploring the influence of bias created by professional, educational and board service affiliations and indicating that "motives like love, friendship, and collegiality" impede objectivity); Leslie, *supra* note 236, at 859.

256. See generally *Oracle*, 824 A.2d at 938.

257. See *id.*

don their own individual perceptions regarding a particular issue and adopt an opinion that is the group consensus on the matter even if they possess information that conflicts with or contradicts the group's opinion.²⁵⁸ Because of structural bias, interactions and affiliations outside the boardroom may color board members' ability to engage in the rigorous debate necessary to generate the benefits of deliberative decision-making.²⁵⁹ Consequently, structural bias may limit the effectiveness of group decision-making.

Structural dynamics may further deteriorate objective decision-making by reinforcing cognitive biases. According to scholars, "herding" can amplify the effects of cognitive biases.²⁶⁰ Herding describes the tendency of group members to adopt the decisions of other members in a group, disregarding information in their possession or even their own judgments that may be contrary to the group's opinion.²⁶¹ The group may defer to the judgment of a dominant board member who is perceived as better informed.²⁶² In other instances, a board member may free-ride on the information offered by another board member in an effort to appear to be team player that can "get-along."²⁶³ Board members herding behind a popular or dominant perspective undermine the benefits of group decision-making, leading to less effective, sub-optimal decisions.

C. Altering the Regulations to Improve Group Decision-Making

As described in Parts II and III above, both state and federal authorities currently regulate corporate governance. However, the

258. Julian Velasco, *Structural Bias and the Need for Substantive Review*, 82 WASH. U. L. Q. 821 (2004); Page, *supra* note 253, at 250.

259. Seidenfeld, *supra* note 243, at 486.

260. *Id.*; see also Marleen A. O'Connor, *The Enron Board: The Perils of Groupthink*, 71 U. CIN. L. REV. 1233, 1239 (2003); Marcel Kahan & Michael Klausner, *Path Dependence in Corporate Contracting: Increasing Returns, Herd Behavior, and Cognitive Biases*, 74 WASH. U. L.Q. 347, 348, 353-56 (1996); see generally Peter H. Huang, *Herd Behavior in Designer Genes*, 34 WAKE FOREST L. REV. 639, 645-53 (1999); OLIVER E. WILLIAMSON, *THE MECHANISMS OF GOVERNANCE* 37 (1996).

261. Bainbridge, *supra* note 236; Scotland M. Duncan, *The Empirics of Governance and Fraud*, 70 U. PITT. L. REV. 465, 474 (2009).

262. Bainbridge, *supra* note 236, at 31; Scotland M. Duncan, *The Empirics of Governance and Fraud*, 70 U. PITT. L. REV. 465, 474 (2009) ("Faced with complexity and uncertainty, outside directors 'who perceive themselves as having limited information and who can observe the actions of presumptively better-informed persons may attempt to free ride by following' the CEO's decisions.")

263. Marleen A. O'Connor, *Women Executives in Gladiator Corporate Cultures: The Behavioral Dynamics of Gender, Ego, and Power*, 65 MD. L. REV. 465, 497 (2006); Melanie B. Leslie, *The Wisdom of Crowds? Groupthink and Nonprofit Governance*, 62 FLA. L. REV. 1179, 1190 (2010).

earlier analysis reveals that two additional authorities also influence corporate governance—self-regulatory organizations (SROs) and the corporate charter that establishes the rights of the owners and the responsibilities and obligations of directors and executive officers. Each of these authorities influences aspects of the board’s decision-making processes. This Section contends that each authority that influences corporate governance should structure regulatory obligations in a manner that leverages the benefits of group decision-making while mitigating the impact of cognitive biases and structural dynamics.

1. Federal Regulation

Part III examined federal regulators’ efforts to reduce enterprise and systemic risk through corporate governance reforms in the newly adopted Dodd-Frank Act. Federal authorities’ use of structural and composition board reforms aims to address executive officers and inside directors’ incentives and the conflicts of interest that may lead to undesirable risk-taking. However, there are more direct approaches to board reforms that consider cognitive biases and structural dynamics of board relationships. To enhance ERM at systemically significant financial institutions and reduce systemic risk, Congress could have imposed a federally-enforceable fiduciary obligation for directors to develop and monitor risk management oversight systems.

The creation of a federal fiduciary duty to oversee risk management would require federal regulators to develop corporate governance liability standards, further extending federal authority into a province traditionally regulated by state law. While federal regulators have extensive experience regulating liability standards and monitoring compliance, commentators correctly note that there are benefits to permitting state legislatures and courts to serve as laboratories of experimentation or a forum for the debate and development of fiduciary obligation standards.²⁶⁴

The Dodd-Frank Act does not include a specific mechanism for federal regulators to increase oversight of risk management policies at large, complex financial institutions. Under Section 165(h) of the Dodd-Frank Act, Congress authorizes the Board of Governors of the Federal Reserve to implement regulations requiring certain financial institutions to create risk management commit-

264. See e.g., Bainbridge, *supra* note 120, at 145.

tees.²⁶⁵ The risk management committees must include at least one risk management expert with experience assessing and managing risk exposures of large, complex financial institutions.²⁶⁶

Through the development of regulations for risk committees, the Federal Reserve will attempt to ensure that systemically significant financial institutions create and maintain appropriate risk management policies. The Federal Reserve may also impose committee composition requirements that reduce the influence of cognitive biases. For example, requiring external review of risk management decisions by an independent, risk management consultant and requiring the committee to explain in a formal meeting with the full board its decisions to adopt or dismiss the recommendations of the independent consultant may reduce overconfidence, confirmation, and commitment biases. In addition, including an expert on risk management methodologies on the risk management committee will enhance the committee's understanding of complex quantitative financial models. The committee will be better able to detect manipulation or errors in the application of quantitative models such as VaR, Monte Carlo simulations, and stress tests.

Finally, the risk management committee may adopt policies regarding internal reporting that further enhance risk management oversight and reduce the influence of cognitive biases and structural dynamics. The committee may insist on the appointment of a chief risk officer and require the officer to present periodic reports directly to the committee. To protect against conflicts of interest and inappropriate personal incentives, the risk management committee and the compensation committee should collaborate to ensure that the chief risk officer's compensation is determined in a manner that is not correlated to the value of the firm's equity securities, the size of dividends, profitability, or other measures that may create incentives to engage in undesirable risk-taking.

2. State Regulation

States are already well-positioned to improve risk management regulation by enhancing group decision-making. For example, *Citigroup* points to an opportunity for Delaware courts to articulate a clear standard regarding directors' fiduciary obligations to carry out their risk management oversight responsibilities. As Part

265. See Dodd-Frank Act, Pub. L. No. 111-203, § 165(h), 124.

266. Dodd-Frank Act § 165(h)(3)(C).

II explains, the court's opinion in *Citigroup* reflects the possibility that plaintiffs may use derivative suits to hold directors accountable for risk management failures. The *Citigroup* opinion explains that directors have an obligation to establish adequate risk management systems and to monitor these systems in good faith. Evidence of persisting "red flags," may signal that these systems are ineffective and trigger the board's oversight duty.²⁶⁷

When adopting the evidentiary standards for determining what constitutes "red flags" in oversight claims, state authorities may enhance risk management oversight obligations that acknowledge the influence of cognitive biases and structural dynamics. Adopting a rigorous risk management standard may run contrary to the theory of the business judgment rule discussed in Part II; however, the critical role of risk management oversight, particularly in the business model of systemically significant financial institutions, justifies heightened liability standards in fiduciary oversight cases. Interpreting fiduciary obligations to have enforceable consequences if directors fail to consider the architecture of risk management systems carefully and to monitor risks actively is consistent with the courts' application of fiduciary obligations under *Caremark* and its progeny.

3. Self-Regulatory Organizations

As Part III explained, SROs may enhance risk management oversight to account for cognitive biases and structural dynamics through the regulatory framework of their listing criteria and best practices requirements. Many of the largest and most sophisticated financial institutions that suffered significant distress during the recent financial crisis and ultimately received TARP funds are companies whose securities are publicly traded on national securities exchanges. The exchanges, as SROs, have the authority to adopt risk governance obligations for their members. With increasing frequency, and, based on federal mandates under both the Sarbanes-Oxley Act (SOX) and the Dodd-Frank Act, SROs have implemented rules affecting principles of corporate governance. SOX, for example, directs SROs to impose corporate governance requirements obligating exchange members to form audit committees and appoint independent directors to specific board

267. *Citigroup*, 964 A.2d at 121.

committees.²⁶⁸ As Part III explained, the Dodd-Frank Act similarly directs SROs to appoint only independent directors to compensation committees and imposes additional committee composition obligations. While these structural and composition reforms may mitigate cognitive biases and structural dynamics, SROs often have greater knowledge and understanding of financial market risks and can act more aggressively to adopt risk management oversight rules.

SROs also often lead regulatory authorities in introducing reforms that reflect an understanding of cognitive biases and structural dynamics. SROs are more agile and can adapt to concerns regarding internal board dynamics. In addition, the collaboration between SROs and industry trade organizations facilitates the development of industry specific knowledge and expertise. In much less time than would be required for the SEC or the Federal Reserve to engage in a rule-making process or to implement standards for a risk management committee, SROs may, for example, require the listed companies or specific groups of listed companies to adopt the COSO framework or a similar comprehensive ERM oversight program.

4. Contractual Governance

Finally, the relationship between the shareholders and directors and officers of a corporation is, at its core, a contractual relationship. Adjusting the corporate charter, which is the contractual agreement that establishes the relationship between executives and directors and shareholders, may offer an efficient mechanism to implement heightened risk management oversight. The challenges of collective action and shareholder apathy typically limit shareholders' ability to successfully influence corporate governance; thus, it may be particularly difficult to amend the company's charter. If shareholders are able to muster the momentum necessary to amend the corporate charter, they should seek to impose specific risk management duties on the board through the guidelines or charter of a risk management committee.

268. See Lisa M. Fairfax, *Government Governance and the Need to Reconcile Government Regulation with Board Fiduciary Duties*, 95 MINN. L. REV. 1692, 1702 (2011) ("Indeed, corporate governance reforms under the Sarbanes-Oxley Act of 2002 (SOX) essentially required public companies to maintain independent audit committees, which enhanced that committee's role in the corporate governance landscape."); Usha Rodrigues, *The Fetishization of Independence*, 33 J. CORP. L. 447, 453 (2008) ("Under SOX, the audit committee must consist entirely of independent directors, who in order to qualify cannot accept 'any consulting, advisory, or other compensatory fee' from the company on whose board they sit.").

As discussed in Part III, the Dodd-Frank Act introduces shareholder-centric mechanisms to enhance shareholders' ability to influence compensation and other governance issues. Through the guidelines of a risk management committee charter, shareholders may gain a more robust voice in the debate regarding board oversight of risk management. The risk management committee charter may demand greater transparency regarding risk management decisions. Notwithstanding the fact that federal regulation creates periodic reporting requirements, risk management committees may adopt charter provisions that require the risk management committees to issue more frequent reports regarding risk management strategies and to consult with independent risk management experts.

In addition, shareholders would benefit from further reforms of compensation committee policies that offer incentive-based compensation. While the Dodd-Frank Act does create incentive-based compensation disclosure requirements, the legislation does not propose solutions that militate against abuse of incentive-based compensation arrangements. Through increased influence, shareholders may campaign for compensation committees to tie incentive-based awards to *risk-adjusted* returns rather than merely the performance of the corporation's equity securities or allow awards to vest over a longer period.

Addressing the cognitive biases and structural dynamics that impede effective risk management presents a challenge that is not easily resolved by any one or even all of these proposed solutions. In part, the goal is difficult because there is still a great deal to learn as behavioral economists continue to explore the sources and remedies that effectively address cognitive biases. Moreover, each of the proposed solutions creates costs for regulators, self-regulatory organizations, and regulated businesses. In certain instances, the proposed solutions encourage regulators to act outside of their areas of expertise and therefore may not lead to the desired risk-reducing outcomes.

However, the benefits of imposing these reforms significantly outweigh the costs. The influence of cognitive biases and structural dynamics on board decisions undermines the efficiency of allowing boards to engage in group decision-making. In the context of risk management decisions, the effects of these inefficiencies may be detrimental to individual businesses if they lead to ERM failures. Moreover, the negative impacts across an industry, particularly the financial services industry, may have devastating consequences for domestic and global financial markets.

CONCLUSION

This Article demonstrates that the regulation of policies that businesses or enterprises adopt to identify, monitor, and mitigate risks, comprises a critical element in any effective strategy to reduce systemic risk. The innovative development of quantitative methods for measuring risk exposure and structured finance products designed to mitigate risk exposure revolutionized the application of risk management theories. While an increasing number of risk mitigating methods have emerged, financial institutions now almost uniformly employ quantitative financial models to measure risk exposure. In addition, financial institutions' use of derivatives for hedging or mitigating risk exposure has increased exponentially in the last two decades. However, notwithstanding the identified benefits of risk mitigating methods, systemically significant financial institutions' use of these methods have created grave concerns. These risk measuring and risk mitigating methods have, ironically, concentrated systemic risk and contributed to significant losses during the recent financial crisis.

Systemically significant financial institutions suffered staggering losses due to failures related to these internal risk management policies. The circumstances created by the crisis illustrate the importance of regulating ERM. The prevailing view regarding reforms focuses narrowly on systemic risk and overlooks the valuable benefits engendered by adopting effective risk management reforms. When we consider the costs of risk management failures, it becomes clear that adopting a myopic view of risk regulation may prove costly.

State fiduciary obligations generally introduce effective mechanisms designed to balance directors' and officers' authority over internal corporate affairs with their accountability for such decisions. However, this Article reveals that state law has so narrowly interpreted the fiduciary duties of directors that only intentional or egregious conduct is actionable. As illustrated by a wave of derivative litigation alleging that directors should be held accountable for massive financial losses during the recent financial crisis, liability standards for ERM oversight is unclear. The low threshold for escaping fiduciary liability under state law permits private businesses to shift the negative consequences, or negative externalities, of their risk-taking activities to the public. When the costs of these negative externalities required the government to distribute over \$700 billion to stabilize the economy, federal regulators promptly intervened.

Comprised of disclosure requirements and, in more recent years, corporate governance reforms, federal securities regulation endeavors to address ERM failures. The recently adopted Dodd-Frank Act introduces reforms that acknowledge directors' and executives' incentives to take undesirable risks with a company's assets. In the end, however, federal approaches to ERM oversight focus too narrowly on disclosure, executive compensation, and independent directors' participation on the board. While federal reforms may curtail some less-desirable behavior, a more effective approach remains underexplored.

This Article suggests that a comprehensive approach to risk management regulation is necessary to reduce ERM failures and the role of ERM failures in creating systemic risk. Drawing on the strengths of each of the four spheres of authority that influence corporate governance—state authorities, federal authorities, self-regulatory agencies, and private contractual arrangements—this Article offers a more effective solution to ERM concerns. By addressing the cognitive biases and structural dynamics that impede effective risk management, each sphere of regulatory authority may implement more appropriate regulatory reforms.