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SHORT-TERMISM, THE FINANCIAL CRISIS, AND CORPORATE GOVERNANCE

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*267 I. Introduction

The financial crisis of 2007-2009 was preceded by a period of financial firms [1] seeking short-term profit regardless of long-term consequences. [2] Numerous market participants engaged in myopic behavior, including mortgage originators, securitizers, credit default-swap sellers, rating agencies, and investors. Contrary to the efficient market hypothesis, market prices of subprime mortgage-related securities failed to reflect underlying risk in the wake of a massive decline in lending, underwriting, and rating standards and over reliance on the risk reduction capacities of derivative transactions and on models that failed to account, among other things, for low-frequency economic shocks. The CEO of Citibank, Charles Prince, conceded a motivation for short-termism: while acknowledging that the "party would end at some point," he claimed that "as long as the music is playing, you've got to get up and dance." [3] For some time the stock and credit markets were fooled by this myopic behavior but when reality intruded with housing prices declining, subprime mortgages defaulting, short-term credit markets freezing up, and sellers of credit default swaps being unable to meet their obligations, the bubble ultimately collapsed, taking with it much of the economy. The profits earned during this period proved to be illusionary except for those market participants who were highly compensated during the bubble [4] and for those institutions who got out in time or bet against the markets. [5] The financial crisis seriously and adversely affected ***268** employment, consumer spending, home ownership, retirement plans, the finances of federal, state, and local governments, and the world economy as a whole. [6]

Contributing to the financial crisis was short-termism or myopia, which is defined as the excessive focus of corporate managers, asset managers, investors, and analysts on short-term results, whether quarterly earnings or short-term portfolio returns, and a repudiation of concern for long-term value creation and the fundamental value of firms. [7] For a nonfinancial firm, it involves seeking to increase its current stock price or profits by inflating current earnings at the expense of the long-term health of the firm. This behavior may include decreasing discretionary expenses, under-investing in long-term assets, or taking on excessive risk to maximize short-term earnings. [8] For a financial firm, short-termism involves the same behaviors in order to increase its current stock price or profits. It may include investing in assets with hidden risks and taking on excessive debt to bolster short-term firm profits or portfolio returns. It may also include using short-term trading strategies that ignore the fundamental value of firms which, on average, result in losses. [9] Additionally, it may include using nonfinancial firms as short-term arbitrage opportunities, that is, using voting rights to pressure firms to provide immediate payback to owners, such as through dividend payouts, stock repurchases, or selling off assets or a division. [10] When firms use short-termism to bolster their current stock price or profits it is referred to as "earnings management" or, alternatively, "managerial myopia." [11]

The business community identified short-termism as a serious problem prior to the financial crisis, and has since denounced it more emphatically. Short-termism is the subject of important research reports, policy statements, and recommendations from

the ***269** business community. [12] Common to all of these is the belief that short-termism is pervasive in business decision making and is deleterious to the U.S. and world economy. [13] Scholars have also joined business leaders in their concern about short-termism. [14] Research discussed later in this Article has demonstrated the pernicious effects of short-termism on the well-being of corporate America. [15] Relevant to the financial crisis, one report concluded that "short-term visions are the cause for market volatility and the instability of financial institutions." [16]

This Article provides a comprehensive exploration of why financial and nonfinancial firms engage in short-termism and how to mitigate it. It explains how market and internal firm dynamics contribute to short-termism by considering various structural, informational, behavioral, and incentive problems operating within firms and in markets. Structural explanations include consideration of how biases in financial firms cause them to incur ever-increasing debt levels during periods when the economy is strong and interest rates low, leading such firms to a state of financial fragility. [17] This ***270** Article also includes consideration of the advantages to asset managers in investing their assets under management in short-term assets. [18] In addition, it examines informational and technological changes in markets that have led financial firms to utilize short-term trading strategies [19] and changes in the business models and organizational forms of such firms that contribute to short-termism. [20]

Informational problems also cause short-termism as managers take advantage of their control over information to fool markets through signaling and signal jamming behavior and as informational problems and problematic financial models create markets for lemons in which firms are unable to differentiate their securities from the securities of other firms. [21] Informational problems also create competitive pressure for managers to behave in ways that are inimical to the long-term health of their firms. These competitive pressures may cause asset managers to invest their assets under management in short-term assets [22] and may present firm managers with a prisoner's dilemma in which the dominant strategy is participating--or what Prince called "dancing" [23] -- in an irrational market because of the inadequacy of market signals to coordinate properly the actions of market participants. [24] The failure of market prices to reflect the long-term values of nonfinancial firms also provides the grounds for financial firms to use nonfinancial firms as short-term arbitrage opportunities through takeovers or shareholder activism. [25] Myopic behavior may also occur, however, in efficient informational markets if managers believe they can fool the markets or shareholders prefer short-term results and focus on short-term information.

Behavioral biases also play a role in encouraging short-termism. There is hyperbolic discounting which refers to the priority of the present or the tendency of individuals to heavily discount the future. [26] Behavioral concepts, such as the availability hypothesis and threshold heuristic, explain how individuals tend to discount or disregard low-frequency events in their analysis, a case of disaster myopia. [27] Another behavioral concept, the ***271** over-optimism bias, causes market participants in a prisoner's dilemma situation to believe that they, unlike others, will find a seat when the dance ends. [28] Over-optimism also encourages banks to continue to increase debt levels as asset values inflate. In addition, the more optimistic beliefs of some investors, often referred to as "dumb money," cause other investors "to pay more than what they believe to be the stock's long-run fundamental value because they think they will be able to sell their shares in the short run" to the more optimistic investors. [29] Herding behavior also accentuates short-termism and causes prices to move away from fundamentals as market participants see more and more participants embracing short-term strategies and assume that these participants must have information that they do not and thus follow the herd. [30] Group dynamics in decision making on boards of directors may also play a role as the group polarization phenomenon causes homogeneous groups to gravitate to more extreme, risky positions. [31]

Incentives certainly exist for short-term behavior and seeking short-term profits. [32] Inadequate market signals and structural factors motivate managers to engage in earnings management. Business motivations that are stock-driven exist for firms to meet earnings targets, such as to build the firm's credibility with capital markets, maintain or increase their stock prices, convey future growth prospects, and achieve desired credit ratings. [33] Achieving these goals may assist the firm in acquiring financing through stock issuances or debt financing on favorable terms and may assist the asset manager in acquiring more assets to manage. Business motivations relating to stakeholders also exist for a firm to meet earnings targets, that is, to assure stakeholders, such as customers, suppliers, and investors, that the business is stable. [34] When meeting earnings targets involves earnings management, attaining these objectives may enable firms to achieve short-term benefits, but for many firms it will result in negative long-term consequences, including the bankruptcies of firms, which were experienced in the aftermath of the recent financial ***272** crisis. [35]

In addition, personal managerial motivations to some degree influenced by a firm's culture explain the desire to meet earnings targets. Managers may lose their jobs, fail to be promoted, or find their opportunities to move to other firms impeded by their failure to meet earnings targets. [36] In addition, managers may suffer a decrease in compensation. [37] To increase their compensation, managers may seek short-term performance to enhance their bonuses (based on accounting-earnings performance), stock compensation (based on stock-price performance), or compensation based on the amount of assets under management that is enhanced by short-term profits that draw additional assets to their funds. [38] Moreover, asset managers may follow the herd because those managers who invest in a conventional manner are less likely to lose their jobs than managers who invest in a nonconventional manner, regardless of the performance of the funds that they manage. [39] In addition, corporate managers may act shortsightedly for business or personal reasons to ward off hostile tender offers. [40]

Finally, trading cultures often produce the conditions for short-termism. [41] Enron changed from a gas pipeline company to an energy trading company to enhance its profits, which contributed to its downfall. [42] Similarly, in recent years investment banks, ***273** such as Lehman Brothers, Bear Stearns, and Goldman Sachs, experienced a shift in the locus of power internally from investment banking services to trading. [43] Trading operations tend to be unduly focused on end results rather than process, intense competition among individual traders rather than cooperative behavior, individual incentives offering large disparities in employee rewards, success based on short-term profit-making skills, and a self-interested environment generally. [44] These attributes are associated with cultures that are prone to unethical behavior, which includes employees seeking individual short-term gains at the expense of the well-being of their firms and other stakeholders. [45]

Considerable attention has been given to short-termism in financial firms in order to understand the recent collapse of the financial system. Attention has also been given to the impact that the behavior of financial firms has on internal decision making in nonfinancial firms. This Article will address both issues. Concerning the latter issue, financial firms have an impact on nonfinancial firms for two reasons. First, the stock trading strategies of financial firms affect securities prices and in this manner give managers of nonfinancial firms information on short-term behavior that will impact securities prices. Market reactions to failures of nonfinancial firms to meet earnings expectations, for example, cause their managers to engage in earnings management to meet market expectations. [46] Second, financial firms' use or potential use of shareholder voting rights impacts managerial decision making in nonfinancial firms. It may influence managers of nonfinancial firms to shift cash flow to the present by having their firms issue dividends or sell a division to avoid the use of their firm as a short-term arbitrage opportunity by a financial firm in a hostile takeover or through shareholder activism. [47] Unlike the well-known agency cost theory, which holds that agency costs are minimized when managers are disciplined by market pressures, such as through hostile takeovers or managerial compensation tied to stock prices, managerial myopia theories explain why managers “caring too much” about

current stock prices leads to myopic decision making. [48] The more managers care about current stock prices, the more incentive they will have to engage in myopic behavior.

The organization of this Article is as follows. Part II provides an introduction to managerial myopia based on the organizational behavior literature on this subject. This Part discusses the actions firms take to manage earnings and the adverse financial impact earning management has on the long-term health of firms. Part III provides the factual background for the Article by revisiting the financial crisis of 2007-2009 with a review of conditions leading to the crisis. This Part discusses factors generating the demand for mortgage-related securities and the role of lax lending, underwriting, and credit rating ***274** standards. It discusses the freezing up of credit markets due to excessive leverage and the lack of transparency in securities and derivative markets. This Part presents facts showing that the originate-to-distribute explanation for lax lending and underwriting standards does not explain the entire story as securitizers were left with substantial liabilities relating to mortgage-related securities, indicating myopic decision making. Parts IV through VI explore the causes of short-termism and are the heart of the Article. These Parts explore informational, structural, behavioral, and incentive problems leading to short-termism.

Based on the foregoing, Part VII discusses the regulatory responses to mitigate the effects of short-termism, including an evaluation of the relevant provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank Act). [49] Given the data and explanations provided in this comprehensive analysis, it would be wise for regulators, in working out and implementing the details of the new financial reforms, to consider the multiple causes of short-termism explored in this Article. Generally, such an approach requires changes within firms and markets to orient activities toward creating long-term value. It also requires firm and regulatory attention to factors that lead to excessive risk taking. In addition, changes are necessary to modify irrational economic pressures that are incompatible with the long-term health of firms. Attention to the individual incentives of market participants is also necessary to engender a long-term orientation and a greater sense of personal responsibility for the consequences of their activities on others.

The problem of short-termism, as shown in this Article, is not attributed to one source but requires attention to a number of facets. [50] To decrease informational problems in markets leading to short-termism, [51] this Article proposes responses to short-termism in general and responses of particular relevance to the financial crisis. Regarding informational responses to short-termism in general, a reexamination of financial reporting obligations is necessary to focus market participants on long-term value and true drivers of business success. [52] Additionally, this Article recommends the provision of information and education to investors regarding the nature of their investments (whether long-term or short-term), the likely consequences of switching funds, and the trading costs of the mutual funds in which they invest, which are not presently included in the expense ratios disclosed to investors. [53] Informational responses to short-termism ***275** regarding the financial crisis would include the adoptions of additional disclosures and due diligence obligations for underwriters, issuers, and credit rating agencies to increase the accuracy of market signals. [54] Additionally, improved disclosure to investors about derivatives would include disclosures on such matters as the risks associated with derivative transactions, the financial ability of firms to meet their obligations in these transactions, and the financial exposure of firms to such transactions. [55] Finally, the losses that sophisticated investors suffered as a result of the financial crisis require a rethinking of exemptions from disclosures based on supposed investor sophistication. [56]

This Article also proposes structural changes to counter short-termism in general and short-termism of particular relevance to the financial crisis. Regarding structural responses of particular relevance to the financial crisis, this Article proposes prohibiting speculative derivative transactions (not hedging transactions) or, alternatively, allowing the trading of only standardized derivatives, subject to disclosure and position limit regulations. [57] In addition, because of the conflict of interest of credit rating agencies arising from the issuer-pay model--where issuers pay for the rating of their securities--the government utility

model is recommended for the selection of credit rating agencies for initial and subsequent ratings with the participation of users of ratings in the selection process. [58] The government should not seek to increase the number of credit rating agencies or increase the competition among them because increased competition among credit rating agencies has been shown to cause higher ratings and more downgrades of ratings. [59] An appropriate government agency should also oversee the introduction of complex financial products with uncertain valuations and have the authority to ban or modify their characteristics to protect purchasers and the economy as a whole. [60]

Finally, this Article proposes structural changes through safety and prudential regulation of the traditional and "shadow" banking system because of the increased risk introduced into the financial system by debt secured by increasingly toxic assets. [61] This ***276** Article seeks consistency between the regulation of traditional banking and shadow banking. The objective is to have coordinated and functionally equivalent regulation of the traditional and shadow banking systems, rather than regulation of legal institutional type, in order to avoid inconsistent regulations, bureaucratic conflict, regulatory arbitrage, and distortions in the economic system. This Article recognizes the necessity of risk-based capital requirements for participants in the traditional and shadow banking systems while acknowledging the limitations of this kind of protection for the financial system. This Article also advocates regulatory attention to debt levels, kinds of debt--such as hedged, speculative, and Ponzi debt, rapid asset-price increases out of line with standard variables, and the tax preference given to debt over equity.

This Article also proposes structural changes that counter short-termism in general. Short-term trading has an impact on prices and earnings management as well as on the norms of the marketplace in placing emphasis on short-term profits. [62] It is desirable for the economy as a whole to encourage long-term investments. This Article calls for a reexamination of direct methods for discouraging short-term trading. [63] In this regard, an excise tax on securities transactions, including debt and derivatives, would create incentives for long-term investments and would also provide resources for a fund used to address the negative consequences of short-term trading. In addition, this Article recommends modifying capital gain and loss taxation as well as repealing mutual fund rules that require quick redemptions to discourage short-term trading. [64]

Another structural response to short-termism in general concerns the use, or threatened use, of voting rights by short-term traders to pressure firms to engage in short-termism. Corporate recapitalizations and state corporation law should empower long-term shareholders. [65] The determination of which shareholders are long-term shareholders may take into account the portfolio characteristics of shareholders as well as the duration of their share ownership in the firm. To further buttress the long-term orientation of long- ***277** term shareholders, governments should also consider rules encouraging the unwinding of share ownership over a period of years, such as tax incentives for doing so. In addition, they should exclude from voting those shares that are hedged through equity swaps or borrowing arrangements, to prevent voting inimical to the best interests of the firm.

Regulatory responses to short-term incentives in firms are also important. Firm cultures play an important role in fostering short-term incentives. Many of the foregoing recommendations would assist in improving the culture of firms to focus on the long-term. Additional matters also warrant attention. It is desirable to impose a fiduciary duty on directors and officers to act primarily in the long-term interests of their firms. [66] Such a duty would require directors and officers to focus directly on the long-term objectives of their firms when considering business decisions and would have an expressive function, that is, an effect on beliefs concerning the value of long-term behavior that over time may become an internalized business norm. The imposition of a fiduciary duty on a broader range of market professionals would also have the impact of changing the institutional setting in which they operate and the roles that they perceive themselves as playing. [67]

A firm's reward structures, which directly impact individual incentives, influence a firm's culture. [68] It is desirable to base a substantial portion of the compensation of managers on the long-term health of their firms, such as through deferred

compensation arrangements, risk-adjusted compensation measures, and a reduction in the frequency with which compensation is increased due to higher performance measures. [69]

Board structure is also important to incentives. [70] To increase the probability of more informed, accountable board decision making, diversity of perspectives on boards is encouraged to minimize group think and the group polarization phenomenon--which results in more extreme positions such as excessive risk taking. Additionally, a dual board structure--distinct from the European two-tiered board structure--is proposed for greater managerial accountability and to counter the trend in the United States toward centralization of managerial power in the CEO, leading to less CEO accountability. [71] The ***278** changes outlined in this Article enhance the likelihood of creating an environment in firms that would support and encourage managers to engage in activities that improve the long-term value of their firms and avert the short-termism that contributed to the financial crisis of 2007-2009.

II. Managerial Myopia or Earnings Management

Earnings management comes in two forms: accounting earnings management and real earnings management. [72] Accounting earnings management involves either the direct manipulation of numbers or the use of off-balance sheet transactions to obscure the fundamental value of a firm. [73] This kind of earnings management received a great deal of attention as an explanation for the financial scandals of the early 2000s involving such companies as Enron and WorldCom. [74] Enron engaged in a famous example of accounting earnings management when it created a large gain on its books by purportedly "selling" its unprofitable venture in broadband to a special purpose entity--although this transaction was not a sale because the entity remained controlled by Enron. [75] A more recent example of accounting earnings management occurred in 2008 when Lehman Brothers Holding entered into its infamous Repo 105 transactions to hide its borrowing. [76] It reported its borrowing through repurchase transactions as sales, thus boosting its earnings at the end of quarters. [77] More garden-variety examples of accounting earnings management are accomplished by increasing or decreasing levels of accounting accruals, such as accounts receivables, inventory, accounts payable, deferred revenue, accrued liabilities, and prepaid expenses to assure that the company meets quarterly-earnings targets or presents a favorable impression to the markets. These more garden-variety types of accounting earnings management involving the manipulation of accruals declined after the passage of the Sarbanes-Oxley Act of 2002 (SOX), [78] which Congress passed in response to Enron and other financial scandals. There is, however, no evidence that other forms of accounting earnings management, such as off-balance sheet ***279** transactions, decreased after the passage of SOX. [79]

The second kind of earnings management is real earnings management. This kind of activity has increased since the passage of SOX. [80] Examples include "offering price discounts to temporarily increase sales, engaging in overproduction to lower costs of goods sold . . . and reducing discretionary expenses aggressively to improve margins," such as research and development expenses, maintenance expenses, marketing expenses, employee-training expenses, or employee downsizing with the loss of experienced workers. [81] The stock market has difficulty assessing the future profit potential of these discretionary expenses because they are less tangible than other expenses. [82] Real earnings management may also include deciding to develop a project or investment that would produce immediate results rather than a project or investment that would have greater benefit to the firm in the long run. It might include selling off a division for a short-term return although the division, if kept by the firm, would have greater long-term prospects for the firm.

A recent example of real earnings management is the pattern of banks closing out repurchase transactions (repos) just before the end of each quarter to obscure the amount of debt they carried during the quarter and, therefore, the risks they were assuming. [83] Rather than accounting earnings management--that is, reporting repos as sales--banks since SOX closed out these

transactions at the end of the quarter and reentered them during the quarter. In this manner, major banks, such as Bank of America, Deutsche Bank, and Citigroup, reduced the appearance of their true short-term borrowing by an average of 42%. [84] A particularly egregious example was a 61% drop in repo debt by Bank of America in the first quarter of 2010, from an average of $130 billion during the quarter to $50 billion at the end of the quarter, in order to create the illusion of less leverage and less risk. [85] This behavior is likely real earnings management rather than accounting earnings management because the banks made changes in their operations ***280** impacting their functioning. This operational change of banks had reportedly accelerated since 2008 due to investors' and regulators' greater attention to bank leverage and the use of borrowed funds to boost returns. [86]

A 2005 survey of 401 financial executives demonstrates the pervasiveness of short-termism. [87] Financial executives confirmed that they would take an action that is value-decreasing for their firms to meet earnings expectations. Over 80% of financial executives said they would decrease discretionary spending, such as advertising expenses, maintenance expenses, and research and development expenses, to meet earnings targets. [88] Over 50% of financial executives said that they would delay starting a new project even if this entailed a small sacrifice in value to meet earnings expectations or to smooth earnings. [89]

A recent study by Professor Mizik reveals the damage to nonfinancial firms of short-termism due to earnings management. [90] The study covered 6642 companies during the period from 1986 to 2005. [91] Professor Mizik identified potentially myopic firms as those firms that reported increased profitability at the same time that they decreased support for research and development and marketing. [92] Contrary to the efficient market hypothesis, the study found that markets do not accurately value firms at the time they engage in myopic behavior; the stock market did not value myopic firms less, that is, stock prices did not penalize firms for myopic behavior at the time of their myopic behavior. [93] The study also documented significant future negative returns for myopic firms. [94] The future-adjusted stock returns for myopic firms were significantly less than for non-myopic firms and "the magnitude of the[se] negative returns increas[ed]" over the four-year period of the study. [95] Professor Mizik also found that the total financial returns for myopic ***281** management were negative. [96] The initial benefit to shareholders in terms of the stock premium earned by shareholders at the time of the myopic behavior was outweighed by the under-performance of these firms in the following four years. [97] The damage to financial firms from myopic behavior is also apparent in the wake of the financial crisis, which is discussed in the next Part.

III. The Financial Crisis Revisited

This Part provides a brief history of the financial crisis, exploring the conditions for and causes of the financial crisis. It provides the background for subsequent Parts of this Article that explore the reasons for short-termism and regulatory responses to mitigate it.

The period leading to the financial crisis was a period of euphoria, [98] with ever-increasing housing prices and debt levels of households and financial and nonfinancial firms. [99] Mortgage brokers, non-bank finance companies, and commercial banks, called mortgage "originators," racked up fees for generating mortgages which became increasingly riskier. [100] They lent to persons who did not qualify for conventional mortgages by issuing them subprime and Alt-A mortgages (nonprime mortgages). [101] The loans increasingly reflected a deterioration in lending standards and included low or no- ***282** documentation mortgages (often referred to as "liars' loans"), a substantial increase in adjustable rate mortgages (ARMs) with low introductory teaser rates, interest-only mortgages, and high loan-to-value mortgages. [102] Originators gave mortgages to people who were unable to repay the principal on their mortgages or even the fully amortized interest costs. Once the teaser rate expired or the mortgage interest rates reset, many people were unable to make their mortgage payments. The ability of

many mortgage holders to stay in their homes became dependent on their ability to refinance their mortgages due to increasing housing prices, a system of Ponzi finance. [103] Mortgage originators encouraged homeowners who qualified for conventional mortgages to accept nonprime mortgages that resulted in additional fees for originators of more than $5222 per mortgage. [104] Nonprime mortgages increased in volume from $250 billion to $1 trillion in the period from 2001 to 2006. [105]

Mortgage originators also earned substantial fees in the securitization process. [106] They sold mortgages to investment banks and other financial intermediaries who pooled these mortgages and sold securities to investors backed by these mortgages. [107] These securities were called residential mortgage-backed securities (RMBSs). [108] Large financial firms "aggressively solicited" new mortgages from mortgage originators in order to securitize them. [109] To support mortgage origination, the securitizers provided warehouse lines of credit on generous terms to mortgage originators, [110] consistent with the "originate-to-distribute" dynamic. By 2008, large financial institutions securitized 80% of subprime mortgages and 90% of Alt-A mortgages. [111] During the period 2001 to ***283** 2007, outstanding nonprime RMBSs increased from $160 billion to $1.5 trillion. [112]

The success of the securitization process depended on investors' demand for RMBSs. Factors contributing to an intense demand for RMBSs were their relatively high yield [113] and the large supply of money and loans in the marketplace available to purchase capital assets such as RMBSs. [114] The large supply of money and loans came from a number of sources. First, the shadow banking system in the United States provided money and loans for investment in capital assets but in some cases without the regulatory safeguards of banks which would have limited, for example, their leverage. [115] Shadow ***284** banking firms include financial firms such as investment banks (e.g., Bear Stearns and Lehman Brothers), hedge funds, structured investment vehicles, nonbank mortgage lenders, mutual funds, and pension funds. [116] Second, the money supply increased because of low interest rates which created the incentive to borrow. [117] In addition, the influx of foreign capital such as from sovereign wealth funds [118] also increased the demand for U.S. investments. Off-shore investors purchased an estimated one-third of securitized subprime mortgage-related products. [119] Finally, the anticipation of lessening capital requirements and the lowered risk-adjusted weight given to secured mortgages under Basel II encouraged investments in RMBSs. [120] This supply of money and loans created a demand for capital assets. Moreover, the decreasing yields from more conventional capital assets created by this demand generated an appetite for more risky investments, such as nonprime RMBSs. [121]

***285** Financial innovation in the form of structured finance products, [122] such as collateralized debt obligations (CDOs), sought to satisfy this demand. These products are securities backed by residential mortgages and other pools of debt, such as credit card debt, leveraged company debt, commercial real-estate loans, auto loans, and student loans. [123] Banks and other financial firms (sponsors) acquired this debt which they sold to conduits or structured investment vehicles. [124] These conduits or structured vehicles, often organized as trusts, held the debt, such as a pool of mortgages. [125] They hired investment bankers--often affiliates of the sponsors--to issue CDO certificates to investors, such as hedge funds and other institutional investors. [126] These certificates entitled the holder to part of the cash flow from, for example, the underlying pool of mortgages. [127] The certificates which are debt obligations or bonds represented different "tranches" or different rights to the payment stream (interest and principal payments) and "superior or subordinate rights to receive payment in relation to other tranches." [128] Their maturity ranged from two to ten years. [129] The rights to interest and principal payments varied among CDO tranches. [130] The safer tranches were referred to as senior debt and had AAA ratings; [131] the mezzanine tranches came next which usually were rated at least BBB, the lowest investment grade rating; and then came the equity (or "preferred") debt tranches which were unrated and often referred to as "toxic waste." [132] The growth of hedge funds provided a market for high yielding

securities, particularly the more risky tranches, which improved the ability of securitizers to transfer credit risk on pools of ***286** mortgages. [133]

The resecuritization of CDOs added to the complexity of these structured mortgage products. For example CDO tranches representing interests in different pools of mortgages were often combined into new CDOs. [134] The mezzanine tranches of various CDOs were often combined in this way to create senior tranches in the new CDOs, which qualified for AAA ratings. [135] In this way lower-rated tranches of CDOs (usually mezzanine tranches) were transformed into AAA-rated investments.

Financial innovations in derivative products also responded to the demand for capital and helped fuel that demand; derivatives for the most part were unregulated under the Commodity Futures Modernization Act of 2002. [136] Credit default swaps (CDSs), a credit derivative, provided insurance on CDOs and thus encouraged investment in them. [137] CDO purchasers would purchase CDSs in order to protect themselves against defaults on CDOs that they owned. The value of the CDSs were derived "in complex ways" from the mortgages underlying CDOs. [138]

The developing market for CDSs became speculative and divorced from insuring CDOs, that is, buyers of this insurance did not need to own any of the CDOs being insured. They could bet that certain CDOs would default by buying CDSs insuring those CDOs, even though they did not own the CDOs or any other interests in the underlying mortgages. This practice is equivalent to permitting someone to purchase fire insurance on a home that they do not own, simply betting that a fire will occur. CDS contracts, therefore, were sold in amounts that exceeded the amounts of mortgages underlying CDOs. [139] By 2007, derivatives derived from nonprime mortgages were "at least twice as large as the $2 trillion" in nonprime mortgages outstanding, [140] indicating the amount of pure speculation occurring in the derivatives market. The primary buyers of CDSs were dealers at banks and hedge funds who acquired CDSs not for reducing risk on assets that they owned but for trading (arbitrage) purposes. [141] The "primary sellers of CDSs were ***287** insurance companies, dealers, and hedge funds." [142]

The trading of index CDSs and synthetic CDOs created an additional level of complexity. An index CDS is a derivative instrument whose value is based on pools of debt of specified issuers; [143] a synthetic CDO is a structured product holding a managed pool of CDSs rather than mortgage-backed securities. [144]

Due to the securitization process and the creation of complex financial instruments, fee-based income of large financial firms increased dramatically. [145] These fees included fees for "(a) originating, securitizing and servicing loans, and (b) structuring and selling . . . securities and other financial instruments . . . based on those loans." [146] The income from these fees of the "largest United States' banks (including Bank of America, Chase, and Citigroup) rose from 40% of total earnings in 1995 to 76% of total earnings in 2007." [147] This fee income caused a dramatic rise in stock prices and compensation at these firms. [148]

The securitization process (the originate-to-distribute model) decreased the incentive of banks and mortgage brokers to monitor borrower risk because they could transfer this risk to investors through the securitization process, creating a moral hazard. [149] Many commercial and investment banks, however, retained significant residual risk exposure from these securities--an indication of myopic behavior. [150] For example, these banks had warehoused mortgages, RMBSs, and tranches of CDOs that were in the pipeline to be sold to investors. Additionally, they had sponsored off-balance sheet structured investment vehicles to hold subprime-related investments which relied on implicit or explicit financial support from them; they had also extended credit through warehouse loans to originators and to hedge funds to finance their purchases of mainly junior, unrated tranches of CDOs, thus increasing the banks' exposure to mortgage-related products. [151]

The market for CDOs was supported by a relaxation in underwriting standards for the issuance of CDOs [152] and a relaxation of credit rating standards by nationally ***288** recognized rating agencies, such as Standard & Poor and Moody's. [153] As the conventional mortgage market became saturated, the demand for mortgage-backed securities caused investment and commercial banks to lower underwriting standards. As Federal Reserve Chairman Ben Bernanke explained, "The recent rapid expansion of the subprime market was clearly accompanied by deterioration in underwriting standards." [154] There is evidence of a lack of serious due diligence on the part of underwriters in the securitization process in reviewing the underlying mortgages included in pools. [155] For example, the percentage of mortgages in a mortgage pool reviewed by due diligence firms declined dramatically from 25%-40% in the early 2000s to 10% in 2006. [156] This review practice differed for lenders buying mortgages for their own investments for which they had 50%-100% of the mortgages examined. [157] Unsurprisingly, mortgages that were securitized had higher default rates than mortgages kept by lenders for investment. [158]

As for credit rating agencies, they had a conflict of interest because the issuers of securities paid their fees (the issuer-pay model). [159] In addition, credit rating agencies acquired substantial revenues from rating CDOs and provided consulting services to issuers on how to structure their CDOs to obtain higher ratings. [160] Issuers had more ***289** bargaining power in shopping for ratings of CDOs than for corporate bonds from the credit rating agencies because the issuances of CDOs were concentrated in the hands of relatively few firms. [161] In the search for profits and maintaining market share, rating agencies lowered their rating standards. [162] The subordination layer of AAA CDOs was thin even though AAA ratings of tranches of CDOs depended on the subordination of junior tranches. [163] The rating agencies did not follow a "consistent policy or valuation model" concerning subordination levels, but made discretionary, unexplained adjustments in subordination levels with the result that only a small fraction of AAA-rated senior tranches were consistent with the rating agencies' reported AAA default standards. [164] These adjustments were "positive predictors of future 2008-2010 downgrades." [165] In addition, the ratings of CDOs were based on limited and stale historical data, underestimated risks of low-probability events, [166] and had other serious ***290** limitations. [167]

As the housing bubble continued, the prices of houses eventually became unsustainable given the earnings of citizens in regional markets. [168] Areas in which a higher fraction of mortgages were securitized experienced higher default rates. [169] The contractual resetting of interest rates on subprime mortgages ultimately caused a spike in foreclosure rates and housing prices dropped. Banks, such as IndyMac, were left with unsecuritized mortgage loans on their books, [170] and other banks, such as Lehman Brothers, were left holding subprime RMBSs. [171]

While the collapse of the housing market signaled painful readjustments in housing prices, problems with credit markets contributed to the depth of the financial crisis. As the value of the mortgage-related assets of investment banks, commercial banks, hedge funds, and other firms inflated during the bubble as reflected by mark-to-market accounting, these firms obtained the capacity to take on more debt to acquire even more assets. [172] Rather than an increase in the price of capital assets resulting in a decline in demand, it resulted in an ever-increasing demand for assets. [173] The capital assets that were held directly by the firms or in conduits were often financed by short-term credit and reliance was placed on the liquidity of short-term credit markets. [174] Short-term debt ***291** was used to finance the ever-increasing volume of more illiquid assets, such as CDOs. [175] When the value of assets started to fall, however, these firms found it difficult to roll over their short-term loans or obtain short-term funding. [176] The decline in value of the capital assets under mark-to-market accounting and the credit rating agencies downgrading of these securities resulted in the destruction of capital. [177] Interbank lending froze, affecting short-term funding markets. [178] The amount of asset-backed commercial paper and commercial paper that financial and non-financial companies

issued dropped significantly. [179] Thus, firms began to shed assets in a process of deleveraging which caused a downward pressure on prices. [180] Financial firms curtailed lending and asset managers froze redemptions of money invested in their funds. [181]

In addition, as the market deteriorated, the price for insurance on these investments through the purchase of CDSs became more expensive. [182] Because the price of CDSs was used to gauge the value of CDOs, the value of CDOs declined, contributing to the ***292** fire sale of assets. Because the value of underlying assets insured by CDSs declined, debt ratings of CDS sellers were downgraded, causing CDS counterparties to demand additional collateral under their contracts; for example, AIG counterparties demanded $14.5 billion in collateral which it did not have. [183] As banks failed, other firms holding bank financial instruments also experienced stress, such as money market mutual funds. [184]

The difficulties of market participants in determining the credit worthiness of other market participants and the difficulty in valuing the complex financial instruments that they held also added to the credit market problems. [185] This opacity made it more difficult for financial firms to assess their situation and obtain credit. As researchers explain:
[I]nformational problems reached unprecedented levels. Investors could not trust security ratings, price discovery was not functioning due to lack of trading, banks' exposure to toxic assets was hidden from everyone (including the banks' management), and so on. As Federal Reserve Governor Mishkin pointed out, “financial innovations often have flaws and do not solve information problems as well as markets have hoped they would.” When these flaws become evident, financial markets seize up. [186]

Ultimately, the government stepped in to purchase assets to curtail the downward cycle of prices and to provide credit to financial firms. [187] Financial firms experienced huge losses. [188] The long list of essentially failed institutions includes Lehman Brothers, ***293** Bear Stearns, Wachovia, Merrill Lynch, and AIG. [189] Other major financial firms, such as Citibank, Bank of America, and UBS, suffered large losses and received bailouts from their governments. [190] In addition, financial institutions, such as Goldman Sachs and Morgan Stanley, converted to bank holding companies so that they could benefit from favorable funding terms from the Federal Reserve System. [191] The damage to citizens, businesses, and the nation from the financial crisis has been dramatic. [192] The unemployment rate has skyrocketed and hovers around 9-10% two years later. [193] Businesses have closed or shed workers. [194] Seniors have postponed retirement plans as the value of their portfolios declined. [195] Local and state governments as well as the federal government are struggling in an economy that has yet to pick up steam. [196] Probably the worst result of the financial crisis is the sense of insecurity that it has engendered in persons worldwide.

IV. Investing and Short-Termism

Short-termism can devastate firms and the economy in general. As a result, it is important to understand the reasons for short-termism. This Part explores the contributions of financial firms to short-termism. It discusses the tendency of financial firms to become highly leveraged, the short-termism resulting from the competition among asset managers for investment dollars, the impact of short-term trading on earnings management, and the use of nonfinancial firms as short-term arbitrage opportunities for financial firms.

A. Structural Reasons for Increasing Debt and Risky Loans

The financial press referred to the financial crisis as a "Minsky" moment, which is the point when market participants scramble to cover obligations in an economy spiraling out of control after an extended period of euphoric speculative investments. [197] Minsky's ***294** financial instability theory explains how structural biases in financial firms lead them to ever-increasing levels of leverage during periods when the economy is strong and interest rates low, and how this leverage leads them to a state of financial fragility. [198] At the heart of his analysis is excessive leverage and the kinds of debt that signal this excess. [199] Minsky explained that financial firms such as banks (today also shadow banks) which carry assets on their balance sheets are able to borrow money, using as security the ever-increasing value of their assets. [200] This increase in asset value results in increased borrowing. [201] The increased borrowing allows firms to either maintain a targeted leverage level or increase it. [202] The financial firms use this borrowing to acquire increasingly-valued assets and will continue to do so in a state of euphoric expectation that asset values will continue to rise--or that competitors and clients will expect this increase to occur. An example of this phenomenon is reflected in the increase in the leverage ratios of investment banks preceding the financial crisis from 30:1 to 41:1, a 30% increase. [203] From 2000 to 2007 financial sector debt increased from $8.4 trillion to $15.8 trillion. [204]

In addition, Minsky explained that the kinds of debt financial firms take on become more speculative as firms finance increasingly problematic assets, which creates greater financial instability. The progression is from "hedged" to "speculative" to "Ponzi" debt. [205] Hedged debt is used to finance assets which are expected to generate income to pay the interest and principal on the debt. Assets financed by speculative debt are expected to pay the interest, but not the principal on the debt. Speculative debt is generally short-term debt and the purchaser of this debt is not expected to pay back the principal, but to refinance or roll over the debt. Assets financed by Ponzi debt are not expected to generate income to cover either the interest or the principal on the debt which results in higher debt levels owed due to negative amortization of the debt. Profits on Ponzi debt are expected from financing transaction fees and increased asset values.

Investments banks, hedge funds, and structured investment vehicles financed many private pools of CDOs using short-term debt they expected to refinance or roll over. [206] ***295** When the short-term credit markets unexpectedly dried up, assets had to be sold, and the government stepped in to prevent a fire sale of these assets. [207] The defaulting mortgages in mortgage pools consisted of many mortgages representing speculative or Ponzi debt. [208] Some debt was interest-only, and other debt required refinancing and could only be paid if housing prices continued to climb. Thus, short-termism resulted in firms and individuals taking on excessive debt levels. Mortgages were based on speculation that asset prices would continue to rise and an expectation of the availability of refinancing opportunities.

B. Competition Among Asset Managers for Investment Funds

In addition to the financial firms' structural problems, competition for investment funds among asset managers also leads to short-termism. Investment banks, mutual funds, hedge funds, and other firms compete for assets from other institutional investors (such as pension funds), sovereign wealth funds, and retail customers. The problem is that these clients do not have perfect information about the ability of asset managers to invest their money. Consequently, investors who place their money with asset managers charge a higher cost of capital (demand a higher return) than if information were readily available. [209] In addition to demanding a higher cost of capital, investors often place their funds in financial firms (with notable exceptions) on a short-term basis. [210] For example, investors can readily withdraw their funds from open-ended mutual funds, overseers of private and public pension funds can readily change asset managers, and the existence of demand deposits makes possible the troublesome run on banks (mitigated by Federal Deposit Insurance). [211]

The higher cost of capital and the investors' ability to readily change asset managers make trading in short-term assets more attractive to asset managers than long-term assets. [212] The explanation for this short-termism is as follows. Asset managers make their money by identifying instances of mispricing. They assume dual risks: the risk that the fundamental value of the asset they purchase may fall before the market eliminates the mispricing (fundamental risk) and the risk that the mispricing may get worse before the market eliminates it at a point when the trade must be liquidated (noise trader risk). [213] These risks are greater for long-term asset arbitrage because "there is more time for bad ***296** news or a wave of pessimism to hit." [214] It is therefore less risky and less costly for asset managers to arbitrage a short-term asset for which mispricing will disappear in the short term than a long-term asset for which mispricing will not disappear for some time, particularly in the presence of noise trading. [215]

There is another benefit to short-term trading for the asset manager. It is less risky for him to create a track record of performance to investors with a record of multiple short-term trades than a few long-term ones. [216] Such a record allows the asset manager to attract more funds from investors and may decrease his cost of capital and credit constraints.

While the short-termism caused by the competition for funds by asset managers is rational for asset managers, this competition results in short-term investments and asset managers' continual pressure on investors to switch their assets to their funds. But switching funds is problematic. Studies show that investors move their money from one fund to another based on past performance, but past performance is in most cases not a good predictor of future performance. [217] The movement of money from one fund to others in search of higher profits is for the most part illusory and often a losing proposition. [218]

C. Traders versus Investors, the "Transient" Institutional Shareholder, and Earnings Management

Short-termism is also caused by short-term trading. Transient institutional investors place undue emphasis on short-term results. [219] In addition, studies have shown that firms with a predominance of transient institutional investors are positively associated with earnings management. [220] Moreover, short-term traders contribute to overvalued equity which causes managers who are unable to meet the performance requirements of overvalued equity to engage in earnings management. [221] Thus, traders rather than true ***297** investors contribute to the deleterious effects of managerial short-termism.

1. Traders versus Investors: Momentum Trading, High Frequency Trading, and High Stock Turnover

Financial firms increasingly engage in short-term trading strategies, which foster the belief that "stock investment speculation is a major cause of short-termism." [222] Technological changes and a decline in transaction costs per trade have fueled an increase in trading volume, an increase in stock turnover, and a decline in stock holding periods. [223] From 2005 to 2009 the average daily share trading volume in NYSE-listed stock increased 181%, from 2.1 billion shares to 5.9 billion shares. [224] The average annual turnover of stock has increased dramatically over the years; it has increased for shares of NYSE-listed companies from "10 percent to 30 percent during the 1940-1980 period to more than 100 percent in 2005." [225] Professionally-managed mutual funds' average annual turnover was 117% in 2004, with hedge funds averaging over 300%. [226] Similarly, the average holding period of stock has significantly declined, from seven years in 1960 to two years in 1992 and seven and one-half months in 2007. [227] For some investors the holding periods are even less, such as hedge funds that have an average holding period of four and one-half months, [228] and proprietary trading firms which usually do not carry "significant, unhedged positions over-night." [229] One commentator explained the connection between short-termism and shorter holding periods and greater turnover: "The shorter the holding period, the more the beliefs of others rather than long-term fundamentals become central to investment

decisions. High turnover thus sets the stage ***298** for short-term earnings-based decision making or momentum-motivated trading, which is not at all concerned with earnings." [230]

The kind of trading to which the commentator refers is based on technical analysis which is focused on making profit from short-term price fluctuations rather than researching the underlying business and financial conditions of individual firms. These traders, although many are attuned to specific news events, such as earnings announcements or periodic government economic reports, attempt to predict future market-price trends based on recent securities prices and volume data. To assist them, the traders use various charts that show security price movements, average security price movements, volume patterns, the rate of changes in security prices over a given period of time (momentum indicators), and one or more general market indicators, such as the Dow Jones Industrial Average (DJIA), S & P 500 (SPY), NASDAQ 100 (NDX) or NASDAQ Composite Index. [231] This kind of trading is distinct from trading based on fundamental analysis that focuses on the company's business, financial performance, and long-term prospects. [232] Significantly, even pension funds, investing on behalf of long-term investors, "increasingly place at least a portion of their assets with high-turnover money managers and hedge funds." [233]

Sophisticated proprietary trading firms utilize other short-term trading strategies, including passive market making, arbitrage among related products or markets, structural strategies, and directional strategies such as order anticipation strategies and momentum strategies. [234] Passive market making involves placing resting orders at specified prices which are for short durations before their cancellation, often of a second or less. [235] The Securities and Exchange Commission (SEC) explains that "[i]f the proprietary firm is layering the books with multiple bids and offers at different prices and sizes, this strategy can generate an enormous volume of orders and high cancellation rates of 90% or more." [236] Proprietary trading firms may also arbitrage among products or markets to ***299** capture price inefficiencies. They may simultaneously purchase (sell) an exchange-traded fund (ETF) when it is valued less (more) than the bundle of stocks on which it is based and sell (buy) the underlying bundle of stocks. [237] Proprietary trading firms may also seek to take advantage of structural deficiencies in the market by obtaining a faster delivery of market data (often by milliseconds) through co-location arrangements [238] and individual trading center data feeds which enable them to take advantage of current information before other traders. [239] Finally, they may adopt directional strategies that anticipate price movements. One such strategy involves the anticipation of large orders through sophisticated pattern recognition software or the use of "pinging" orders which are used to test markets for large buyers and sellers. [240] These latter strategies are viewed as "parasitic" in that the proprietary trading firm seeks to profit by trading in front of or ahead of large buyers and sellers, which adversely affects the market price for the large buyer or seller. [241]

Proprietary trading firms that engage in high-frequency trading [242] have the following characteristics:

> (1) the use of extraordinarily high-speed and sophisticated computer programs for generating, routing, and executing orders; (2) use of co-location services and individual data feeds offered by exchanges and others to minimize network and other types of latencies; (3) very short time-frames for establishing and liquidating positions; (4) the submission of numerous orders that are cancelled shortly after submission; and (5) ending the trading day in as close to a flat position as possible (that is, not carrying significant, unhedged positions over-night). [243]

Proprietary trading firms' computer-generated high-frequency trading had a dramatic effect on the stock market on May 6, 2010, when automated algorithmic trading caused the Dow Jones Average to drop 1000 points in a matter of minutes (Flash Crash). [244] This decrease in price amounted to a nearly 10% drop in the value of the Dow before the day ended with the Dow down 348

points. [245] A decades-long trend resulting in a change in market structure from primarily manual to primarily automated trading has permitted high-speed (low-latency) order responses and executions. [246] On some ***300** exchanges average response times "have been reduced to less than 1 millisecond." [247] Overall, high-frequency trading accounts for approximately one-half of the daily stock trading in the United States. [248] The SEC notes that high frequency trading is "a dominant component of the current market structure and is likely to affect nearly all aspects of its performance." [249]

Some scholars have questioned the value of short-term trading. [250] Professor Stout explains that although people may need to trade for personal liquidity purposes, such as cashing in stock for medical bills, tax reasons, or to rebalance portfolios, most short-term trading is utilized to make a profit through speculation based on heterogeneous expectations about price movements. [251] Such opportunism is considered a negative-sum game. [252] Trading stocks in the short-term results in one party to the trade winning and the other party losing, depending on whether the price of the security goes up or down. This trading is a zero-sum game which becomes a negative-sum game when transaction costs, such as brokerage fees, administrative costs, and research expenses, are taken into account and this negative value may be offset only by the contribution of such trading to liquidity and price efficiency (i.e., the informational content of such trading). [253]

***301** The question arises: why would persons engage in profit-motivated short-term trading when, on average, traders lose when they engage in this activity? One explanation is that livelihoods depend on trading. Substantial money is made for managing funds, executing trades, providing stock tips, and doing financial analysis for trading purposes. Moreover, during bubbles the prisoner's dilemma and competition among managers encourage profit-motivated short-term trading in order to maximize firm revenue. Optimism also drives this behavior. Individuals who are optimists concerning their trading ability generally engage in trading. Stout describes the "Lake Wobegon effect" in stock trading activity, which refers to author Garrison Keillor's fictional town where all of the children are believed to be above average. [254] Tellingly, studies show that most managed funds underperform index funds. [255] In addition, few actively-managed funds are handled by the same asset managers for ten years or more, indicating that each generation of traders has to learn that they are indeed average or below average in their trading ability. [256] Day traders unabashedly claim that they profit from "dumb money" invested by others. [257]

The SEC has clearly stated that its primary focus is on the interests of long-term investors rather than professional traders. [258] While recognizing the line-drawing issues in distinguishing long-term investors from professional traders, the SEC defines long-term investors as "market participants who provide capital investment and are willing to accept the risk of ownership in listed companies for an extended period of time." [259] It notes that "it makes little sense to refer to someone as 'investing' in a company for a few seconds, minutes, or hours." [260] While short-term traders may enhance market liquidity and price efficiency, questions have been raised about the extent to which these claims are true. [261] ***302** Do these traders, for example, provide only "phantom liquidity" when considering the brief duration of many of their orders and their lack of obligation to provide liquidity in times of crisis? [262] As for price efficiency, do momentum strategies and herd behavior push prices away from fundamental values? Are the short-term price corrections through the use of arbitrage significant and justified by transaction costs and the short-term attitudes it encourages? How do traders who focus on colocation or other technical advantages to achieve small latencies relative to competitors, "even if only by a microsecond," [263] rather than on assessments of fundamental value, make a significant contribution to capital raising and capital allocation? These questions raise the important issue as to whether short-term trading has adverse effects on the markets' ability to perform their traditional functions of spreading risk, allocating resources, and providing an efficient informational role. [264]

There is, for example, evidence confirming substantial deviations of market prices from fundamental values, which demonstrates "substantial excess volatility in stock markets." [265] Some scholars have concluded that a significant part of this volatility is due to short-term trading by noise traders [266] and those that trade off of them. [267] Thus, according to these scholars, rapid turnover of stock creates rather than reduces risk, distorts the allocation of investments, and limits the informational content of asset prices by its effect on the volatility of the market. [268]

2. The Impact of Short-Term Trading on Earnings Management

The previous Part raised questions about the value of short-term trading in assisting markets in performing their informational and liquidity function. This Part discusses two strands of literature on the impact of short-term trading on earnings management.

a. Studies Focusing on the Presence of Transient Institutional Shareholders

A burgeoning literature about institutional shareholders has categorized shareholders by the characteristics of their stock portfolios. [269] Shareholders are categorized as ***303** transient, dedicated, or quasi-indexer institutional investors. [270] These studies have shown that the transient institutional shareholders are responsible for pressuring managers toward short-termism. [271]

The classes of institutional investors are categorized by stability (the continuity of share ownership within the portfolio) and the size of the stakes taken in portfolio companies. [272] The transient institutional shareholders have a short-term time horizon which is reflected in high portfolio turnover, high use of momentum trading, and highly diversified portfolios. [273] While these firms may hold a quarter of their portfolio for two ***304** years, they pursue aggressive trading strategies with often over 70% of their portfolios turning over each quarter. The second category of institutions, dedicated institutions, have portfolios characterized by a low quarterly stock turnover (often less than 1%) and a much higher percentage of their shares held for two years (often over 75%). They are stable shareholders who, on average, have substantial investments in portfolio firms and therefore invest in fewer companies. Lastly, the quasi-indexer institutions fall between the other two categories. Their portfolios are characterized by high diversification but also a high degree of ownership stability. Thus, quasi-indexers trade infrequently but own small stakes in a large number of companies. For the period 1983 to 2002, 61% of institutional shareholders were quasi-indexer institutions, 8% were dedicated institutions, and 31% were transient institutions. [274]

The institutional shareholders that pressure managers of nonfinancial firms toward short-termism are transient institutional shareholders. Research shows that a high level of transient institutional ownership is associated with an overweighing of near-term earnings which "also translates into significant misvaluations" of shares. [275] In addition, transient institutional shareholders, unlike dedicated and quasi-indexer institutional shareholders, are more likely, when there is a break in a string of consecutive firm earnings, to buy heavily when earnings increase and to sell heavily when earnings decrease. [276] Dedicated and quasi-indexer institutional shareholders are more likely to hold the stock regardless of the break in earnings. Firms with higher transient institutional ownership also experience a sharper drop in stock price on the release of disappointing earnings news. [277]

Transient institutional ownership affects managerial decision making and negatively impacts corporate governance. [278] Nonfinancial firms with an ownership base dominated by transient institutional shareholders are more likely to cut research and development expenses to meet short-term earnings targets than firms dominated by dedicated and quasi-indexer institutional shareholders. [279] Such firms seek to increase current earnings to support stock prices through myopic investment decisions. Moreover, firms with higher transient institutional ownership are more likely to have positive abnormal accruals (earnings

management). [280] These firms are also "more likely to have accruals ***305** that cannot be mapped into cash flow realizations" and therefore have lower accruals quality. [281] In addition, transient ownership in firms is positively associated with the likelihood and magnitude of financial restatements (misreporting). [282] Thus, the predominance of transient shareholders can lead to a negative impact on the quality of financial information, which may have an adverse impact on a firm's access to capital and the future performance of the firm. In contrast, ownership by dedicated long-term shareholders is not associated with misreporting [283] Additionally, a higher percentage of transient institutional ownership in firms is positively associated with the existence of internal control material weakness, weaknesses which are negatively associated with future operating performance and stock returns. [284]

In addition, holdings of independent, long-term institutional shareholders with large stakes are positively associated with post-merger performance. [285] Firms with such holdings are also more likely to withdraw announcements of the worst deals. [286] Moreover, the significant presence of transient shareholders is associated with an increased likelihood of takeovers but also with overbidding and value reducing acquisitions. [287]

Research on misreporting, internal control weaknesses, and institutional ownership demonstrates the importance of differentiating among institutional shareholders. Professors Laura Yue Liu and Emma Yan Peng state that, "By aggregating different classes of institutional holdings, the prior research fails to identify the adverse influence of transient institutions' trading strategy that places excessive focus on current earnings." [288] For example, Burns et al. found a positive relationship between aggregate institutional ownership and misreporting but when differentiating among institutional investors, they found that this relationship was primarily driven by transient institutional ***306** shareholders, not dedicated long-term shareholders. [289] Professors Alex Tang and Li Xu in their study found a positive relationship between aggregate institutional ownership in firms and internal control weaknesses. [290] Similarly, they found that this relationship was mainly attributed to transient institutional ownership in firms. [291] They found that that the existence of internal control weaknesses was not associated with the level of dedicated or quasi-indexer institutions. [292] The next Part discusses additional evidence of the effect of short-term trading on managerial decision making.

b. Studies Focusing on the Heterogeneous Beliefs of Investors in Speculative Markets

High stock turnover indicates the existence of heterogeneous beliefs concerning the value of stock. [293] When heterogeneous beliefs exist and there are limitations on short selling, the price of stock is driven up to the value placed on the stock by the most optimistic investors. [294] The overvalued equity causes managers who are unable to meet the performance requirements indicated by the overvalued equity to create an "illusion of growth" by overinvesting in inefficient projects that ultimately lead to the long-term destruction of the value of their firms. [295] This incentive to engage in inefficient projects (earnings management) is greater in firms with higher turnover. A study found firm investments to be more sensitive to the mispricing of stock prices, on average, the higher the turnover of the firm's shares. [296]

This myopic firm behavior reflects a conflict between current short-term shareholders and future shareholders of the corporation. [297] Current short-term shareholders benefit from speculative episodes in the market with the expectation of reselling their shares to more optimistic investors. As the bubble lures dumb money into the market and more sophisticated traders ride the bubble, [298] current short-term shareholders value managers who engage in earnings management that provides positive signals to the market. It increases the likelihood of current short-term shareholders selling their shares to more optimistic investors. As one research study reports: "When it is ***307** possible for future investors to overvalue the firm due to their

optimism, it is in the interest of current [short-term] shareholders to cater to such potential sentiment at the expense of firm long-term fundamental value." [299] Thus, in this manner short-term traders have an adverse effect on decision making in nonfinancial firms by encouraging managers of such firms to engage in earnings management.

D. Financial Firms Using Nonfinancial Firms as Short-Term Arbitrage Opportunities Through the Use, or Threatened Use, of Shareholder Voting Rights

In addition to market pressures on managers of nonfinancial firms due to the impact on their stock prices of trading by financial firms, financial firms may affect nonfinancial firms by their use, or threatened use, of their shareholder voting power. Financial firms, because of their ownership of voting stock in nonfinancial firms, are in a unique position to use nonfinancial firms as short-term arbitrage opportunities. By reducing the duration of assets of nonfinancial firms, financial firms, through shareholder activism (the use of shareholder voting rights), can shift the nonfinancial firm's "cash flow toward the present by cutting investments, raising dividends, and selling some of the divisions." [300] Predominant in a list of recent shareholder proposals made by financial firms at nonfinancial firms are the following proposals: liquidation, selling (or buyout) of the firm or one of its divisions, large one-time dividend payouts, and stock repurchases. [301] Some of these transactions are beneficial to nonfinancial firms but others are not. [302] Short-term strategies that seek to squeeze as much value as possible from a nonfinancial firm are bound up in exit strategies (not long-term investment) and may leave the nonfinancial firm in a weaker financial position. Dividends encouraged by shareholders that are financed by debt are referred to as "leveraged" dividends, [303] a term which recognizes that the payout comes at the cost of increased leverage levels for nonfinancial firms. When dividends are financed by floating rate debt, they are called "drive-by dividends," [304] which indicates a short-term strategy of financial firms in influencing dividend payouts by nonfinancial firms.

Financial firms may also engage in hostile takeovers or leveraged buyouts of nonfinancial firms with the aim of changing the investment policies of nonfinancial firms to short-term plans that the stock market may value more highly than long-term plans. [305] Leveraged-buyout financiers who facilitate these transactions are often referred to as ***308** "capital turnover" banks (as distinct from "portfolio" banks), which seek to divest themselves quickly of debt issued to finance the buyout. [306] Leveraged buyouts leave nonfinancial firms with heavier debt loads which increase their risks of difficulties during market downturns.

Some studies have sought to evaluate empirically the role of financial firms as shareholders in corporate governance. Some of these studies have focused on a subclass of hedge funds, "activist" hedge funds, which fall in an intermediate range between short-term and long-term shareholders. [307] The results of these studies are often ambiguous which is not surprising given the intermediate status of these funds. "Activist" hedge funds (as distinct from the category of all hedge funds) hold shares in targeted firms for an average of 266 days to 2.5 years, depending on the method of calculation and the sample used in the study. [308]

Activist hedge funds are viewed as "value investors" and not momentum traders. [309] Studies find that activist hedge funds tend to target firms that are stable, generate a sound cash flow (often referred to as "cash cows"), [310] and that are "significantly more profitable than comparable firms, in terms of annual sales growth . . . and return on assets." [311] Thus, activist hedge funds do not target firms that have operational problems or uncertain business prospects, which should typically be the motivation for shareholder intervention. [312] Prior to activist hedge fund involvement, these targeted firms had lower payout ratios (dividend and stock repurchases), lower growth rates, and lower stock market valuations than comparable firms. [313] It is unclear whether

these firms had lower or higher leverage ratios than comparable firms prior to the activism.[314] Targeted firms had higher institutional ownership and analyst coverage than their peers and higher ***309** trading liquidity.[315]

Alon Brav et al. have found positive returns in target stock prices when considering the short-term price reactions of the target firm around the announcement date of the hedge fund activism (event date),[316] especially for activism that seeks to sell the target or change its business strategy.[317] They found that these positive returns persist for up to two years,[318] although a study by Professor William Bratton concluded that "[activist] hedge funds prove better at extracting target concessions and getting into boardrooms than at yielding long-term market-beating financial gains."[319] Brav et al. found that the operating profitability of target firms declined during the year of the event and did not recover to pre-event levels until two years later.[320] The latter findings indicate that the activism did not improve, on average, the profitability of the target firms.

As for taking money out of target firms, payout (consisting of dividends and stock repurchases) "increase[d] during the year of intervention, and peak[ed] in the year afterwards," and "the initiation of dividends increase[d] during the year after the event."[321] Bratton found in his sample of target firms that 23% used cash on hand for the payout, 44% used cash acquired by selling assets, 13% used cash flow from operations, and 17% used borrowing for all or part of the payout.[322] Thus, only a small percentage of target firms (17%) borrowed to make a payout, although a substantial percentage of target firms (61%) either borrowed or sold off assets to make payouts to shareholders. Bratton found that the debt-to-equity ratios of these firms increased, although Bratton notes that the resulting ratios are not as dramatic as was achieved in the leveraged restructuring in the 1980s.[323] Bratton concludes that the "picture is ambiguous."[324] The "evidence does not sustain the charge that the [activist hedge funds] are irresponsible quick buck artists, even as extracting a quick buck certainly has a place in the activist playbook."[325] As a result of the recent financial crisis Bratton notes that several of the firms on the payout list "manifestly could use extra cash" which they do not have because it was paid out to the shareholders due to hedge fund activism.[326]

In terms of leveraging of target firms, Brav et al. found improvements in the safety of debt in target firms a year to two years after the event,[327] although another study on hedge fund activism found that "target bonds significantly underperform their benchmark from the year after the activism by 3-5% per year" and that the "target firms have a ***310** higher likelihood of downgrading in their credit ratings compared to their peer firms."[328]

Based on the evidence that used various methods and databases, it is difficult to draw definitive conclusions about the value of hedge fund activism and the use by hedge funds of nonfinancial firms as short-term arbitrage opportunities. This conclusion is not surprising given the intermediate status of the average activist hedge fund (between long-term and short-term shareholders). Given the burgeoning literature on classifying investors by portfolio characteristics, future studies of hedge fund activism may wish to differentiate among kinds of hedge funds by portfolio characteristics. In addition, they may wish to take into account the time horizons of investment strategies in specific firms that vary by industry and the time horizons of particular events.[329] It is also important to point out that the perceptions of managers of nonfinancial firms are also relevant. If managers perceive activists shareholders as seeking short-term arbitrage opportunities, they may engage in short-termism themselves to preempt such shareholders.

V. Managing and Short-Termism

This Part explores additional reasons for short-termism, focusing on theories that contribute to understanding short-termism in managing firms. Managers may engage in short-termism because of competitive pressures from informationally imperfect markets.[330] Additionally, they may do so to take advantage opportunistically of informational inefficiencies in markets.[331]

This may also lead them to engage in herd behavior and to ignore or underestimate the risks of low-frequency economic shocks. [332] The reader is directed to evidence of earnings management in previous Parts IV.C and D which discuss the impact of financial firms on managerial decision making in nonfinancial firms.

A. The Prisoner's Dilemma: The Difficulty of Coordinating Behavior Beneficial to the Long-Term Health of Firms

In the situation where markets cannot fully observe managerial behavior, managers face a situation similar to the prisoner's dilemma. [333] The prisoner's dilemma involves a two-person situation where both parties are better off not confessing their participation in a crime, but they cannot be sure that the other person will not confess and in doing so ***311** implicate the other. The prosecutor presents the situation to the prisoners as follows: if one person confesses (defects) and the other does not (cooperates), the confessing person will receive a lower sentence or go free and the person who does not confess will receive a very long sentence. If both parties confess (defect), both persons will receive a moderate sentence. The dominant strategy in this dilemma is for each person to confess even though it is not in their joint interests to do so if they could coordinate their actions.

In the context of the recent financial crisis a similar situation presented itself. Consider competing firms A and B. A and B are better off not engaging in myopic behavior (cooperating), but they can't be sure that the other firm will not engage in such behavior (defect), such as engaging in excessive leverage and purchasing nonprime mortgage-backed securities. If A engages in the myopic behavior and B does not, A will benefit in the short-term marketplace and may get out in time to avoid serious long-term consequences (a lower sentence) and B will certainly lose profits in the short term or go out of business (a very long sentence). If A and B both engage in myopic behavior (defect), they will maintain their market shares in the short-term and possibly get out in time to avoid serious long-term consequences (a moderate sentence). Thus, the dominant strategy is for the firms to engage in myopic decision making even though the firms would be better off not engaging in this behavior if they cooperated.

This is the conclusion regardless of the inefficiencies or expectations of markets concerning myopic behavior. If the market expected managers to engage in myopic behavior, managers would have the incentive to engage in this behavior in order to maintain their market share. But even if the market did not expect managers to engage in myopic behavior, managers would engage in such behavior in order to improve their competitive position in anticipation that others would do the same. Optimism also plays a role with firms anticipating that they can get out in time to avoid serious consequences. [334] The concept underlying the prisoner's dilemma is referred to as “rational irrationality;” it is rational in a self-interested sense for individual market participants to act in a particular way although it is irrational for the system as a whole, and thus, irrational in the long run for the individual market participants themselves. [335]

The logic of this analysis is reflected in a previously referred to quotation of ex-Citibank CEO Charles Prince, “[A]s long as the music is playing, you've got to get up and dance.” [336] That is, in order to remain competitive during a bubble it is rational to ignore fundamental value in favor of short-term strategies. The famous economist John Maynard Keynes described this phenomenon by analogy to a beauty contest in which contestants were required to choose the prettiest face among six faces. The contestants who chose the most popular face were eligible for a prize. [337] The rational strategy for the ***312** contestants was not to pick the face that they considered the prettiest but to pick the face that they believed others would think to be the prettiest or, one step removed, the face that everyone would believe everyone else would view to be the prettiest. Keynes used this analogy to describe how stock markets work and how market participants make decisions. [338] Similarly, the decision-making strategy for market participants leading to the crisis was not based on assessing the fundamental value of investments, but on assessing what everyone else believed the value to be and thus in the process enhancing reported earnings.

B. Signaling and Signal Jamming: Giving Misleading Signals to the Market

Another reason for managerial myopia or short-termism occurs when markets infer positive values from certain observable managerial signals. Managers who care about stock price have an incentive to manipulate their signals or "signal jam" when this manipulation is not easily discovered. [339] Once inside information and the possibility of profiting from it are conceded, managerial incentives exist to create signals to enhance stock prices. [340] More signal jamming will occur the greater the weight that managers place on today's prices relative to tomorrow's prices, that is, on current earnings or stock price (the "sensitivity ratio"). [341] A post-crisis dramatic example of signal jamming was previously described in this Article where 18 major banks--including Citibank, Bank of America, and Deutsche Bank--reduced short-term borrowing at the end of quarters to obscure the riskiness of their operations. [342] These banks sought to signal jam by signaling less risk through lowering their leverage ratios just prior to their quarterly-earnings announcements. This signal-jamming behavior may also have the effect of pushing less risky banks into short-termism but in the opposite direction. These banks may seek to differentiate themselves by creating even lower leverage-ratio signals than the bogus signals put out by the more risky banks, possibly resulting in under-investment by them. [343] Similarly, if profitability is the positive market signal and is achieved by ***313** highly-leveraged institutions that invest in risky assets which are disguised as safe investments, less leveraged firms are incentivized to invest in increasingly risky assets to increase their short-term profitability. [344] The signal of quarterly profitability is short-term when manipulated in this fashion and adversely affects the long-term health of the firm.

A fertile environment existed for signal jamming in the period leading to the financial crisis. Institutions were taking on greater amounts of short-term debt and investing in assets with "hidden risk." [345] One reason for hidden risk was inadequate market signals for the value of mortgages underlying CDOs and CDSs. There was a sharp drop in subprime interest rate spreads from 2002-2005 despite "a rapid increase in the quantity and observed riskiness of subprime mortgages." [346] Credit histories of borrowers whose mortgages were in the pools of assets underlying CDOs were not readily available to investors, [347] and underwriters were lax in the reviews they ordered of mortgage pools due to their fear of raising "red flags" concerning the quality of these mortgages. [348] Another reason for hidden risk was the reliance on credit rating agencies which gave AAA ratings to CDOs that had very thin subordination of junior tranches and that did not adequately take into account systematic risk. [349] In addition, various complex financial transactions, some of which kept ownership of CDOs off the balance sheets of market participants, adversely affected the information available to the markets. [350] Finally, many market participants, such as hedge funds, and derivative transactions were exempt from disclosure obligations. [351] These factors created the environment for signal jamming.

C. The Lemons Problem

The lemons problem also arises from signaling problems: it occurs when a firm is unable to differentiate itself from other firms with poorer prospects. [352] This problem may cause a firm which would ordinarily issue stock in order to finance an investment to either forego that investment or seek other financing options, because the market value of the firm is lower than the true value of the firm based on the manager's private knowledge. [353] To avoid dilution of the value of the shares of existing shareholders, the ***314** firm may forego profitable investment opportunities. This problem arises from investors discounting share values in general because of their inability to determine which securities are "lemons." [354] Society is injured because "socially desirable projects may not be undertaken." [355] The securitization process for residential mortgages made it quite easy to sell lemons into the capital markets. [356] The asymmetry in information about the financial situation of mortgage borrowers that existed

between mortgage originators and public investors provided the condition for the selling of lemons. [357] Credit rating agencies and insurers should have mitigated this problem but they did not.

D. Neglect of Private Information and Herd Behavior

Short-termism may also occur when managers neglect private information about an investment or course of action if they cannot effectively communicate this positive information to the markets. [358] They may behave myopically by forgoing a better investment for the firm in favor of an investment that the market perceives as more valuable and thus engage in herd behavior. [359] In addition, herd behavior may occur when managers infer information from the behavior of others. Managers may ignore their own private information on the suspicion that executives of other firms are more knowledgeable. [360] The more they see other executives taking a particular course of action, the more credibility that course of action acquires and the more likely they will ignore their own private information. [361] The informational neglect theory explains why managers who suspected the risks associated with RMBSs ignored this private information and nevertheless invested in them.

Suboptimal information collection may also occur when managers decide to forgo collecting their own information in favor of waiting and mimicking the choices made by ***315** other managers. [362] Markets also absorb less diverse information when unsophisticated investors rely on certain public information, such as quarterly earnings, and the sophisticated investors follow this uninformed herd. [363] Finance professor Raghuram Rajan notes another disadvantage of herd behavior: "If herd behavior moves asset prices away from fundamentals, the likelihood of large realignments--precisely the kind that trigger tail losses--increases." [364] The focus on stock price enhances inefficiencies caused by herd or cascade behavior. [365]

Concerning asset managers' herd behavior, Professors Adam Brandenburger and Ben Polak note that there is an "incentive to herd with other investment managers on investment choices because herding provides insurance the manager will not under perform his peers" even though herding results in moving asset prices away from fundamentals. [366] Evidence exists that asset managers who invest in a conventional manner (follow the herd) are less likely to lose their jobs than asset managers that invest in a nonconventional manner, regardless of the performance of the funds that they manage. [367] This phenomenon appears to have been borne out in the period leading to the financial crisis. [368]

E. Disaster Myopia

Short-termism may also occur because of the underestimation of low-frequency economic shocks resulting in what is called "disaster myopia." [369] This hypothesis explains that individuals, even sophisticated statisticians, underestimate the likelihood of low-frequency economic shocks. Banks and accountants have recurring exposure to high-frequency events, such as defaults on auto loans and credit card loans, and are able to make reasonable estimates of these events which are reflected in periodic accounting statements. Low-frequency events, however, are less likely to get the attention of the decision maker giving rise to an "availability bias," which is a tendency to overestimate the probability of events that grab our attention. [370] In addition, this problem is compounded by the threshold heuristic whereby events whose likelihood fall below a ***316** threshold level are often disregarded altogether by busy decision makers. [371] Numerous articles have criticized the myopic financial models used in the financial community which are believed to have contributed to the financial crisis. [372] These articles criticized the models for not taking account of low-frequency events, such as extreme liquidity events, using short-term data such as a short performance history, and not properly valuing new financial products. [373]

VI. The Cultures of Financial and Nonfinancial Firms: Business Models, Business Forms, and Compensation Arrangements Contributing toShort-Termism

The previous Parts of this Article provide substantial information about the cultures of financial and nonfinancial firms, including the structural dynamics of banks during bubbles, competition among asset managers for investment funds, and structural and technological developments in trading markets. This Part contributes additional information about the cultures of financial and nonfinancial firms and also about the influence on cultures of compensation arrangements. As background for the following discussion, the reader is referred to the previous introductory discussion of business and personal reasons why managers may wish to engage in short-termism, including the fear of takeovers and compensation arrangements. [374]

A. Cultures of Financial Firms

The trading cultures within firms encouraged the problematic behavior at Enron and at financial firms leading to the recent financial crisis. Trading cultures tend to unduly focus on end results rather than process, competition among individual traders, success attributed solely to profit-making skills, individual incentives offering large disparities in employee rewards, and a self-interested environment generally. [375] These attributes are associated with cultures that are prone to unethical behavior which includes the behavior of individuals who seek individual short-term gains at the expense of the wellbeing of their firms as a whole. [376]

***317** Enron's main source of profits changed from its natural gas business, its traditional business, to energy trading, which affected its culture. [377] Similarly, the locus of power within Wall Street investment banking firms shifted from investment banking service providers to traders. [378] For example, Goldman Sachs sought to compete with hedge funds with its private equity business and proprietary trading. [379] The firm came under the control of aggressive traders and its culture became characterized by an “obsession with making money first and foremost,” which was incompatible with the view of a previous high-level Goldman Sachs executive that “great institutions had to stand for something more.” [380]

Wall Street investment banking firms in the 1990s changed their organizational form from partnerships to public corporations which most likely contributed to the change in their culture. [381] As partnerships the trading of investment banks placed the capital of their partners at risk, whereas the corporation form meant that the public shareholders would bear the risk of the banks' trading losses. [382] The following statement is a typical assessment of the change in organizational form by former investment banking executives and partners:

> The partners at Lehman Brothers and the partners at Goldman Sachs and the partners at Morgan Stanley didn't take risk that was disproportionate to their resources, and when they did, they paid the consequences so they tried not to . . . . These days, shareholders and the customers are the people who are financing these guys. They're financing casino operators. [383]

Firm cultures influenced by weak internal controls and risk management policies have a greater likelihood of unethical behavior than firm cultures influenced by better controls and policies. During growth periods the incentives to engage in prudent risk management decreases as salesmen become powerful within their firms, and risk managers are not listened to or are at risk of losing their positions if they do not adapt to the program. [384] For example, at Enron control personnel were required to report to the ***318** persons they were overseeing who determined their compensation. [385] Similarly, internal control weaknesses existed

at UBS preceding the financial crisis. UBS adopted a growth strategy when it found itself falling behind in revenue from three leading competitors and made an ill-timed plunge into securities products, such as high-yield RMBSs. [386] UBS lost about 50% of its shareholder equity, mainly as the result of its warehousing senior tranches of RMBSs that it securitized or purchased from other issuers. [387] Researchers described the actions leading to this loss as a "me too" revenue gaps strategy--"a growth at any cost mentality." [388] The UBS internal risk management group identified the warehousing of these securities in late 2005 as the "main source of market risk" at its investment bank. [389] Additionally, the UBS Group Senior Management "identified the sub-prime issue as a major risk in September 2006." [390] However, the investment bank did not make adjustments until July 2007. [391]

Incentive structures at firms also impact firm behavior. Asset managers of commercial and investment banks, pension funds, and other institutional investors, in addition to managers of new intermediaries such as hedge funds and equity funds, have "vastly different incentive structures than bank managers of the past" that affect firm cultures. [392] Asset managers are often compensated on the basis of their return on assets and/or the amount of assets under their management. [393] Because assets flow to funds with better returns, [394] asset managers seek to increase the investment returns on the assets under their management. An increase in the return on assets is always possible if the fund takes on more risk which creates the incentive for managers to take on risks that investors do not fully appreciate. The pervasive cult of innovation on Wall Street and the introduction of complex financial products produced by mathematical gurus--that even the most sophisticated business persons did not understand [395] --set the stage for this kind of behavior in the period leading to the financial crisis. There is in particular an incentive for asset managers to take on hidden tail risks which are risks having a very low probability of materializing. [396] CDSs were viewed as such investments. In addition, compensation based on the amount of assets under management favors risk-prone strategies because the inflow of funds from positive fund performance is greater than the outflow from poorer fund performance. [397]

***319** Hedge-fund asset managers had the incentive to take on risk because they promised high returns to their investors of about 12% to 15%. [398] In addition, they needed to cover their fees based on assets under management and a percentage of the gross returns, ranging from 5% to 40%. [399] These returns are not sustainable in the long run. Significantly, hedge-fund asset managers did not agree to clawback provisions which would permit some of their returns to be clawed back if their investments did not turn out well in the long run. Many hedge funds preferred the equity tranches which were the riskiest for their investors but offered the highest yields. [400]

Evaluation of asset managers for the short-term results of their funds has resulted in what is called the "quarter-sprint" or "daily-sprint." [401] The daily and quarterly reports of the funds' performances encourage this culture, providing immediate feedback to asset managers and their superiors on the performance of their funds in comparison to the funds of their peers. The compensation structure at UBS has been criticized because "[s]taff compensation incentives did not differentiate between the creation of genuine 'alpha' versus the creation of returns based on low-cost funding, nor the quality (risk attributes) of staff earnings for the company." [402]

In addition, there are rewards for herd behavior in financial firms which contributed to the financial crisis. As previously noted, asset managers who invest in a conventional manner (follow the herd) are less likely to lose their jobs than asset managers that invest in non-conventional manners, regardless of the performance of the funds that they manage. [403] Finally, investment analysts rely on quantitative evaluation measures that focus on the short-term. [404] This focus on short-term results is believed to promote "a financial culture prone to the erroneous and dangerous idea that the stock market is a place to get rich quickly." [405]

Additionally, John Bogle, the founder of Vanguard Investments, has observed a shift in culture at mutual funds, which handle the retirement savings of many Americans. The shift is primarily from focusing on "prudent investment management to a new focus on aggressive product marketing, a shift from stewardship to salesmanship." [406] Similar to organizational form changes at investment banks, the conversion of fund management companies from private to public ownership contributed to this cultural shift. [407] The cultural change at mutual funds, according to Bogle, "helped to facilitate the broad trend ***320** toward the dominance of speculation over investment in financial markets." [408]

B. Cultures of Nonfinancial Firms

The cultures of nonfinancial firms have changed dramatically since the 1980s. [409] The main reason is the tender offer phenomenon of the 1980s. [410] During this period about one-half of major U.S. public corporations received tender offers, many of them hostile. [411] As a result of this phenomenon, managers came to care very much about the stock prices of their firms. With rising stock prices, managers preferred compensation in the form of stock options which were favored by tax rules [412] and also allowed them to receive large compensation packages without alerting shareholders because stock options were not expensed under then existing accounting rules. [413] In addition, the negative responses of managers to tender offers which shareholders in general favored caused shareholders to realize that their interests often diverged from those of corporate managers. This realization created the rationale for shareholder activism which was effective because of changes in the composition of shareholding from dispersed, individual shareholders to a concentration of share ownership in institutions. [414] However, shareholder activists also supported the issuance of stock options as compensation for executives based on the belief that this form of compensation would align the interests of executives with those of the shareholders. [415] Thus, compensation incentives and the fear of hostile takeovers caused executives of nonfinancial firms to become acutely attuned to the stock prices of their companies.

There is evidence that cultures in board rooms of nonfinancial firms also changed to become more shareholder centered. A 1999 survey of over 1000 directors in major U.S. corporations noted a "cultural change" in corporate boards of directors, which "corresponded to a growing awareness of board members of their duty to properly represent the shareholders who elect them as directors." [416] While this awareness is not problematic to many, it is the focus on stock prices and quarterly earnings rather than other measures of corporate value that is a serious problem. In a previous article I discussed the "new managerialism" that resulted from these changes. I explained "[t]he new managerialism is characterized by . . . corporate decision making that involves ***321** second guessing stock market reactions. This environment often encourages a short-term focus that ignores the underlying economic health of the corporation to the detriment of the long-term interests of shareholders and other stakeholders." [417] This short-termism encourages earnings management. As previously mentioned, a post-SOX survey of 401 financial executives revealed that high-level executives are willing to engage in earnings management to positively impact the stock prices of their firms. [418]

The dramatic climb in executive compensation and the new norms that have been established concerning levels of executive compensation arose from this stock market focus. As stock prices rose, executive compensation in the form of stock options increased dramatically. [419] In addition, with the executives now looking outward to the market rather than inward, executives psychologically distanced themselves from their employees. They were able to justify greater disparities in compensation between themselves and the average employees of their corporations. [420] The ratio of CEO compensation to the average employees' compensation of major U.S. companies rose from 20.3 in 1965 to 28.5 in 1978, and from 55.9 in 1989 to 106.9

in 1999. [421] Moreover, as CEOs looked outward to the market, they cut costs through employee downsizing to meet earnings targets which was rewarded with increases in the stock prices of their companies. [422]

As one report has indicated, these changes have set the stage for a corporate culture of "greed and ambition." [423] First, a competitive tournament mentality has captured the imagination of employees as promotion to a CEO position is associated with dramatic increases in compensation. [424] Second, centralization of power in the CEOs of U.S. corporations has made competition among executives even more important and politics within corporations more prevalent. Studies show that when power within an organization becomes more centralized in a CEO, politics within the organization increases, [425] resulting in the CEO receiving less critical feedback and thus becoming less accountable. [426] In this environment, the CEO is less likely to hear diverse perspectives which can injure the corporation and may lead to more risky behavior. Structural changes in corporate boards of directors have contributed to the centralization of power in CEOs. Fewer executives serve on corporate boards because more independent directors are ***322** serving on them [427] and, recently, the number of corporations with executive committees has decreased. [428] Thus, although having independent directors on corporate boards is advantageous to provide more effective managerial monitoring, it also centralizes more power in the CEO. A dual board structure would counter this trend by leveling the hierarchy with (1) a business review board that would consist of executives (in addition to the CEO) and outside directors, and (2) a separate conflicts of interest board which would consist solely of independent directors for effective managerial monitoring regarding conflicts of interest transactions. [429] In an earlier article I explained the importance of leveling the hierarchy in management:

One knowledgeable observer of corporate practice notes that "a committee is actually a more efficient way of running a large and complex modern corporation than relying on a powerful and charismatic leader." This is not only due to the cult of personality. There is support for this view in psychological studies, which indicate that decision making in ambiguous or uncertain situations is best made by groups rather than by individuals. Moreover, persons in more proximate social positions are more likely than those in disparate positions to bring disagreements and opposing perspectives into the open for discussion. Less political behavior can also be expected for a top management team in which members are also peers. A study of top management teams in the microcomputer industry found less evidence of politics in teams when power was not centralized in the CEO. [430]

Thus, a dual board structure is advisable which differs from the German two-tiered board structure although the dual boards' business review board has some of the features of the management board in German companies in that it contains peers of the CEO. [431]

While there are advantages to group decision making, homogeneous groups are problematic because of the phenomena of "group think" and group polarization. [432] Group polarization refers to the tendency of groups to gravitate to more extreme positions such as making more risky or risk-averse decisions. [433] The reason for this polarization phenomenon is not well understood, but assuring a diversity of perspective on corporate boards mitigates it. [434] Diversity in groups also counters other problematic behavioral biases in group decision making, such as the tendency to focus on information members ***323** have in common, the egocentrism bias where persons believe that others share their preferences and perspectives (such as risk preferences), and the confirmation bias where persons tend to perceive information as confirming their initial opinions. [435] Thus, for higher-quality decisions that mitigate the cultural phenomena of group think and group polarization, a corporation should seek a diversity of perspectives on its board.

VII. Regulatory Responses to Counter Short-Termism

This Part is intended to further the dialogue on mitigating short-termism in financial and nonfinancial firms. It provides a multifaceted approach to counter short-termism. This Part addresses informational and incentive problems in markets, structural problems in markets, and individual incentives that underlie short-termism. The discussion is not intended to be exhaustive or definitive because the various subjects it addresses require their own specialized papers which would take into account the vast literature about them and the numerous financial reforms that Congress has adopted and proposed. This Part, however, contains my analysis to date based on the research contained in this Article. Researchers are encouraged to analyze these subjects and responsive regulation in light of the reasons for short-termism that have been explored in this Article.

Part VII.A explores regulations responsive to informational problems in markets which create conditions for short-termism. Part VII.B examines regulatory responses to structural problems in markets that contribute to short-termism. These Parts are divided into two sections devoted to (1) regulatory responses to short-termism in general and (2) responses to short-termism that are of particular relevance to the financial crisis. Finally, Part VII.C addresses regulatory responses to individual incentives in firms in an effort to diminish motivations to act for short-term gain at the expense of long-term performance.

A. Regulations Responsive to Informational Problems in Markets

The lack of information concerning the long-term value of firms encourages myopia. For example, the ability of a financial firm to use a nonfinancial firm as a short-term arbitrage opportunity is to some extent due to the fact that the nonfinancial firm is unable to convey its long-term value to markets effectively. Also consider the financial crisis. Inadequate disclosures about mortgage-related securities caused by lax issuer, underwriting, and credit rating standards contributed to the financial crisis by creating an environment for signaling and signal jamming. Due diligence by issuers, underwriters, and credit rating agencies should have mitigated the problem of lemons in these markets but did not because of lax standards and conflicts of interest on the part of underwriters and credit rating agencies. Credit ratings were not informative because agencies used financial models that ignored long-term historical data and tail risks (disaster myopia) and made unexplained adjustments in subordination levels of CDOs. [436] In addition, the market for derivatives was unregulated so that persons were not aware of information relevant to their value and were unable to assess the risk exposure of counterparties during the crisis. Moreover, the inadequacy of market signals impeded the positive ***324** coordination of actions by market participants who were faced with the prisoner's dilemma previously described. Finally, the inflation of asset prices fed into bank structural problems described by Minsky, and managers neglected their own private information to join the growing herd responding to inadequate market signals.

Part VII.A.1 addresses regulatory informational responses to short-termism in general. It proposes a reexamination of financial reporting obligations to focus on long-term value. It also proposes modifications of disclosures to and the education of investors concerning stock turnover, switching funds, and other matters regarding whether investments are long-term or short-term. Part VII.A.2 examines regulatory informational responses to short-termism that are of particular relevance to the financial crisis. It recommends various disclosure and due diligence obligations for issuers, underwriters, and credit rating agencies to enhance the accuracy of market signals. Finally, Part VII.A.3 recommends disclosures regarding derivative transactions. This Article makes these recommendations in the context of discussing relevant provisions of the Dodd-Frank Act.

1. Informational Regulatory Responses to Short-Termism in General

This Part is devoted to disclosure regulation responding to short-termism generally. Part VII.A.I.a explores the need to reexamine financial reporting to focus on the long-term value of firms. Part VII.A.I.b considers providing information and education to investors concerning long-term investing.

a. Reexamination of Financial Reporting to Focus on the Long-Term Value of Firms

Disclosing information to markets relating to long-term values would serve to mitigate the emphasis on short-termism and create a culture in which managers and investors look to the long-term health of their firms. Many business leaders believe that "improving the quality of the information flow on corporate assets is essential to project strategic and investment decisions on a longer timeline." [437] Thus, a reexamination of financial reporting obligations would assist in combating short-termism and decreasing the importance of quarterly earnings statements. Studies have shown "limited and further diminishing" correlation between financial accounting book value and stock prices, indicating a problem with the current accounting system. [438] Professor Robert Eccles states that "studies have found that only twenty-five percent of a company's market value can be attributed to accounting book value, with the remaining seventy-five percent based on an assessment of value created by intangibles, such as strategy, product innovation, people and customer loyalty." [439] Professor Baruch Lev has criticized the current accounting system, which he notes was basically designed for manufacturing firms of the past and is particularly ill suited to modern knowledge-based firms. [440]

***325** Professor Lev has criticized current firm disclosures for failing to go beyond the disclosure of past transactions and for failing to disclose adequately four factors important to firm valuation: networking activities, unexecuted obligations, intangible assets, and risk profiles. [441] Firms often conduct many of their valuable activities through networks, such as alliances, joint-ventures, partnerships, and special purpose entities. [442] Unexecuted obligations and contractual arrangements with these parties may expose the firm to major liabilities in the future. For example, major financial institutions had hidden obligations to sponsored structured investment vehicles, which held subprime mortgage-related securities. [443] According to Professor Lev, the lack of adequate disclosure of these factors "creates significant [managerial] incentives to misrepresent the true obligations profile of the company, and distorts the true economic situation of the enterprise." [444] While the accounting industry has made progress in requiring disclosure of such factors since the financial scandals of the early 2000s, [445] there is recognition that these factors played a role in the financial crisis and that the accounting profession needs to do more. [446]

***326** In addition, intangible assets, such as "patents, brands, and trademarks, . . . organizational designs . . . and knowledge management systems," [447] contribute great continuing value to firms. Professor Lev estimates that intangible assets constitute approximately 60% to 75% of corporate value, on average. [448] Firms expense rather than capitalize these investments, which creates the incentive for firms to reduce these expenses in order to have an immediate impact on earnings. [449] Failure to adequately account for intangible assets can lead to "using intangibles . . . for widespread manipulation of financial information, excessive gains to corporate insiders from trading the stock of their companies, high volatility of stock prices, and . . . excessive cost of capital to intangibles-intensive industries, hindering innovation and growth." [450]

Moreover, boilerplate risk exposure statements in disclosure documents are unhelpful, particularly in the age of financial innovation where various derivatives and debt securitizations expose firms to large risks. These documents, Professor Lev explains, do not include "comprehensive risk-related stress-tests, informing investors of the earnings and asset/liabilities consequences of expected changes in interest rates, foreign exchange rates, commodity (e.g., oil) prices, or changes in the economic conditions of countries" where firms have "major operations." [451] Disclosures regarding derivatives present particular challenges for regulation and are discussed later in this Article. [452]

Conceptual frameworks exist, however, for taking into account these financial measures. [453] Professor Eccles writes about the advantages of these conceptual frameworks: "The overemphasis on quarterly earnings will decline as companies report transparently on their key drivers of value creation. The long-term rewards will be tangible: a greater investor following, lower stock-price volatility and ultimately a more ***327** attractive cost of equity and debt." [454]

Some have recommended that companies cease producing quarterly earnings guidance. The Business Roundtable, the U.S. Chamber of Commerce, and the CPA Institute have been among organizations that have encouraged companies to discontinue quarterly earnings guidance to discourage short-termism. [455] Major companies, such as Coca-Cola, Alcoa, AT&T, and Sun Microsystems, have discontinued quarterly earnings guidance in order to focus on long-term corporate performance. [456] It is not clear, however, that discontinuing earnings guidance without substituting other more useful information for it is advisable. [457] A study of firms that stopped earnings guidance found that these firms did not increase their disclosure of forward-looking information as some had predicted, but curtailed it, and that analyst coverage decreased, resulting in an increase in forecast errors by analysts. [458]

Professor Alfred Rappaport proposes a "Corporate Performance Statement" to replace quarterly earnings guidance (the traditional income statement) with information on a company's operating performance. [459] He bases his proposal on the premise that "[m]aximizing long-term cash flows rather than managing for short-term earnings, even in an earnings-dominated market, is the most effective means of creating value for continuing shareholders." [460] With such a Statement based on cash flows, it does not matter if assets are expensed or capitalized. His proposed Statement would separate cash flows from accruals in order to provide the investor with information on realized cash flows, which is a "historical baseline for estimating a company's future cash flow ***328** prospects." [461] Such a separation would also "enable analysts to evaluate the reasonableness of accrual estimates." [462]

In addition, Professor Rappaport's proposed Statement would separate accruals by levels of uncertainty in their estimation, that is, into low, medium, and high-uncertainty accruals, and provide a "range [of estimates] and the most likely estimate for each accrual." [463] Furthermore, the Statement would exclude arbitrary, value-irrelevant accruals, such as depreciation and amortization. [464] It would also exclude "[n]onrecurring gains and losses, charges from discontinued operations, and the effect of accounting changes," because "they offer no meaningful help in forecasting the sustainability and growth potential of a company's cash flow." [465]

He also rejects a bottom line for his Statement with the belief that "no single number can reasonably encapsulate a company's performance." [466] This approach will encourage security analysts and asset managers to avoid a simplified approach, such as making recommendations based on quarterly earnings guidance. In addition, Professor Rappaport would include with the Statement a management discussion and analysis of "critical assumption[s] supporting each accrual estimate, the company's business model, and key financial and nonfinancial indicators that drive the company's value." [467] Professor Rappaport's proposal would assist in changing the focus of business persons to long-term value.

Although many market participants prefer market-based solutions, [468] the question is whether private actors will voluntarily make the necessary changes in their disclosure practices without regulatory intervention. While a degree of private market coordination (rather than defection) is achievable through the creation of a business culture that places less emphasis on short-term results, [469] relying on markets alone to pressure participants to produce relevant disclosures is problematic because of the prisoner's dilemma situation previously discussed. [470] For example, the SEC in 1994 discontinued the requirement that reporting companies (except for bank holding companies) file a schedule indicating their intra-period short-term borrowing. The SEC explained that it believed that the reporting companies would adequately cover this subject in their Management's Discussion and Analysis of Liquidity and Capital Resources. [471] As previously noted, however, the Wall Street Journal reported that banks decreased short-term borrowing at the end of reporting periods in order to avoid disclosing their true liquidity risks. [472] As a

result, the SEC has recently proposed specific disclosure rules ***329** requiring banks to disclose average borrowing amounts during reporting periods, the maximum month-end short-term borrowing of nonfinancial firms, and the maximum daily amount of short-term borrowing by financial firms. [473]

b. The Provision of Information and Education to Investors

While it is important that the markets be provided with relevant information concerning long-term performance and viability, as discussed in the previous Part, it is also important to assure that the beneficiaries of these disclosures understand the information provided. Reliance on the sophistication of financial intermediaries to protect their beneficiaries proved illusory in the recent financial crisis. [474] It suggests the need to inquire into the SEC's exemptions from registration under the Securities Act of 1933. [475] Many CDOs and RMBs were issued under the SEC's private placement exemption which is based on sophistication requirements. [476] Business groups, such as the CFA Institute and the Business Roundtable, recommend educating pension fund trustees and other institutional investors, as well as individual investors, about investing for the long-term to increase the long-term orientation of investors. [477]

Regarding disclosures, asset managers should inform investors of the long-term or long-term orientation of their funds. In addition, they should fully inform and educate investors about the likely consequences of switching funds, which places undue short-term pressures on asset managers and does not, on average, increase returns. [478] The modification of disclosures to mutual fund investors is also proposed. These disclosures obscure information regarding the cost of trading securities in their funds. [479] The operating expense ratio of a fund, which is the ratio of operating expenses to annualized asset value of the fund, excludes the cost of portfolio turnover. [480] That is, the ratio omits the costs of trading in securities, such as brokerage commissions. The expense ratio ***330** "understates--at times fairly significantly--the actual cost incurred by investors." [481] As one commentator notes:

> One fund with an SEC expense ratio of 1.94 percent would instead have reported 5.55 percent if the brokerage commissions had been included. Another fund would have reported an expense ratio of 3.11 to 4.11 for the various share classes (rather than 1.6 to 2.16 percent) for the year ended October 2004 if brokerage commissions had been included. [482]

The SEC should require mutual funds to include brokerage commissions in the expense ratio which will provide important information to investors and would give a greater incentive to asset managers to take trading costs into account in their investment strategies. More transparency would also occur if the SEC required the presentation of fees in dollar amounts, the disclosure of actual fees paid by individual investors, and a running tally of these fees over time. [483] The information provided would most likely surprise most investors. Professor Stout calculates:

> An individual who began at age twenty-five to invest $4,000 annually in an actively-managed stock portfolio that produced a seven percent annual compounded return could retire at age sixty-five with a nest egg of $854,438. If a passive investment strategy increased her return to 8.8% [without a 1.8% annual trading fee], she could retire with $1,393,864, a nearly sixty percent increase in value. [484]

2. Informational Regulatory Responses to Short-Termism of Particular Relevance to the Financial Crisis

A reexamination of financial reporting obligations to focus on long-term value and the provision of information and education of investors about long-term investing discussed in the previous Part would help to mitigate short-termism. These recommendations seek to promote behavior that will focus corporate managers, asset managers, and others on long-term value creation and enhance the efficiency of markets in reflecting long-term values. The recommendations explored in the present Part will also have an important role to play in enhancing transparency. These regulations have particular relevance to the financial crisis where lax underwriting and credit rating agency ***331** standards and the proliferation of complex, non-transparent derivatives wrought havoc on the economy. This Part is divided into three parts. Part VII.A.2.a will propose certain disclosure and due diligence obligations for credit rating agencies that are designed to counteract the short-term behavior of these agencies in their quest for competitive advantage and fee revenue which led to the financial crisis. Part VII.A.2.b will recommend various regulations for issuers and underwriters who foisted on the unsuspecting public securities whose risks were underestimated and that resulted in severe long-term consequences to investors and the economy generally. Part VII.A.2.c will recommend transparency in derivative transactions, including credit default swap transactions that lived up to their moniker as "weapons of mass [financial] destruction." [485]

a. Disclosure and Due Diligence Obligations of Credit Rating Agencies

Investors have relied on credit rating agencies to provide important information about the quality of their investments. In the recent financial crisis, however, credit rating agencies have been criticized for the inaccuracy of their ratings of CDOs, for their failure to follow consistent models concerning subordination levels, [486] their underestimation of risks of low-probability events, [487] and other serious limitations in their methodologies and data used for determining ratings. [488] Congress in the Dodd-Frank Act made the following findings:

> In the recent financial crisis, the ratings on structured financial products have proven to be inaccurate. This inaccuracy contributed significantly to the mismanagement of risks by financial institutions and investors, which in turn adversely impacted the health of the economy in the United States and around the world. Such inaccuracy necessitates increased accountability on the part of credit rating agencies. [489]

Disclosure requirements have the potential to make credit rating agencies (RAs) more accountable. The Dodd-Frank Act requires RAs to disclose their methodologies and data used to arrive at their ratings, [490] the sensitivity of their ratings to assumptions underlying their models for calculating ratings, [491] and the performance histories of their ratings. [492] The Act encourages RAs to engage in due diligence concerning the assets underlying their securities by requiring RAs to disclose the data they rely on and the "reliability, accuracy and quality" of this data. [493] The Act does not, however, ***332** affirmatively impose a due diligence obligation on RAs.

The Dodd-Frank Act does, however, require RAs to disclose whether and to what extent third-party due diligence services have been used by the RA and information concerning such due diligence reviews, including findings and conclusions. [494] Had these requirements been in place prior to the financial crisis, investors would have been informed that in some instances due diligence firms reviewed as little as 10% of the mortgages underlying the mortgage-backed securities rated by RAs. [495] While this disclosure requirement is significant, its limitation is that RAs and underwriters are not obligated to engage a third-party due diligence service.

In addition, the Dodd-Frank Act encourages RA due diligence through a provision requiring a claimant to plead the state of mind of a RA in a civil action for monetary damages against the RA. [496] The provision provides that the claimant may plead knowing and reckless intent on the part of the RA by pleading facts that give "rise to the strong inference" that the agency

failed "to conduct a reasonable investigation" of the "factual elements relied upon by its own methodology" or failed to obtain reasonable verification thereof. [497] The drawbacks of this provision are that it leaves the issue of the relevant methodology to the RA and provides for a high bar for liability, namely, knowing and reckless intent.

This Article suggests imposing an affirmative due diligence obligation on RAs and applying a reasonableness standard, such as that provided under Section 11 of the Securities Act for underwriters participating in public offerings. [498] Due to the large possible damage awards under this proposal, however, this Article proposes a ceiling on liability or, alternatively, permitting only a governmental action by the SEC to impose appropriate civil penalties for violations of the proposed reasonableness standard. Penalties would include pecuniary penalties, disqualification orders, and compensation orders, similar to the enforcement powers of the Australian Securities and Investments' Commission for violations of directors' fiduciary duties. [499]

Regardless of the nature of the liability sought to be imposed on RAs, it is possible that the RA will claim in actions challenging its ratings that its ratings are protected by the First Amendment. The argument is that RA ratings are mere "opinions" and that RAs are primarily journalists engaged in news-gathering. [500] The Dodd-Frank Act in its findings states that the "activities of credit rating agencies are fundamentally commercial ***333** in character," [501] thus indicating congressional intent to treat the ratings as commercial speech which may be regulated. Because court decisions are mixed on whether and to what extent the First Amendment protects credit ratings, [502] resolution of this issue awaits further court decisions.

It remains to be seen whether the Dodd-Frank Act will result in meaningful changes leading to more accurate ratings and market prices. As previously noted, the Act stops short of requiring affirmative due diligence obligations on the part of RAs. It mainly relies on disclosures to encourage rating agencies to engage in due diligence. Although the Act contains a relevant due diligence liability provision, its effectiveness remains in question until the viability of the RA's First Amendment claim is decided. And as previously noted, this due diligence liability provision imposes a high standard and does not address the issue of RA methodology. [503] In addition to RA disclosures and due diligence obligations discussed in this Part, a change in the issuer-pay model would most likely increase the likelihood of accurate credit ratings. This subject is discussed later in this Article as a proposed structural change in the market for ratings. [504]

b. Disclosure and Due Diligence Obligations of Underwriters and Issuers

As with credit rating agencies discussed in the preceding Part, informational and incentive problems plagued the role of underwriters and issuers. Like credit rating agency standards, underwriting standards declined during the period preceding the financial crisis. [505] This decline was due to the allure of substantial fees earned through the ***334** securitization process whereby mortgages were taken off the books of originators, packaged, and repackaged, and distributed to investors in the form of CDOs and RMBSs. [506] Professor John Coffee states that the decrease in due diligence by underwriters "appears to have been driven less by the desire to economize on expenses than by a desire to suppress the 'red flags' that factual investigation would uncover about the deterioration in credit quality in the subprime mortgage field." [507] Conflicts of interest were present in the originate-to-distribute model whereby originators and securitizers had the incentive to lay off risk on unsuspecting or greedy investors. While this incentive certainly operated with respect to some originators and securitizers, many of them did not lay off all risks associated with the securitization process. They were left holding mortgage-related securities that were in the pipeline when "the music stopped," had obligations to structured investment entities that they sponsored to hold the securities, and made short-term loans to other participants in the securitization process. [508] The fees and short-term profits earned from the

securitization process fueled the process. [509] Executives of such firms benefitted through enhanced compensation for making short-term profits for their firms; their firms and investors primarily suffered the adverse long-term consequences. [510]

The Dodd-Frank Act takes a number of indirect approaches to encourage adequate underwriting standards. Originators and securitizers must have "skin in the game," by retaining, among them, not less than five percent of the residential mortgage-backed securities that they issue. [511] As previously noted, however, the originators and securitizers did have skin in the game but it made no difference. Moreover, the five percent is shared by the originator and securitizer [512] and exemptions, subject to certain conditions, are possible from this requirement which would decrease the effectiveness of this regulation. [513]

In addition, in order to provide assistance "so that investors may identify asset ***335** originators with clear underwriting deficiencies," the Dodd-Frank Act directs the SEC to require disclosure of "fulfilled and unfulfilled repurchase requests" of securities, which requests are based on breaches of representations and warranties by securitizers. [514] This approach is problematic, however, because it only provides information on past activities of securitizers and assumes the existence of a mechanism, which does not always exist, for the investors to discover and deal with breaches of representations and warranties. [515] Moreover, the obligation to do due diligence is placed on the investors, not the underwriters. Thus, while the Act contains a number of indirect approaches to encourage underwriters' due diligence, it does not impose a direct due diligence obligation on underwriters for exempt offerings (private placements) in which RMBSs and CDOs were issued. [516]

Unlike for underwriters, however, the Dodd-Frank Act does impose a due diligence obligation on issuers of asset-backed securities "issued in a public offering." [517] Nevertheless, this provision, if it had been in place prior to the financial crisis, would have been inapplicable to many RMBSs and CDOs issued. Many RMBSs and CDOs were privately placed and thus not issued in public offerings. [518] In a recent release, however, the SEC requires that issuers in private placements make available on request of the purchaser "information that would be required if the transaction were registered under the Securities Act." [519] Because the Act requires the issuer in a public offering to review the assets underlying the asset-backed security and disclose the nature of its review, [520] it is arguable that some form of due diligence by issuers is necessary in private placements. Another provision in the Act facilitates due diligence by investors; it provides that "if [asset-level or loan-level data] are necessary for investors to independently perform due diligence," [521] the Act directs the SEC to require issuers to disclose such data. Again, the responsibility to do due diligence is placed on the investor.

In conclusion, while the Dodd-Frank Act sets forth a number of methods to encourage due diligence reviews, the provisions applicable to underwriters are only indirect, indicating a lack of serious commitment to requiring due diligence by underwriters in reviewing the assets underlying asset-backed securities. The provisions of the Act dealing with due diligence by issuers only apply to public offerings. Thus, an affirmative obligation of underwriters and issuers to do due diligence in exempt ***336** offerings, coupled with effective remedies, such as that provided for underwriters under Section 11 of the Securities Act, would provide greater assurance that adequate due diligence would be undertaken to protect investors. [522]

c. The Regulation of Derivatives to Assure Transparency

This Part discusses information problems in derivative markets because asymmetries regarding the availability of information in the derivatives market among market participants contributed to the financial crisis. In response to this concern, disclosure rules regarding derivatives are desirable that would require protection buyers (e.g., buyers of CDSs) to disclose material risks that they "are aware of or ought reasonably to be aware of" concerning the referenced assets (e.g., pools of mortgages). [523] They should also require protection sellers (e.g., sellers of CDSs) to disclose material information concerning their financial

ability to cover their obligations to buyers. [524] Moreover disclosure obligations should require financial and nonfinancial firms to disclose their financial exposures arising from derivative transactions and to make this information available to relevant parties. [525] These obligations should include effective remedies for failing to comply with them. [526]

The Dodd-Frank Act requires registered swap dealers and major swap participants to disclose "information about the material risks and characteristics of swaps," which is important for the protection of sellers and buyers. [527] There is no specific requirement, however, that protection sellers disclose information about their financial ability to cover their obligations, unless it is viewed as a "material risk" associated with the swap. It is arguable that disclosure of this information is required because the Act imposes on registered swap dealers and major swap participants the duty "to communicate in a fair and balanced manner based on principles of fair dealing and good faith." [528] The ***337** interpretation of this language, however, awaits the attention of the courts in relevant cases. The Act does authorize certain regulators to impose capital and margin requirements on dealers and major swap participants, which may encourage financial responsibility on the part of counterparties to derivative transactions. [529] A cautionary note is in order, however, as capital rules applicable to banks did not prevent excessive leverage leading to the financial crisis. [530]

In furtherance of transparency objectives, the Dodd-Frank Act directed the SEC and Commodity Futures Trading Commission (CFTC) to conduct a joint study to examine the "feasibility of requiring the derivatives industry to adopt standardized computer-readable algorithmic descriptions which may be used to describe complex and standardized financial derivatives." [531] This study concluded that "current technology is capable of representing derivatives using a common set of computer-readable descriptions. These descriptions are precise enough to use both for the calculation of net exposures and to serve as part or all of a binding legal contract." [532] The study has not mandated the use of such descriptions, however, because of, among other concerns, the difficulties in describing electronically non-standardized derivative products. [533] Because of the devastating effects of the financial crisis and the abysmal role that derivatives played in contributing to the crisis, the subject of prohibiting products that cannot be so described requires serious consideration. [534] Greater transparency will diminish the opportunities for short-termism in derivatives markets.

B. Regulatory Responses to Structural Problems in Markets

While regulations requiring disclosures and due diligence discussed in the last Part are important to address short-termism, this Part examines structural issues that are not resolved by the implementation of such regulations. This Part is divided into two. Part VII.B.1 explores structural regulatory responses to short-termism that are of particular relevance to the financial crisis. It examines problems with speculative trading in the derivative markets, the issuer-pay model that creates conflicts of interest for RAs, complex financial products, and excessive debt at the retail and firm levels. Part VII.B.2 is devoted to structural regulatory responses to short-termism in general. It proposes methods for diminishing the casino mentality of Wall Street by recognizing the distinction between traders and investors through tax regulations and shareholder voting ***338** right rules.

1. Structural Regulatory Responses of Particular Relevance to the Financial Crisis

a. Standardized Derivatives and Position Limits

The derivatives market has evolved from primarily facilitating risk diversification to providing opportunities for speculation. [535] Speculation occurs when the counterparties to derivative transactions do not have any actual interest in the referenced assets. [536] For example, buyers of CDSs may not have an actual interest in a pool of mortgages but nevertheless buy CDSs, betting

that a pool of mortgages will not do well. Although some have claimed that speculative derivatives trading is not readily distinguishable from bona fide hedging transactions, Congress recognized the difference in the Dodd-Frank Act. It defined bona fide hedging transactions as transactions that involve assets that a person owns or anticipates owning, liabilities that a person owns or anticipates incurring, or services that a person provides or purchases or anticipates providing or purchasing. [537] According to this Article, ideally, Congress should have prohibited trading in speculative derivatives. Instead, it opted to allow the SEC, by rules, to impose position limits on speculative derivative trading (excluding bona fide hedging transaction from these limits, the end-user exemption). [538]

The position limit rules would limit the number and amounts of positions in speculative derivative transactions as they relate to specific assets. [539] According to the ***339** Dodd-Frank Act, the rules must take into account arguments by those who oppose speculative derivative trading as well as those who believe that such trading contributes importantly to liquidity and price discovery. On the one hand, the rules must seek to "diminish, eliminate, or prevent excessive speculation," and deter and prevent "market manipulation." [540] On the other hand, they must "ensure sufficient market liquidity for bona fide hedgers" and "ensure that the price discovery function of the underlying market is not disrupted." [541] How these competing policies will play out is yet to be seen. [542] In addition, the extent of implementation and enforcement of any adopted rules will depend on the appropriations process in Congress of the non-self funded CFTC and SEC.

In addition, Congress is concerned that regulating derivative trading will cause derivatives trading to go overseas, which is not a serious concern regarding speculative as distinct from hedging derivative transactions. The Dodd-Frank Act directs the CFTC to do a study of the effects of position limits on trading on U.S. exchanges. [543] It specifies factors for consideration by this study: to consider the "effect of position limits on excessive speculation" as well as "on the movement of transactions from exchanges in the United States to trading venues outside the United States." [544]

The Dodd-Frank Act also regulates speculative derivatives by requiring the execution on a swap execution facility of standardized derivative contracts cleared through a centralized clearing house. [545] Non-standardized (custom derivatives) are not subject to these requirements, although the disclosure of some information concerning them is required. [546] The Act also provides for real-time reporting of swap transactions to assist in "price discovery," including price and volume, but not the identity of participants. [547] This approach may result in the unintended consequence of facilitating more speculative trading in derivatives. [548] In addition, the problem with the proliferation of nonstandardized derivatives is not addressed. [549] Thus, consideration of a tax on ***340** derivative transactions is recommended to curtail some of this activity. These taxes, placed in a fund, would deal with systemic risks created by such trading by making whole those injured by misconduct in the derivatives industry. [550]

As previously discussed, the Dodd-Frank Act has also directed the SEC and CFTC to conduct a joint study to determine if the industry can develop standardized descriptions of derivatives. [551] This approach suggests fruitful avenues for the regulation of speculative derivatives by providing better descriptions of derivatives and may foreshadow an evolution in derivatives regulation that would limit the use of derivatives to standardized derivatives.

b. Reforming the Issuer-Pay Model of Credit Rating Agencies

In addition to the proliferation of speculative derivatives and the vulnerability due to interconnectivity among market participants that such instruments created, the lax standards of RAs also contributed to the financial crisis. This Part addresses structural changes in RAs. These structural changes are designed to address conflict of interest problems of RAs.

Rejecting the issuer-pay model is an important step in dealing with short-termism by RAs. Under the issuer-pay model, RAs make revenue by obtaining fees from the issuers of the securities they rate. Although many expected the long-term reputational interests of RAs to off-set short-term profit-making incentives, the high percentage of revenues earned by RAs from rating CDOs [552] and the high concentration of CDO issues in relatively few issuers (unlike corporate bonds) [553] created fierce competition among RAs in the period preceding the crisis. As previously discussed, this competition resulted in a relaxation of credit rating standards. [554] As one security analyst stated, "it could be structured by cows and we would rate it." [555] Another analyst captured the incentive to profit from inflated ratings, "let's hope we are all wealthy and retired by the time this house of cards falters." [556]

Evidence shows that the issuer-pay model leads to higher ratings by RAs than an ***341** investor (or subscriber)-pay model. In a study of the change from an investor-pay model to an issuer-pay model in the period 1971 to 1978, Professors John Jiang et al. found a positive correlation between the issuer-pay model and higher bond ratings and more downgrades. [557] They also found that this correlation existed with respect to subsets of bonds concerning which RAs had the greatest conflict of interest due to the greater bargaining power of large and repeat bond issuers. [558] A study of mortgage-backed securities ratings issued between 2000 and 2009 reinforces these results, finding that large issuers with greater bargaining power received higher ratings of their issues from both Moody's and S&P. [559] Evidence also shows that as competition among rating agencies increases, ratings decline in quality. A recent study found that when competition in the ratings industry increased as a result of Fitch obtaining greater prominence, there was an increase in ratings and a decrease in the ability of ratings to predict defaults, resulting in evidence "unequivocally consistent with lower rating quality as competition increased." [560]

No rules have been adopted concerning the issuer-pay model, although Congress has directed the SEC in the Dodd-Frank Act to study "the credit rating process for structured finance products" and "the conflict of interest associated with the issuer-pay and subscriber-pay models." [561] The SEC is to consider, among other matters, whether a neutral "public or private utility" or a "self-regulatory organization" (collectively referred to as government-designated entity (GDE)) should assign initial ratings contracts to RAs. [562] A concern with this proposal is that while a GDE choice would mitigate the conflict of interest relating to the issuer-pay model, it may decrease the incentive of RAs to produce quality ratings if RAs are chosen by a lottery, a rotating assignment system, or political patronage. [563] Professor John Coffee suggests that user participation in the process by which the GDE selects RAs for ratings contracts would mitigate this problem. [564] He also points out that major RAs may opt not to provide initial ratings, but to provide second or third ratings that the markets may rely on, and the major RAs with their "troubling history" would continue as they have in the past. [565] Treating subsequent ratings in the same way as initial ratings is a possible regulatory response to this concern. Alternatively, Flannery et al. argue that the demand for CDOs was partially attributed to arbitrage relating to the discrepancy between market indicators of the quality of CDOs ***342** and credit ratings. [566] They propose replacing credit ratings with market indicators of risk. [567] The downside of this proposal is that market indicators of risk also did not operate very well prior to the financial crisis and rather than money being made in the long-term by financial institutions, many failed. They did not benefit from investing in mortgage-related securities, but in the end suffered from it. AIG, the largest seller of CDSs, for example, was bailed out by the government. [568] This Article suggests that a public utility, which provides for the participation of users in its selection of RAs for initial and subsequent ratings, is the most promising alternative.

Congress addressed additional sources of conflicts of interest for RAs, such as how the marketing and sales of ratings by RAs may influence the ratings of securities by rating analysts. [569] This influence is reflected in the following e-mail of a RA employee: "I had a discussion with the team leaders here and we think that the only way to compete is to have a paradigm

shift in thinking, especially with the interest rate risk." [570] The Dodd-Frank Act deals with other employee conflict of interests with employee transition rules and rules that prohibit compensation linked to business performance for RA compliance officers and directors. [571] In addition, the Act requires RAs to "establish, maintain, enforce and document an effective internal control structure." [572] The Act also requires that RA boards of directors consist of one-half independent directors and that users of ratings constitute a portion of the independent directors. [573] As for ancillary services provided by RAs to issuers, such as supplying advice on how the issuer may structure a transaction to receive a specific rating, the Act has directed the SEC to do a study on how this affects the independence of RAs in granting ratings. [574] Finally, the Act establishes an Office of Credit Ratings in the SEC to oversee compliance with the Act. [575]

***343** The effectiveness of these changes is as yet undetermined. The conflict of interest present with an issuer-pay model which fueled the competition among agencies to produce inflated ratings remains. RAs have internal controls and in the past have sought to maintain the independence of rating analysts without success so it is unclear how these new internal control provisions will change behavior in the face of intense competition for lucrative fees without the specter of serious enforcement. It is also unclear how the director provisions will change behavior with users only constituting an unspecified "portion" of independent directors. Moreover, rules regarding sales and marketing have yet to be determined. [576]

c. Regulation of Complex Financial Products and Consumer Ponzi Debt

The financial crisis of 2007-2009 has demonstrated that it is necessary to have regulatory oversight of the economy as a whole to identify instances where asset markets are overheating, financial products are posing excessive risk, and excessive leverage is entering the system, and to respond with appropriate measures. Prior to the financial crisis there was ample evidence of dramatic increases in home prices, significant increases in the leverage of financial and nonfinancial firms, and a proliferation of unregulated financial products. Had the government understood the significance of these factors and responded appropriately to them, the financial crisis would have been avoided. [577]

First, consideration is necessary of empowering an appropriate authority to oversee complex financial products and to ban or require their modification if they create too much uncertainty concerning valuation. [578] Unfortunately, the Dodd-Frank Act provides that only if the Federal Reserve Board (FRB) determines on a two-thirds vote that a financial firm "poses a grave threat to the financial stability of the United States" may it "restrict the ability of the firm to offer a financial product." [579] The newly-created Financial Stability Oversight Council, however, may recommend to primary financial ***344** regulatory agencies of bank holding companies and nonbank finance companies regulations of activities or practices that "could create or increase the risk of significant liquidity, credit, or other problems" spreading among financial firms and markets. [580] These recommendations "may include prescribing the conduct of the activity or practice in specific ways . . . or prohibiting the activity or practice." [581] The effectiveness of this provision awaits future developments.

Second, the Consumer Financial Protection Bureau (Bureau) has been created to protect retail consumers from certain financial products. [582] Its powers, however, are limited to identifying "unfair, deceptive, or abusive acts or practices," which may or may not include complex products with uncertain valuations. [583] The Bureau, however, has authority to adopt various disclosure requirements that may serve to decrease Ponzi debt at the retail level in the future. [584] Moreover, the Dodd-Frank Act has sought to deal directly with Ponzi debt by requiring mortgage originators to meet minimum standards that include standards for determining that borrowers have the ability to repay their residential mortgages. The Act provides:

> In accordance with the regulations prescribed by the Board, no creditor may make a residential mortgage loan unless the creditor makes a reasonable and good faith determination based on verified and documented

> information that, at the time the loan is consummated, the consumer has a reasonable ability to repay the loan, according to the terms, and all applicable taxes, insurance (including the mortgage guarantee insurance), and assessments. [585]

This provision in essence prohibits no documentation (liar) loans. [586] Variable rate mortgages and interest-only mortgages are permitted, but the originator must determine that the consumer is able to repay the mortgage based on a fully amortized repayment ***345** schedule. [587] In addition, originators are discouraged from steering consumers who qualify for conventional loans into subprime loans with higher interest rates and fees because they may not receive "compensation that varies based on the terms of the loan (other than the amount of the principal)." [588] The Dodd-Frank Act does not seek to address commercial real estate or corporate loans which had the same problems as residential real estate loans. [589] Regulatory attention is needed regarding these loans as well.

d. Functional Regulation, Risk-Based Capital Requirements for the Traditional and Shadow Banking System, and Changing the Tax Advantage of Debt Over Equity

As previously described in this Article, among troubling characteristics of financial firms preceding the financial crisis were inflated asset valuations, increased debt and leverage, and the progression of debt from hedged to speculative to Ponzi debt. The structural problems of financial firms described by Minsky require regulatory attention to these factors. [590] This Article addresses a number of reasons for questioning whether the Dodd-Frank Act appropriately addresses these problems. The first concern is whether the Act covers all of the financial participants that it should. The newly created Financial Stability Oversight Council (FSOC) may subject a U.S. nonbank financial company (shadow bank) to supervision by the FRB (a designated financial firm) only if the FSOC determines that the company meets a very high standard or has presumably taken major steps along a troublesome path. It must determine that "material financial distress . . . or the nature, scope, size, scale, concentration, interconnectedness, or mix of the activities of the U.S. nonbank financial company, could pose a threat to the financial stability of the United States." [591] Factors that the FSOC must consider are broad, however, and include the "leverage of the company," the "extent and nature of the off-balance-sheet exposures of the company," the "amount and types of the liabilities of the company, including the degree of reliance on short-term funding" and "any other risk-related factors." [592] ***346** Nevertheless, the Act does not include a comprehensive regulatory regime for all financial participants, nor does it apply this standard to groups of financial firms engaged in similar behavior which together meet the standard. In addition, for the most part financial firms are subject to the regulations of different federal agencies. The Act has not achieved functional regulation, which refers to applying similar regulations to financial firms performing similar functions. [593] For example, some financial firms are exempt from the provision previously described, such as non-designated nonbank financial firms, federal home loan banks, and depository institution holding companies that are not bank or thrift holding companies, such as holding companies of industrial banks, credit card banks, or trust banks. [594] Some firms with significant financial activities, such as GE Capital and GMAC, do not even meet the definition of a nonbank financial company because less than 85% of their activities are financial in nature. [595] Moreover, derivatives are not regulated like insurance or gambling even if the derivatives perform similar functions, and hedge funds have their own special regulations. [596] This kind of patchwork regulation provides the opportunities for regulatory arbitrage, bureaucratic conflict, and distortion of the economy to the detriment of the public. [597]

The second concern relates to the adequacy of the Dodd-Frank Act's provisions relating to safety and prudential regulations of banks and shadow banks. [598] The FRB is given substantial discretion to promulgate rules and to exempt even designated financial firms from those rules. [599] The regulations that it may promulgate, however, are quite ***347** broad and include

provisions for risk-based capital requirements, including consideration of balance sheet assets, off-balance sheet exposures, derivatives, and leverage limits. [600] Professor Arthur Wilmarth, however, points to the troubling history of regulators with capital requirements and their failures in the past to utilize their authority when firms under their supervision experience rising profits. [601] The Act provides extensive discretion to the FRB to determine detailed rules although it confronts political and practical challenges in the face of extensive lobbying by financial firms. [602] The ability of regulators to prevent another crisis depends on the resolve of the FRB and international participants involved in adopting international risk-adjusted capital and leverage rules under Basel III to regulate financial firms seriously. [603] In addition, as Professor Wilmarth points out, regulators and outsiders have difficulty in valuing assets of financial firms, and bank managers have the incentive to delay disclosure of asset devaluations. [604] Moreover, as this Article demonstrates, regulators should give attention to the kinds of debt identified by Minsky and increases in debt levels. [605] Merely focusing on leverage ratios does not address the ratcheting up effect described by Minsky that occurs when asset prices are inflating. [606] Financial regulators should have foremost in their minds the prisoner's dilemma situation as it operates in particular market settings to identify instances when short-term, self-interested behavior will harm the economy.

Finally, the third concern is that growth based on debt-ridden firms poses substantial risks that are encouraged by the tax system. In this regard, consideration of changing the ***348** tax advantage given to debt over equity is advisable. Interest rates are deductible to the firm, resulting in only one tax at the debt holder level. Dividends, however, are taxed at the firm level and also at the shareholder level, resulting in what is referred to as "double taxation." [607] To equalize the playing field between debt and equity for tax purposes, two alternatives suggest themselves: either providing for the deduction of both dividends and interest payments or making neither payments deductible. As the tax code now stands it results in a government subsidy for more leverage. [608]

2. Structural Regulatory Responses to Short-Termism in General

The previous Part explored structural regulatory responses to short-termism of particular relevance to the financial crisis. It discussed the RA issuer-pay model, speculative derivatives, and excessive debt. The present Part is devoted to structural responses to short-termism in general that take into account the differences between traders and investors. This Part is divided in two. Part VII.B.2.a makes proposals addressing the issue of short-term stock trading (or transient institutional ownership) which has been associated in many studies with earnings management. Part VII.B.2.b recommends modification in shareholder voting rights to address the problem of short-term investors using firms as short-term arbitrage opportunities.

a. Traders versus Investors: Adopting a Securities Transaction Tax, Modifying Taxes on Capital Gains/Losses, and Changing Mutual Fund Quick Redemption Provisions

This Part contains direct methods for discouraging short-term trading. The objective is to discourage short-term trading because of its impact on firm prices and earnings management. [609] Short-term trading also impacts norms of the marketplace in placing emphasis on short-term profits. This Part discusses changes in tax policy to encourage long-term investments and repeal of the quick redemption requirement applicable to mutual funds to counter short-termism.

The imposition of a tax or fees on securities transactions would create incentives for long-term investments and provide a fund to deal with the negative consequences of short-term trading. Securities transfer taxes on trading would decrease the turnover of securities by increasing the cost of doing so. [610] The economist John Maynard Keynes ***349** stated in his famous treatise that "[t]he introduction of a substantial Government transfer tax on all transactions might prove the most serviceable reform available, with a view to mitigating the predominance of speculation over enterprise in the United States." [611] In addition,

other economists have offered efficiency reasons for a tax on securities transactions. [612] Stock turnover increased in the United States after Congress repealed the federal stock transfer tax in 1965, and after New York repealed its transfer tax in 1981. [613] Subsequent efforts by the Bush and Clinton Administration to impose stock transfer taxes have met substantial resistance from Wall Street. [614] Additionally, a fee on derivative transactions as well as stock transactions would decrease speculation in derivatives which, as previously discussed, pose substantial systemic risk to the economy. [615]

According to some economists, the advantage of a securities transaction tax is that it will affect mainly speculative trading by noise traders and those who "live off them." [616] It will not significantly impact long-term investors, including uninformed investors who invest in index funds and value investors who trade on the basis of fundamentals. [617] Decreasing the turnover of securities, as previously argued, will most likely decrease volatility because noise traders will trade less. [618] As Lawrence and Victoria Summers explain, "Reduction in noise trading will cause prices to fluctuate less violently about fundamental values, both because there will be less speculative pressure on prices and because speculative pressures will be more easily resisted because risk inherent in irrational noise trader demands will be reduced." [619]

Another avenue to explore is to encourage long-term investment through tax policies. This approach may include changing rules regarding capital gains taxes on stock sales by eliminating tax deductions for short-term losses, [620] eliminating limitations on the deductibility of capital losses for long-term investments, [621] and having a graduated system for taxation as the duration of stock ownership increases. [622] A reexamination is ***350** called for of rules regarding capital gains, capital loss deductions, capital loss carryover, and qualifying dividends to increase the incentive for individuals to engage in long-term investments. In addition, the rent-seeking nature of stock trading requires consideration of a higher tax rate on income from stock trading. [623] A discussion is also called for concerning whether various tax changes should apply to transfers of debt securities and derivatives as well as stock.

These tax possibilities need further examination, including examination of unintended consequences, such as the migration of "financial markets to . . . countries with lower trading costs." [624] Summers and Summers claim, however, that the "United States is one of the only major industrialized countries that does not levy a significant excise tax on the transfer of financial securities." [625] Moreover, as international bodies and the public become more aware of the pernicious effects of short-term trading, coordinated regulations would diminish the fear of unfair competition. Also, consideration is needed regarding whether the migration of speculative trading to foreign markets is really a serious concern to the United States. It is also important to note that revenues from such taxes would provide funds for reparation to sectors of the economy devastated by the operations of Wall Street. [626]

Finally, encouraging short-termism is the requirement under the Investment Companies Act of 1940 that mutual funds provide quick redemptions to investors. [627] This requirement benefits short-term investors at the expense of long-term investors because short-term trading creates higher transaction costs for these funds. [628] In addition, the quick redemption requirement precludes more long-term investment strategies that would benefit most of the investors of these funds who are saving for retirement. [629] Attention is necessary to the redemption (liquidity) requirements of mutual funds to provide for longer time horizons.

b. Traders versus Investors: Empowering Long-term Shareholders Through Shareholder Voting Rights

In addition to structural responses that seek to decrease short-term trading, the differences between traders and investors are also relevant to a structural proposal presented in this Part to modify shareholder voting rights. As previously discussed, financial

firms may use their voting rights in nonfinancial firms to create short-term arbitrage opportunities. [630] Various methods exist for shifting the cash flow of nonfinancial firms to the present, such as having them make dividend payouts and stock ***351** repurchases. Because it is the financial firms' role as shareholder that allows these transactions to occur, [631] it is important to examine whether nonfinancial firms through recapitalizations or states through changes in their corporation law should modify control rights in such firms and place them mainly in the hands of long-term firm participants who have the incentive to look to the long-term health of such firms.

First, the dialogue that needs to take place is whether there is a valuable role for stakeholders (in addition to shareholders) to play in corporate governance. In Germany there is an additional constituency, namely employees, who have a role in determining the future of their firms. [632] The system of corporate governance utilized in Germany is called employee codetermination, where employee representatives have seats on corporate boards along with shareholder representatives, and where employees have other rights including through internal-firm works councils. [633] In general, lower-level employees have the incentive to prevent their firms from being used for short-term arbitrage by shareholders, and participation by such employees in corporate governance would at least assure some protection for these employees from short-termism. [634] The financial crisis has demonstrated the powerlessness of U.S. employees in the wake of massive employee layoffs and an increased unemployment rate that currently hovers around nine to ten percent. [635] Such a system of employee codetermination should arguably have more legitimacy in the United States since the financial crisis, but it has yet to capture the popular imagination.

Second, a number of scholars have argued in favor of a system of corporate governance called director primacy in order to decrease the role of shareholders. Director primacy seeks to place directors in control and limit the control rights of shareholders thus diminishing the ability of shareholders to use firms as short-term arbitrage opportunities. [636] Director primacy is logically coupled with a renewed interest in devising compensation arrangements which will provide directors and executive officers (managers) with the incentive to look to the long-term health of their firms. Director primacy, however, fails to address the agency cost problem managers face and undermines the positive role of long-term shareholders. [637] Moreover, this Article ***352** suggests that the accountability of managers was the main concern following the financial crisis--they were the ones who created the environment for or decided to engage in myopic behavior which substantially impacted their firms' shareholders adversely. [638] Boards of directors-- to whom those who would disempower shareholders would turn to make managers accountable--played an abysmal role.

A third alternative for decreasing the use of firms as short-term arbitrage opportunities, proposed in this Article, is to differentiate among shareholders by enhancing the voting power of long-term shareholders. [639] Under this alternative, the long-term shareholders would more likely have voting control of firms. Such a change would require corporate recapitalizations or states to amend their corporation statutes to provide for greater voting rights for long-term shareholders, say four votes per share rather than one vote per share for short-term shareholders. [640]

Congress and the SEC have recognized that shareholder confidence has been shaken by the financial crisis, attributed by some to "the lack of responsiveness of some boards to shareholder interests." [641] To provide for better board monitoring, the SEC has adopted, pursuant to the Dodd-Frank Act, rules that facilitate the right of shareholders to nominate directors to firm boards of directors (subsequently struck down by the D.C. Circuit) [642] and that give to shareholders an advisory vote on executive compensation, the "say on pay" rules. [643] These rules are based on the belief that shareholders are important monitors of firm performance and that aligning the interests of firms with shareholders will enhance the general social welfare. Competing beliefs are that shareholders shoulder much of the blame for the financial crisis by facilitating short-termism and that it is important

to sever businesses as much as possible from the dictates of the stock market. [644] The scholars that take this position oppose facilitating shareholder ***353** nominations of directors [645] and advocate curtailing or eliminating shareholder voting rights. [646]

The pernicious consequences of managers "caring too much" about stock prices, however, cannot be laid at the door of most institutional shareholders. Those scholars who blame shareholders for the financial crisis and would curtail or diminish the role of shareholder voting assume that all shareholders are short-term, high stock-turnover traders. Moreover, shareholders were mostly the victims, not the perpetrators, of the greed contributing to the crisis.

Differentiating among long-term and short-term shareholders and empowering the long-term shareholders will reconcile the competing viewpoints on shareholder voting. It will address the concerns of those who believe in the value of managerial monitoring by shareholders through shareholder voting and those who believe that shareholders have played a role in encouraging short-termism. [647] The SEC embraced the basic premise of differentiating in this way among shareholders in its recently invalidated proxy rules that facilitated director nominations by shareholders. Those rules permitted only shareholders with a significant, "long-term" stake in the corporation to utilize the director nomination process. [648] In this manner the SEC differentiated among shareholders based on the ***354** duration of their share ownership in a particular firm. [649] An alternative definition of long-term shareholders would take into account shareholder portfolio investment strategies in addition to the duration of share ownership. As previously explained, short-term portfolio strategies of shareholders have been shown to lead to earnings management. [650]

The research indicates that those who would blame institutional shareholders for short-termism should focus their attention on the transient institutional shareholders and not on all institutional shareholders. [651] The behavior of some shareholders (namely traders) should not result in the disempowerment or disenfranchisement of all shareholders. Moreover, the shareholder nominations of a minority of directors to the board, as facilitated by the Dodd-Frank Act and the SEC proxy access rules, [652] would have served to diminish the informational asymmetry between manager and shareholders that provide a breeding ground for managerial myopia. Corporate recapitalizations and changing state voting rights to empower long-term shareholders, defined by the duration of their share ownership in the firm and their portfolio characteristics, would contribute to decreasing the use of firms as short-term arbitrage opportunities. A full exploration of the legal issues relevant to empowering long-term shareholders is the subject of a future article. [653]

***355** To further buttress the long-term orientation of long-term shareholders, states may also wish to consider rules requiring the unwinding of share ownership over a period of years, or tax incentives for doing so, at least with respect to controlling shareholders. In addition, they should exclude from voting shares that are hedged, through equity swaps or borrowing arrangements, to prevent voting inimical to the best interests of the firm. [654] The modification of voting rules recommended in this section to empower long-term shareholders, however, would mitigate this latter concern. [655]

C. Regulations Responsive to Individual Incentives in Firms in General and of Particular Relevance to the Financial Crisis

This Part explores the incentives of firm managers, asset managers and traders to act in the long-term interests of their firms. Part VII.C.1 is devoted to an understanding of firm cultures and changes needed to diminish short-termism. Part VII.C.2 discusses compensation arrangements in particular which heavily influence firm cultures.

1. Corporate Cultures in General: Creating Ethical Climates, Adopting a Dual Board Structure, and Modifying the Fiduciary Duty of Directors and Officers to Act in the Long-Term Interests of Their Corporation

Firm culture to a large degree influences the behavior of employees in work settings. [656] Thus, a firm culture that is concerned with the long-term health of the firm is important to counter short-termism. To the extent that a firm's culture is focused on employee self-interest, a greater likelihood exists that when employee self-interest and the long-term health of the firm diverge, the long-term health of the firm will be sacrificed to serve employee self-interest. Indeed, employee self-interested cultures, as distinct from cultures focused on the wellbeing of the firm and their clients, are more likely to lead to behaviors that are detrimental to the best interests of the firm. [657]

The culture of a firm also influences the employee's perception of their relationship with the firm, which affects employee behavior. The employee may view this relationship as a transactional or covenantal relationship. [658] A transactional relationship is one in which the employee views his relationship as based on an economic exchange in which ***356** his "involvement in the relationship is limited to the offering of his or her skills and abilities that are instrumental to the outcomes sought by both parties." [659] In contrast, a covenantal relationship is where the employee perceives his relationship with the firm as one "based on mutual commitment to the welfare of the other party, as well as allegiance to a set of shared values, which may be expressed in the mission and objectives" of the firm. [660] In such covenantal relationships employees are encouraged to "engage in proactive behaviors, such as organizational citizenship behaviors, that promote the long-run interests" of the firm. [661] Cultures that focus on self-interest are less likely to have employees who perceive their relationship with the firm as covenantal relationships. [662] Without changing the self-interested cultures of trading firms, for example, there is a risk that employees will behave in ways that will damage the long-term health of these firms and the economy as a whole.

Large and disproportionate payment packages for senior executives send the message to employees that the purpose of the firm is to serve individual self-interest. [663] The increased centralization of power in the CEO is also problematic because it increases politics in the firm to impress the CEO, resulting in less accountability for the CEO and lower quality decision making. [664] As previously discussed, adopting a dual board structure with each board composed of members with diverse perspectives would most likely increase the quality of decision making in firms and diminish excessive risk taking by them. [665] Having a risk-management committee, as required by the Finance Reform Act for some financial institutions, may also have a beneficial effect. [666] A quinquennial ***357** election of directors has also been proposed to counter short-termism, [667] although the downside of this proposal is its potentially adverse impact on monitoring by the board and shareholders.

Changing the fiduciary duty of boards, as Professor Nadelle Grossman suggests, to require directors to act primarily in the long-term interests of their firm is also an important method for changing corporate cultures. [668] While some Delaware cases have indicated that boards of directors should act in the long-term interests of their firms, these cases provide that boards have the discretion to determine the time horizons for their decisions which means that they can readily engage in short-termism without fear of liability. [669] While the change in fiduciary duty law proposed by Professor Grossman may make little difference from a director liability standpoint because of the business judgment rule, it would have an "expressive" function, [670] which refers to the "cultural impact of the law through the medium of changing beliefs and the internalization of legal norms." [671] The nature of the legal relationship determines the institutional setting in which employee decisions are made and impacts employees' perceptions of their roles and responsibilities. [672] Other changes in law, for example, to impose fiduciary duties on a broader range of market participants would also have beneficial effects by changing perceptions of these relationships from transactional to covenantal ones. [673]

Having the compensation of employees depend on the long-term performance of their firm is also likely to change a firm's culture as attention is directed away from immediate self-interest and gratification to behaviors that will enhance the long-term health of the firm. Compensation arrangements are discussed in the following Part. As a background for the following Part, the reader is referred to the introductory discussion of business and personal reasons why managers may wish to engage in short-termism, including the fear of takeovers and the nature of their compensation arrangements. [674]

***358** 2. Compensation of Managers

To decrease short-termism, it is necessary to tie compensation to managers and traders--hereinafter collectively referred to as "managers"--to long-term firm performance and to use both quantitative and qualitative measures to measure this performance. [675] The best way to accomplish this goal is to provide for performance measures that focus on long-term performance through deferred compensation, risk-adjusted compensation, and reductions in the frequency with which awards are increased. [676] Salary increases, bonuses, equity, and accounting-based compensation arrangements should encourage long-term performance. In addition, firms should adopt clawback arrangements that apply when earnings management increases managerial compensation. [677]

Performance-incentive arrangements, such as equity-based compensation, should encourage managers to work toward assuring the long-term health of their firms. Equity-based compensation, however, is associated with earnings management. [678] Stock options in particular have come into disfavor because of the incentive they give managers to manipulate earnings and because they fail to adequately align the interests of managers with shareholders. While managers may exercise their options to benefit from stock price increases, they need not exercise options when the price of stock decreases. Thus, unlike shareholders, they do not suffer from a decline in stock prices which may motivate them to engage in more risky behavior. [679] To better align the interests of shareholders and executives, proposals have been made for the use of restricted stock. [680] Managers with restricted stock, like shareholders, would suffer from a decline in stock prices.

The concern has been raised, however, that restricted stock plans will not align the interests of managers with those of shareholders when shareholder risk preferences are ***359** taken into account. [681] Because shareholders have diversified portfolios, they have a limited interest in any one firm which makes them willing to have a firm incur more risk than would firm managers and other employees with a stake in the firm. Providing stock options to managers has been defended as making directors less risk averse. [682] A long-term equity stake in the firm provided by restricted stock plans, however, may serve to promote more responsible managerial behavior in the interests of long-term shareholders, employees, and society in general. [683] Particularly with the various forces described in this Article that led to excessive risk taking, a compensation arrangement that dampens this tendency has a great deal to offer.

Putting aside the issue of whether restricted stock or options are the best equity-based method for compensating directors to encourage responsible risk taking, a requirement that prohibits managers for a period of time from selling their shares or exercising their options--thus creating "restricted" options--would incentivize managers to manage for the long-term. [684] Restricted stock or restricted options that have long time horizons are less likely to cause earnings management, [685] particularly if they are coupled with a requirement that prohibits managers from unwinding their stock or exercising their options in any one year in favor of unwinding their holdings over a number of years. For example, Professor Alfred Rappaport recommends that CEOs unwind stock positions after retirement over a two-year to three-year period "to ensure a long-term focus." [686]

Accounting-based incentive compensation plans are an alternative to equity-based incentive compensation. These plans have been disfavored because of the incentive they provide managers to manipulate earnings through accounting earnings management. [687] Vanguard founder, John Bogle, claims, however, that compensation based on cash flow and dividends, which he advocates, are "exceptionally difficult to manipulate." [688] Like equity-based plans increasing the time horizons of accounting-based incentive compensation plans would diminish the incentive to engage in earnings management. [689]

***360** Professor David Walker proposes a flat-percentage rule that would prohibit the payment or vesting of a given percentage of managerial compensation for a specific number of years. [690] This approach leaves the firm with the flexibility and discretion to determine the kinds of compensation arrangements to provide for its managers. This approach has substantial merit in countering short-termism, although this Article suggests coupling it with a rule that would encourage the vesting and unwinding of securities ownership over a number of years and a reduction in the frequency with which compensation is reexamined and awarded. Professor Walker also proposes a disclosure rule that would require firms to disclose the average holding period of executive pay packages. [691] This rule may over time contribute to a change in business norms concerning compensation, although it should not substitute for the flat-percentage rule, previously described, which would have immediate effect.

An objection to long-term compensation arrangements is the impact they may have on liquidity and diversification of investments for managers who are required to maintain their interests in their firms for a long period of time. [692] Because of substantial salaries earned by senior executives, their concerns for liquidity and diversification, while understandable, are unlikely to rise to the level of depriving them of a reasonable living and retirement. Long-term performance plans, however, by reining in short-termism, may help to preserve the retirements of others who are dependent on these executives for the health of the economy.

The effectiveness of these compensation arrangements would also require regulations that prohibit executives through hedging from reducing their risk exposure or acquiring interests that create conflicts of interest for them. [693] The long-term features built into the proposed compensation would, however, lessen some of these concerns because such hedging transactions are usually short-term arrangements.

Additional compensation changes have also been proposed to deal with short-termism at banks to decrease excessive risk taking. Professors Lucian Bebchuk and Holger Spamann have proposed tying executive compensation to a "broader basket of securities" than common stock, such as preferred stock and bonds. [694] The objective of this proposal is to have bank executives enjoy less of the upside of excessive leverage and greater risk taking because of their holdings of preferred stock and bonds. The flip side of this proposal, however, is that with less common stock and more preferred stock ***361** and bonds they bear less of the downside of excessive leverage and risk. This proposal has some further limitations. As asset values of banks inflate during a bubble, the bank appears more profitable and the total package of compensation will rise. If the stock and non-securities portion (salaries and cash bonuses) of executive compensation is high enough, the executives will have the incentive to have their firms take on more debt. They will sacrifice losing the value of their preferred stock and debt securities as they cash in on high cash bonuses and on selling their stock during the bubble. For example executives of Lehman Brothers and Bear Stearns exhibited this behavior during the bubble as they suffered substantial common stock losses as a result of the collapse of their firms. [695] Overall they came out on the winning end as they received bonus compensation and unwound substantial portions of their common stock holdings during the bubble. [696] In the end, what is most important to combat short-termism is the percentage of overall compensation (including salaries and bonuses) that is deferred and the use of risk adjusted performance measures.

The Dodd-Frank Act has not adopted Professor Walker's proposal regarding deferred compensation. The Act, however, gives Federal regulators jointly the authority to prohibit any type or feature of an incentive compensation arrangement at a regulated

financial institution that encourages inappropriate risk taking. [697] The Act does not apply to salaries even though salaries are often raised or lowered based on past performance and thus are to a large degree incentive based. Arguably, Federal regulators have the authority under the Act to consider incentive-based compensation arrangements as a whole and to prohibit a high percentage of short-term compensation. In addition, federal regulators could arguably prohibit hedging by directors, officers, and employees as a term of incentive-based compensation contracts because hedging can decrease the stakes of executives in the firm and thus affect risk taking and earnings management by them. The Act recognizes the problematic nature of such hedging. It expressly requires directors, officers, and employees to disclose financial instruments owned by them that are designed to enable them to hedge or offset a decrease in the market value of their firm's equity securities that they hold. [698] In addition, the Act deals with accounting earnings management when it provides for the clawback of incentive-based compensation under certain conditions, where earnings have been restated and the executives would not have been entitled to the compensation with the restated earnings. [699]

*362 VIII. Conclusion

A comprehensive exploration of the causes and ways to mitigate short-termism in financial and nonfinancial firms is necessary to avert a future financial crisis. Various underlying structural, informational, behavioral, and incentive problems contribute to short-termism. Structural biases in financial firms cause them to incur excessive short-term debt during periods when the economy is strong and interest rates are low, leading them to a state of financial fragility. The advantages to asset managers of investing their assets under management in short-term assets to discourage their clients from switching funds based on short-term fund performance also causes short-termism. Additionally, informational and technological changes in markets have led professional and day traders to use short-term trading strategies, creating what has correctly been labeled a casino mentality on Wall Street. Evidence shows that short-term trading by transient institutional investors leads to earnings management and that short-termism is pervasive in the business community, causing long-term damage to both financial and nonfinancial firms. Short-term traders may also use firms as short-term arbitrage opportunities through the use of voting rights, or their threatened use, to cause firms to decrease the duration of their assets in order to shift cash flow to the present.

Informational problems in markets cause short-termism in a number of ways, including creating markets for lemons and providing the opportunity for managers to take advantage of their control over corporate information to fool markets through signaling and signal jamming behavior. Informational problems also contribute to presenting managers with a prisoner's dilemma in which the dominant strategy is participating in an irrational market because of the inadequacy of market signals to coordinate the actions of market participants properly. Myopic behavior may also occur in efficient markets if managers believe that they can fool the markets or if shareholders prefer short-term profits and short-term information.

Also relevant to short-termism are behavioral biases which explain herd behavior, overoptimism, and the discounting of low-frequency economic shocks. In addition, individual incentives can encourage short-term behavior, supported by the cultures of firms that affect employee perceptions of their roles and responsibilities. Finally, homogeneous group decision making on boards encourages “group think” and may cause risky behavior due to group polarization.

To decrease informational problems in markets leading to short-termism, this Article discussed responses to short-termism in general and responses of particular relevance to the financial crisis. In responding to informational problems in markets leading to short-termism in general, a reexamination of financial reporting obligations is necessary to focus market participants on long-term value and true drivers of business success. In addition, investors need information and education about their investments (whether long-term or short-term), the likely consequences of switching funds, and the trading costs of the mutual funds in which they invest which are not presently included in the expense ratios disclosed to investors. Regarding informational responses of particular relevance to the financial crisis, serious disclosure and due diligence obligations for underwriters, issuers, and

credit rating agencies are also desirable to increase the ***363** accuracy of market signals. In addition, investors should receive information about derivatives, including such matters as the risks associated with derivative transactions, the financial ability of firms to meet their obligations in these transactions, and the financial exposure of firms to such transactions. In addition, the losses that sophisticated investors suffered as a result of the financial crisis require a rethinking of exemptions from disclosures based on supposed investor sophistication.

This Article also proposed structural changes to counter short-termism in general and short-termism of particular relevance to the financial crisis. Regarding structural changes to counter short-termism of particular relevance to the financial crisis, it is advisable to prohibit speculative derivative transactions (not hedging transactions) or, alternatively, to limit speculation to standardized derivative markets, subject to disclosure and position limit regulations. In addition, because of the conflict of interest of credit rating agencies arising from the issuer-pay model (where issuers pay for the rating of their securities), a government utility model for the selection of credit rating agencies, with the participation of users of ratings, is recommended for initial and subsequent ratings. The government should not seek to increase the number of credit rating agencies or increase the competition among them because increased competition among credit rating agencies has been shown to cause higher ratings and more downgrades. An appropriate government agency should also oversee the introduction of complex financial products with uncertain valuations and have the authority to ban or modify their characteristics to protect purchasers and the economy as a whole.

Finally, this Article proposed structural changes through safety and prudential regulation of the traditional and shadow banking system because of the increased risk introduced into the financial system by debt secured by increasingly toxic assets. The objective is to have coordinated and functionally equivalent regulation of the traditional and shadow banking systems, rather than regulation by legal institutional type--in order to avoid inconsistent regulations, bureaucratic conflict, regulatory arbitrage, and distortions in the economic system. Risk-based capital requirements for participants in the traditional and shadow banking systems are necessary while recognizing the limitations of this kind of protection for the financial system. There is also needed regulatory attention to debt levels, kinds of debt (such as hedged, speculative, or Ponzi debt), rapid asset-price increases out of line with standard variables, and the tax preference given to debt over equity.

This Article also proposed structural changes that counter short-termism in general. Short-term trading has an impact on prices and earnings management as well as on the norms of the marketplace in placing emphasis on short-term profits. It is desirable for the economy as a whole to encourage long-term investments. This calls for a reexamination of direct methods for discouraging short-term trading. In this regard, consideration of an excise tax on securities transactions, including stock, debt and derivatives, would create incentives for long-term investments and would also provide resources for a fund used to address the negative consequences of short-term trading. Modifying capital gain and loss taxation and repealing mutual fund rules that require quick redemptions are also recommended to discourage short-term trading.

Another structural response to short-termism in general concerns the use, or threatened use, of voting rights by short-term traders to pressure firms to engage in short-termism. Corporate recapitalizations and changes in state corporation law should ***364** empower long-term shareholders. The determination of which shareholders are long-term shareholders should take into account the portfolio characteristics of shareholders as well as the duration of their share ownership in the firm. To further buttress the long-term orientation of long-term shareholders, states should also consider rules requiring the unwinding of share ownership over a period of years, or tax incentives for doing so, at least with respect to controlling shareholders. In addition, they should exclude from voting those shares that are hedged to prevent voting inimical to the best interests of the firm.

Also important are regulatory responses to short-term incentives in firms. Firm cultures play an important role in fostering short-term incentives. Many of the foregoing recommendations would assist in improving the culture of firms to focus on the long-term. Additional matters concerning firm culture also warrant attention. It is desirable to impose on directors and officers a fiduciary duty to act primarily in the long-term interests of their firms. Such a duty would require directors to focus directly

on the long-term objectives of their firms when considering business decisions and would have an expressive function, that is, an effect on beliefs concerning the value of long-term behavior that over time may become an internalized business norm. Consideration should also be given to imposing fiduciary duties on a broader range of market professionals which would also have the impact of changing the institutional setting in which they operate and the roles that they perceive themselves as playing.

The culture of a firm is also influenced by its reward structures which directly impact individual incentives. It is desirable to base a substantial portion of the compensation of managers on the long-term health of their firms such as through deferred compensation arrangements, risk-adjusted compensation measures, and a reduction in the frequency with which compensation is increased due to higher performance measures.

Also important to incentives is board structure. To increase the probability of more informed, accountable decision making by boards, diversity of perspectives on boards is encouraged to minimize group think and the group polarization phenomenon (which results in more extreme positions such as excessive risk taking). In addition, a dual board structure (distinct from the German two-tiered board structure) is proposed for greater board accountability and to counter the trend towards more centralization of managerial power in CEOs which leads to less CEO accountability. The changes outlined in this Article would enhance the likelihood of creating an environment in firms that would support and encourage managers to engage in activities that enhance the long-term value of their firms and prevent financial meltdowns in the future.

Footnotes

a1 Professor of Law, University of San Diego School of Law, J.D. Harvard Law School. I am grateful for the insightful comments of Jennifer S. Taub, Jordan M. Barry, Natalie Mizik, Tamar Frankel, Jeff Schwartz, Timothy A. Canova, Nadelle Grossman, David Millon, William K. Wang, Cheryl Lyn Wade, Arthur E. Wilmarth, Jr., John Whiteclay Chambers, Amy Piro Chambers, John C. Coffee, Jr., and Bernard S. Black. I am also grateful for the research assistance of USD law students Denise Trans-Nguyen, Sara Cabaral, John Hogan, Matthew Libroia, Ben Stein, Kyle Friedman, Rob Breunig, the research assistance of reference librarians at the USD Pardee Legal Research Center, and the administrative assistance of Perla Bleisch and Judith A. Crookshanks. I am also grateful for the helpful assistance of the students working on this Article on The Journal of Corporation Law.

1 The term “financial firm” in this Article refers to any organization primarily engaged in lending or investing, regardless of its legal classification (e.g., limited partnership, limited liability company, corporation). The term includes investment and commercial banks, pension funds, mutual funds, hedge funds, structured investment vehicles, and mortgage finance companies.

2 For a detailed discussion of the financial crisis, see infra Part III.

3 This statement has been used to explain the behavior of banks leading up to the mortgage crisis although Prince claims that he made this statement in reference to leveraged corporate lending rather than mortgage lending. Ex-Citi CEO Defends “Dancing” Quote to U.S. Panel, Reuters (Apr. 8, 2010), http:// www.reuters.com/article/idUSN0819810820100408 [hereinafter “Dancing” Quote]. Similar dynamics, however, operated in these two areas. Arthur E. Wilmarth, Jr., The Dark Side of Universal Banking: Financial Conglomerates and the Origins of the Subprime Financial Crisis, 41 Conn. L. Rev. 963, 971, 1039-43 (2009). Like Prince, the economist John Maynard Keynes referred to the “Musical Chairs” game to explain how market participants function in his seminal book, The General Theory of Employment Interest and Money 155-56 (1936).

4 E.g., Lucian A. Bebchuk et al., The Wages of Failure: Executive Compensation at Bear Stearns and Lehman 2000-2008, 27 Yale J. on Reg. 257, 259-60 (2010) (finding that the “top executive teams of Bear Stearns and Lehman Brothers derived cash flows of about $1.4 billion and $1 billion respectively from cash bonuses and equity sales during 2000-2008”).

5 Goldman Sachs was one of the top underwriters of collateral debt obligations until the market crashed in summer 2007, although it began betting against the mortgage market in December 2006. Bethany McLean, The Bank Job, Vanity Fair, Jan. 2010, at 125, available at http:// www.vanityfair.com/business/features/2010/01/goldman-sachs-200101#gotopage1.

6 Jennifer S. Taub, Enablers of Exuberance: Legal Acts and Omissions that Facilitated the Global Financial Crisis (Sept. 4, 2009) (unpublished manuscript), available at http://ssrn.com/abstract=1472190.

7 CFA Center for Fin. Integrity & Bus. Roundtable Inst. for Corporate Ethics, Breaking the Short-Term Cycle: Discussion and Recommendations on How Corporate Leaders, Asset Managers, Investors and Analysts Can Refocus on Long-term Value 3 (2006) [hereinafter Breaking the Short-Term Cycle], available at http://www.darden.virginia.edu/corporate-ethics/pdf/Short-termism_Report.pdf; see also Short-termism, Reverso.net, http://dictionary.reverso.net/english-definitaion/Short-termism (last visited Dec. 16, 2011) (defining short-termism as "the tendency to focus attention on short-term gains, often at the expense of long-term success or stability"). Short-termism is problematic when it is sought at the expense of long-term success or stability, which is the sense that the term "short-termism" is used in this Article. In fact, short-termism not only contributed to the recent global financial crisis, but it also led to the financial scandals of the early 2000s involving Enron, Worldcom, and other such companies. Paul M. Healy & Krishna G. Palepu, The Fall of Enron, 17 J. Econ. Persp. 3, 9-11 (2003); Alfred Rappaport, Economics of Short-Term Performance Obsession, 61 Fin. Analyst J. 65, 69 (2005).

8 Sanjee Bhojraj & Robert Libby, Capital Market Pressure, Disclosure Frequency-Induced Earnings/Cash Flow Conflicts, and Managerial Myopia, 80 Acct. Rev. 1, 3 (2005). It may also involve investing in a project in conformity with the market's beliefs concerning the value of the project. Natalie Mizik, The Theory and Practice of Myopic Management, 47 J. Marketing Res. 594, 594 (2010) (describing short-termism as "overemphasiz[ing] strategies with immediate payoffs at the expense of strategies with superior but more distant payoffs ...").

9 Joseph E. Stiglitz, Using Tax Policy to Curb Speculative Short-Term Trading, 3 J. Fin. Serv. Res. 101, 106 (1989).

10 See infra Part IV.D (exploring financial firms' use of nonfinancial firms as short-term arbitrage opportunities).

11 See infra Part II (discussing managerial myopia and earnings management).

12 On September 9, 2009 the Aspen Institute issued its report, Overcoming Short-Termism: A Call for a More Responsible Approach to Investment and Business Management [hereinafter Overcoming Short-Termism], available at http://www.aspeninstitute.org/sites/default/files/content/docs/pubs/overcome_ short_state0909_0.pdf. This report was signed by Berkshire Hathaway CEO Warren Buffett, Vanguard Group founder John Bogle, and retired IBM CEO Louis Gerston, Jr., among other noted business leaders. In January 2010, a subcommittee of the Committee for Economic Development, a nonprofit group composed of over 200 senior executives and university leaders, also issued a policy brief which focused on problems of financial market short-termism and its impact on decision making in nonfinancial firms. Policy and Impact Committee of the Committee for Economic Development, Restoring Trust in Corporate Governance: The Six Essential Tasks of Boards of Directors and Business Leaders (Jan. 2010) [hereinafter Restoring Trust], available at http:// www.ced.org/images/library/reports/corporate_governance/cgPolicyBrief0110.pdf. Likewise, in 2006, prior to the financial crisis, the CFA Center for Financial Integrity and the Business Roundtable Institute for Corporate Ethics issued their joint research report, Breaking the Short-Term Cycle, supra note 7. In that same year, The Conference Board published its report by Matteo Tonello which was based on meetings with industrial leaders and major investors, Revisitng Stock Market Short-Termism (Conference Bd. Inc., Research Report No. R-1386-06-RR, 2006) [hereinafter Revisitng Short-Termism], available at http://papers.ssrn.com/so13/papers.cfm?abstract_id=938466.

13 Overcoming Short-Termism, supra note 12, at 2 (expressing concern for the "influence of money managers, mutual funds and hedge funds--and those intermediaries who provide them capital--who focus on short-term stock price performance, and/or favor high-leverage and high-risk corporate strategies designed to produce high short-term returns," and the problems and risks presented by this influence); Restoring Trust, supra note 12, at ix, xii, 10, 14-15 (reporting on the need to discourage directors from giving into financial market short-termism and to modify executive compensation that drives short-termism within firms); Breaking the Short-Term Cycle, supra note 7, at 3 (expressing the views of the Panel that "an obsession with meeting short-term expectations of varying constituencies too often hinders corporate managers and all types of investors from focusing on long-term value creation"); Revisiting Short-Termism, supra note 12, at 5 (raising concerns about short-termism on the part of corporations and investors that "undermines confidence in the soundness of the underlying economy, favors opacity on strategic goals, and encourages opportunistic behaviors by a few to the detriment of the many").

14 The reader is directed to the many articles by economic and legal scholars cited in this Article.

15 See infra text accompanying notes 90-97, 188-97 (discussing the negative consequences of short-termism on firms and society in general).

16 Revisiting Short-Termism, supra note 12, at 42. See also Emeka Duruigbo, Tackling Shareholder Short-Termism and Managerial Myopia 16, 46 (Apr. 4, 2011) (unpublished manuscript), available at http:// ssrn.com/abstract=1802840.

17 See infra Part IV.A (discussing Hyman Minsky's financial instability theory).

18 See infra Part IV.B (describing the consequences of competition among asset managers for investment funds).

19 See infra Part IV.C (exploring developments in securities markets regarding short-term trading and the relationship between short-term trading and earnings management).

20 See infra Part VI.A (exploring the cultures of financial firms due to changes in business models, organizational forms, and individual incentive arrangements).

21 See infra Parts V.B-C (discussing signaling and signal jamming in addition to the lemons problem); Patrick Bolton et al., Executive Compensation and Short-Termist Behaviour in Speculative Markets, 73 Rev. Econ. Stud. 577, 578 (2006) [hereinafter Executive Compensation] (noting that "[t]here is growing evidence that stock prices can deviate from fundamental values for prolonged periods of time"); Adam Brandenburger & Ben Polak, When Managers Cover Their Posteriors: Making the Decisions the Market Wants to See, 27 RAND J. Econ. 523, 525 (1996) (discussing myopia as based on informational asymmetries between corporate managers on the one hand and shareholders and creditors on the other hand); Andrei Shleifer & Robert W. Vishny, Equilibrium Short Horizons of Investors and Firms, 80 Am. Econ. Rev. 148, 149 (1990) (discussing myopia as based on informational asymmetries between asset managers on the one hand and fund beneficiaries on the other hand); Mizik, supra note 8, at 597 (stating that the "incentives for myopic behavior increases with the market's inability to recognize and evaluate the long-term consequences of managerial actions").

22 See infra Part IV.B (analyzing the consequences of competition among asset managers).

23 "Dancing" Quote, supra note 3.

24 See infra Part V.A (describing firm behavior in a prisoner's dilemma context).

25 See infra Part IV.D (exploring the role of activist shareholders and short-termism).

26 Lynne L. Dallas, Law and Public Policy: A Socioeconomic Approach 53-58 (2005).

27 See infra Part V.E (describing disaster myopia as a hypothesis explaining why individuals underestimate the likelihood of low-frequency economic shocks).

28 Dallas, supra note 26, at 48-52.

29 Executive Compensation, supra note 21, at 579; see infra Part IV.C.2(b) (discussing the heterogeneous beliefs of investors in speculative markets). "Dumb money" generally refers to individual traders' investments that result in a decrease in total returns. Toni Turner, Short-Term Trading in the New Stock Market 207, 307 (2005); Andrea Frazzini & Owen A. Lamont, Dumb Money: Mutual Fund Flows and the Cross-Section of Stock Returns, 88 J. Fin. Econ. 299, 300 (2008) (finding a "dumb money effect" when retail investors reallocate their funds across different mutual funds, reducing their wealth on average in the long run). See infra Part IV.C.2.b (discussing how dumb money fuels short-termism).

30 See infra Part V.D (exploring why managers neglect private information or fail to seek out relevant information in favor of following the herd).

31 See infra text accompanying notes 432-35 (explaining group polarization issues in greater detail).

32 Brandenburger & Polak, supra note 21, at 524-26; Mei Cheng et al., Earnings Guidance and Managerial Myopia 6-9 (Nov. 2005) (unpublished manuscript), available at http://ssrn.com/abstract=851545. See infra Parts VI, VII.C (discussing the impact of incentives on firm cultures).

33 Bhojraj & Libby, supra note 8, at 2-3, 17; Cheng et al., supra note 32, at 6-9; John R. Graham et al., Value Destruction and Financial Reporting Decisions, 62 Fin. Analysts J. 27, 28-29, fig.2 (2006) [hereinafter Value Destruction]; John R. Graham et al., The Economic Implications of Corporate Financial Reporting, 40 J. Acct. & Econ. 3, 12 (2005) [hereinafter Economic Implications]; David Millon, Why Is Corporate Management Obsessed with Quarterly Earnings and What Should Be Done About It?, 70 Geo. Wash. L. Rev. 890, 910-11 (2002) (discussing stock as currency for use in stock-for-stock deals and other business transactions).

34 Value Destruction, supra note 33, at 29-32; Economic Implications, supra note 33, at 12.

35 See infra text accompanying notes 90-97, 188-95 (providing examples of the effects of short-termism on financial and nonfinancial firms).

36 Economic Implications, supra note 33, at 12.

37 See Cheng et al., supra note 32, at 6-9; Patricia M. Dechow & Richard G. Sloan, Executive Incentives and the Horizon Problem: An Empirical Investigation, 14 J. Acct. & Econ. 51, 52 (1991) (finding that CEOs spend less on R&D when they near retirement); Steven R. Matsunaga & Chul W. Park, The Effect of Missing a Quarterly Earnings Benchmark on the CEO's Annual Bonus, 76 Acct. Rev. 313, 315, 330 (2001) (finding that CEO bonuses provide CEOs with the incentive to manage earnings to meet benchmarks); Restoring Trust, supra note 12, at 10 (discussing compensation arrangements designed to increase long-term performance); Rappaport, supra note 7, at 65, 73 (claiming that relatively short vesting periods of stock options encourage the management of earnings and the cashing out of options early and opportunistically, and that accelerating vesting of options on a CEO's retirement "adds yet another incentive to short-termism").

38 See infra Parts IV.B, V, VII.C.2 (explaining the problematic incentives of corporate and asset managers as they relate to short-termism).

39 John C. Coffee, Jr., Gatekeepers: The Professions and Corporate Governance 31-32 (2006); Steven L. Schwarcz, Regulating Complexity in Financial Markets, 87 Wash. U. L. Rev. 211, 255 n.246 (2009); Lawrence H. Summers & Victoria P. Summers, When Financial Markets Work Too Well: A Cautious Case For a Securities Transactions Tax, 3 J. Fin. Serv. Res. 261, 272 (1989); Taub, supra note 6, at 23.

40 If the share price of a company's stock is undervalued, managers may act myopically to signal to the market positive information, such as inflated current earnings, which will raise the price of the company's current stock price. The fear of a takeover due to the company's undervalued stock price may lead managers to focus more on short-term profits rather than long-term objectives. Jeremy Stein, Efficient Capital Markets, Inefficient Firms: A Model of Myopic Corporate Behavior, 104 Q.J. Econ. 655, 659 (1989). They may sell off assets or fail to invest in long-term production to ward off a takeover. Due to the possibility that raiders will exploit the mispricing of the company's shares, managers may be motivated to protect shareholders from these raiders. If takeover costs are sufficiently low due to legal or administrative costs so that the threat of a takeover is high enough, managers will engage in myopic signaling behavior. Id. This signaling is possible because of informational asymmetries between the managers and shareholders about the fundamental value of their firm. See infra Part V.B (discussing signaling and signal jamming).

41 See infra Part VI.A (discussing business models, organizational forms, and incentives as contributing to firm culture).

42 William W. Bratton, Enron and the Dark Side of Shareholder Value, 76 Tul. L. Rev. 1275, 1278, 1285, 1288 (2002).

43 See infra notes 378-80 (explaining the shift in power from investment banking service providers to aggressive traders).

44 See infra text accompanying notes 375-76 (contending that trading firms have problematic characteristics that lead to an enhanced likelihood of unethical conduct).

45 Id.

46 See infra Part IV.C.2 (discussing two strands of literature on the impact of short-term trading on earnings management).

47 See infra Part IV.D (explaining how through shareholder activism, financial firms can cause nonfinancial firms to engage in short-termism).

48 Stein, supra note 40, at 655.

49 Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010). In reading about the causes of short-termism in this Article, the reader will inevitably grapple with a number of issues. One important issue is whether individual business persons are to blame for short-termism because of various external market forces and institutional and cultural influences that also contribute to it. Opinions may differ on this subject but it is crucial to understand that virtually everyone is in agreement that individual business persons and their firms must reexamine their behavior and take steps to decrease short-termism in order to ensure the long-term health of their firms and the financial system. In addition, business persons should work toward supporting the creation of institutions and external forces that support long-term objectives.

50 Revisiting Short-Termism, supra note 12, at 5 (noting that "aspects of the entire system must be adjusted all at the same time for there to be change--adjusting just one part of the system will be insufficient for meaningful change").

51 See infra Part VII.A (discussing regulatory responses to informational problems in markets).

52 See infra Part VII.A.1.a (exploring ways to increase attention to a firm's long-term prospects).

53 See infra Part VII.A.1.b (discussing proposed changes in the information provided to investors so they are informed about information relevant to their investment decisions).

54 See infra Parts VII.A.2.a-b (discussing ways to increase the accountability of issuers, underwriters, and credit rating agencies through disclosures and due diligence obligations).

55 See infra Part VII.A.2.c (discussing disclosures regarding derivative transactions); Janis Sarra, Credit Derivatives Market Design, Creating Fairness and Sustainability 1, 4 (Oct. 1, 2008) (unpublished manuscript), available at http://ssrn.com/abstract=1399630.

56 See infra text accompanying notes 475-76 (explaining that a significant amount of subprime mortgage-related securities issued prior to the financial crisis were issued pursuant to exemptions from registration); Jennifer S. Taub, The Sophisticated Investor and the Global Financial Crisis, in Corporate Governance Failures: The Role of Institutional Investors in the Global Financial Crisis 188, 190 (James P. Hawley et al. eds., 2011) (explaining the problems with relying on sophisticated investors to monitor and understand complex financial products); Taub, supra note 6, at 2-3, 20, 57 (discussing the "myth" of the sophisticated investor and private offerings). Cf. Steven L. Schwarcz, Rethinking the Disclosure Paradym in a World of Complexity, 2004 U. Ill. L. Rev. 1, 7 (2004) (recommending prohibiting conflicts of interest for disclosure-impaired transactions regardless of whether sophisticated investors are involved).

57 See infra Part VII.B.1.a (discussing standardized derivatives and position limits).

58 See infra Part VII.B.1.b (discussing reforming the issuer-pay model of credit rating agencies).

59 See infra text accompanying notes 557-58 (discussing a study on the change from an investor-pay model to an issuer-pay model).

60 See infra Part VII.B.1.c (discussing the regulation of complex financial products and consumer Ponzi debt).

61 See infra Part VII.B.1.d (proposing functional regulation, risk-based capital requirements for the traditional and shadow banking system, and eliminating the tax advantage of debt over equity). The shadow banking system
refers to nondepository banks and other financial entities like investment banks, hedge funds, [off-balance sheet entities] and money market funds involved in facilitating the creation of credit across the global financial system, but whose members are not subject to regulatory oversight. They borrow money in the short term and take that money to invest in long-term assets. The shadow banking system also refers to unregulated activities by regulated institutions.

Shadow Banking System Law & Legal Definition, USLegal, http:// definitions.uslegal.com/s/shadow-banking-system/ (last visited Dec. 16, 2011). Thus, the shadow banking system refers to financial intermediaries, other than traditional banks, who engage in typical banking activities. Like traditional banks, they "stand between savers at one end and borrowers at the other," that is, they channel "savings into investments." Jennifer S. Taub, What We Don't Talk About When We Talk About Banking, in Handbook of the Political Economy of the Financial Crisis 2 (Gerald Epstein & Martin H. Wolfson eds., 2011). Unlike traditional banks, however, they do not rely on customer deposits but on short-term borrowing and other sources of funding. Because their funding is not provided by customer deposits, they escaped banking-type regulations prior to the financial crisis. Id. at 3.

62 See infra Part IV.C (discussing short-term trading, "transient" institutional investors, and earnings management).

63 See infra Part VII.B.2.a (proposing the adoption of a securities transaction tax, modifying taxes on capital gains/losses, and changing mutual fund quick redemption provisions).

64 Id.

65 See infra Part VII.B.2.b (discussing the empowerment of long-term shareholders through shareholder voting rights).

66 See infra Part VII.C.1 (proposing the creation of ethical cultures, the adoption of a dual board structure, and modifying the fiduciary duty of directors to act in the long-term interest of their corporations); Nadelle Grossman, Turning a Short-Term Fling into a Long-Term Commitment: Board Duties in a New Era, 43 U. Mich. J.L. Reform 905, 959-69 (2010) (proposing a fiduciary duty of directors to act in the long-term interests of their corporations).

67 Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 913, 124 Stat. 1376, 1824 (2010) (requiring a study by the SEC on the obligations of brokers, dealers, and investment advisers when providing investment advice); id. § 913(g) (providing that the SEC may promulgate rules imposing a fiduciary duty on brokers and dealers when they furnish personalized investment advice about securities to a retail customer). See, e.g., Barbara Black, How to Improve Retail Investor Protection After the Dodd-Frank Wall Street Reform and Consumer Protection Act, 13 U. Pa. J. Bus. L. 59 (2010); Thomas Lee Hazen, Stock Broker Fiduciary Duties and the Impact of the Dodd-Frank Act, 15 N.C. Banking Inst. 47 (2011).

68 See infra Parts VI, VII.C (discussing firm cultures and regulatory responses to individual short-term incentives in firms).

69 See infra Part VII.C.2 (discussing compensation arrangements to encourage long-term performance). In addition, the disclosure of the average time horizon of managerial compensation would enlighten investors and may cause desirable changes over time in compensation arrangements. David I. Walker, The Challenge of Improving the Long-Term Focus of Executive Pay, 51 B.C. L. Rev. 435, 436, 456, 468 (2010).

70 See infra Parts VI.B, VII.C.1 (discussing cultures of non-financial firms and regulatory responses, including a dual board structure, to improve those cultures).

71 Lynne L. Dallas, The Multiple Roles of Corporate Boards of Directors, 40 San Diego L. Rev. 781, 816-18 (2003) [hereinafter Multiple Roles of Corporate Boards]; Lynne L. Dallas, Proposals for Reform of Corporate Boards of Directors: The Dual Board and Board Ombudsperson, 54 Wash. & Lee L. Rev. 91, 92-97 (1997) [hereinafter Dual Board].

72 Mizik, supra note 8, at 594-95 (noting that "real" earnings management is also referred to as "real-activity based" earnings management and a narrower term for accounting earnings management is "accrual-based" earnings management). Some scholars limit the term "myopia" to real earnings management. Id. at 598 (stating that "[w]hen managers manipulate discretionary accruals, they only affect the timing of earnings recognition ... and do not alter either the amount or the temporal flow of true economic profits. Conversely, myopic management alters operational practices and can diminish true economic profits.").

73 Mark W. Nelson et al., How Are Earnings Managed? Examples from Auditors, Acct. Horizons 17, 29 (2003).

74 Michael C. Jensen, Agency Costs of Overvalued Equity, 34 Fin. Mgmt. 5, 6-7 (2005); Rappaport, supra note 7, at 69.

75 Wilmarth, supra note 3, at 999 (mentioning additionally that various banks "structured prepaid commodity swaps (prepays) that allowed Enron to receive disguised bank loans while reporting the transactions as cash flow from operations").

76 Jacob Goldstein, Repo 105: Lehman's 'Accounting Gimmick' Explained, NPR (Mar. 12, 2010), http://www.npr.org/blogs/money/2010/03/repo_105_lehmans_ accounting_gi.html.

77 Id.

78 Daniel A. Cohen et al., Real and Accrual-Based Earnings Management in the Pre- and Post-Sarbanes-Oxley Periods, 83 Acct. Rev. 757, 757-59, 770 (2008).

79 See infra Part VII.A.1.a (discussing off-balance sheet transactions).

80 See Cohen et al., supra note 78, at 758; Kevin Koh et al., Meeting or Beating Analyst Expectations in the Post-Scandal World: Changes in Stock Market Rewards and Managerial Actions, 25 Contemp. Acct. Res. 1067, 1091 (2008) (finding additionally that management of market expectations, referred to as expectation earnings management, has increased post-SOX and that in the post-scandal period stock market premiums for meeting or beating analyst expectations by less than one cent per share has disappeared while the premium for meeting or beating expectations by more than a cent per share has diminished). For explorations of real earnings management and the tradeoff between between real and accounting earnings management, see Sugata Roychowdhury, Earnings Management Though Real Activities Manipulation, 42 J. Acct. & Econ. 335, 337-38 (2006); Amy Y. Zang, Evidence on the Tradeoff Between Real Manipulation and Accrual Manipulation (Oct. 2007) (unpublished manuscript), available at http://ssrn.com/abstract=961293.

81 Roychowdhury, supra note 80, at 336.

82 Managers who engage in myopic behavior are most likely to "sacrifice those assets that are not on the company's balance sheet (i.e., intangible assets) and are not directly related to production." Stein, supra note 40, at 657-58. These intangible assets include discretionary spending on advertisement, marketing to affect brand equity and customer loyalty, maintenance expenses, and the allocation of managerial and employee talents among tasks. Cohen et al., supra note 78, at 761 n.8, 764-65; Mizik, supra note 8, at 595.

83 Michael Rapoport & Tom McGinty, Banks Trim Debt, Obscuring Risks, Wall St. J., May 26, 2010, at A11-A12.

84 Id.

85 Id. The SEC now requires disclosure of intra period short-term borrowing by banks. Short-Term Borrowing Disclosure, Exchange Act Release No. 34-62,932, 75 Fed. Reg. 59,866, 59,866-68 (Sept. 28, 2010).

86 Id.

87 Value Destruction, supra note 33, at 27-28.

88 Id. at 31.

89 Id.

90 See generally Mizik, supra note 8. See also Seow Hong Teoh et al., Earnings Management and Underperformance of Seasoned Equity Offerings, 50 J. Fin. Econ. 63 (1998) (explaining that firms issuing seasoned equity offerings (SEO) who engaged in earnings management prior to the SEO subsequently performed worse than firms that did not); S.P. Kothari et al., Managing for the Moment: Role of Real Activity Manipulation versus Accruals in SEO Over-valuation 26 (Jan. 16, 2011) (unpublished manuscript) (on file with author) (finding that "(i) firms have a tendency to engage in earnings management at the time of a SEO and coordinate accrual and real activity manipulation; [and that] (ii) these firms with a greater likelihood to have engaged in earnings inflation via real activities manipulation ... underperformed other [comparable] firms in subsequent years"). But see Katherine Gunny, The Relation Between Earnings Management Using Real Activities Manipulation and Future Performance: Evidence from Meeting Earnings Benchmark, 27 Contemp. Acct. Res. 855 (2010) (finding that real earnings management is associated with better future firm performance).

91 Mizik, supra note 8, at 600-01.

92 The Mizik study is based on the assumption that "firms simultaneously reporting greater-than-normal profits, lower-than-normal marketing, and lower-than-normal R & D spending are more likely to have engaged in myopic management than other firms." Id. at 598.

93 Same-year stock returns were not lower for myopic firms when compared to non-myopic firms. Id. at 599.

94 Id. at 604 (concluding that "[i]n four years potentially myopic firms have, on average, 13.5% lower returns than their size and book-to-market-matched counterparts with positive ROA surprises and 22.8% lower returns than benchmarks with negative ROA surprises").

95 Id.

96 Mizik, supra note 8, at 594-95.

97 Id. at 604. The performance of these firms indicates that "such manipulation is not justified in the long run." Id. Mizik concludes: "[T]he financial markets take quite some time to fully incorporate the financial implications of myopic spending cuts into firm valuation. The financial market's inability to timely assess the consequences of myopic strategies provides an opportunity for managers to engage in myopic management." Id. at 609.

98 Economist Robert Shiller refers to this euphoria as the "social contagion of boom thinking." Wilmarth, supra note 3, at 1007 (citing Robert J. Shiller, The Supbprime Solution: How Today's Global Financial Crisis Happened, and What To Do About It 48 (2008)). Professors Cohen and O'Bryne explain how mortgage originators exploited the lack of sophistication and emotions of borrowers to own their own home. Ronnie Cohen & Shannon O'Bryne, Burning Down the House: Law, Emotion and the Subprime Mortgage Crisis, 45 Real Prop. Tr. & Est. L.J. 677, 685-97, 703-19 (2011); Donald C. Langevoort, Chasing the Greased Pig Down Wall Street: A Gatekeeper's Guide to the Psychology, Culture and Ethics of Financial Risk-Taking, 96 Cornell L. Rev. 1209, 1226 (2011) (noting the strong role of emotion or a "contagion of enthusiasm" in contributing to financial risk taking).

99 Jason C. Hsu & Max Moroz, Shadow Banks and the Financial Crisis of 2007-2008, in The Banking Crisis Handbook 39, 46 (Greg N. Gregoriou ed., 2010) (stating that the ratio of home prices to rents for residential real estate "stayed in the 9 to 11 range for half a century, before skyrocketing from 11 to 16 at an accelerating pace during 2000-2005"). From 2000 to 2007, household debt increased from $7.1 trillion to $13.8 trillion, nonfinancial sector debt from $6.5 trillion to $10.1 trillion, and financial sector debt from $8.4 trillion to $15.8 trillion. Wilmarth, supra note 3, at 1003 n.179, n.180. The "ratio of household debt to disposable income in the U.S. rose to 140% in 2006." Id. at 1004 n.186, 1010. See also Atif Mian & Amir Sufi, The Consequences of Mortgage Credit Expansion: Evidence from the U.S. Mortgage Default Market, 124 Q.J. Econ. 1449, 1451 n.40, 1468 n.18, 1467 (2009) (finding a negative correlation between income growth and mortgage credit in subprime neighborhoods across the United States from 2002 to 2005).

100 Wilmarth, supra note 3, at 1016 (noting that the mortgage industry shifted from prime to nonprime mortgages when prime mortgage refinancings decreased in late 2003 in order to "maintain their deal volume and fees").

101 Id. at 1016 (defining subprime mortgages as mortgages issued to persons with poor credit quality and Alt-A mortgages as mortgages issued to person with more minor credit issues or no or little documentation of their income and assets); Benjamin J. Keys et al., Did Securitization Lead to Lax Screening? Evidence from Subprime Loans, 125 Q.J. Econ. 307, 314 (2010) (stating that subprime lending grew from $65 billion in 1995 to $500 billion in 2005).

102 Wilmarth, supra note 3, at 1020-22 (noting that most subprime mortgages from 2003 to 2006 were 2/28 or 3/27 ARMs, where the first number refers to the time period for the introductory teaser rate and the second number refers to the remaining years on the mortgage; Alt-A mortgages were mainly 5/25 loans with smaller parts of them structured as 2/28 or 3/27 mortgages); John C. Coffee, Jr., Ratings Reform: The Good, The Bad, and the Ugly 7-8 (Center for Law and Econ. Studies, Columbia Univ. Sch. of Law, Columbia Law and Econ. Working Paper No. 359, 2010), available at http:// papers.ssrn.com/sol3papers.cfm?abstract_id=1650802 (showing the dramatic increase in low document loans, adjustable rate mortgages, and interest-only mortgages as a percentage of subprime mortgages from 2001 to 2006).

103 Wilmarth, supra note 3, at 970, 1022-24 (stating that the U.S. housing market had turned into a "system of 'Ponzi finance,' in which nonprime borrowers had to keep taking out new loans to pay off their old ones," "many nonprime borrowers refinanced their loans (several times, in some cases) by taking out new ARMs with similar teaser rates and interest escalation features," and "[h]alf of the Alt-A mortgages and nearly two-thirds of the subprime mortgages originated between 2003 and 2007 were refinancing of existing loans"). For a discussion of Ponzi financing, see infra Part IV.A (discussing Minsky's financial instability theory).

104 Taub, supra note 6, at 8.

105 Wilmarth, supra note 3, at 970.

106 Securitization solved two problems for banks. It decreased reliance on customer deposits for making loans and substituted the capital markets as a source of loan money. In addition, it removed loans from the banks' balance sheets thus reducing their regulatory capital requirements. Id. at 985.

107 Id. at 963, 1019-20.

108 Id. at 970.

109 Id. at 1019-20.

110 Wilmarth, supra note 3, at 1019-20. Some investment banks had subprime lending subsidiaries but "more significant" was funding by investment and commercial banks of non-bank subprime lenders; in some cases they provided almost 100% of the financing. Charles W. Murdock, The Financial Reform Act: Will It Succeed in Reversing the Causes of the Subprime Crisis and Prevent Future Crises? 15-26 (Loyola Univ. Chicago Sch. of Law, Working Paper No. 2010-010, 2010), available at http://papers.ssrn.com/so13/papers.cfm?abstract_ id=1664684.

111 Wilmarth, supra note 3, at 990 n.100. Virtually all securities backed by subprime mortgages were "private label," that is, they were underwritten by large financial institutions, not by government sponsored agencies, such as Fannie Mae and Freddie Mac. Id. at 970, 1017. Non-agency or "private label" securitization began in the late 1970s by banks and securities firms pooling mortgages that did not meet Fannie Mae and Freddie Mac underwriting standards, such as "'jumbo' mortgages, adjustable rate mortgages (ARMs), 'subprime' and 'Alt-A' mortgages, home equity loans, and home equity lines of credit (HELOC)." Id. at 988. "Prior to their nationalization in 2008, Fannie Mae and Freddie Mac primarily engaged in purchasing and securitizing 'conforming' fixed-rate mortgages that satisfied maximum size limits and other underwriting guidelines established by Congress." Id. at 988 n.93. In early 2004, the Office of Federal Housing Enterprise Oversight increased the capital requirements of Fannie Mae and Freddie Mac and balance sheet caps. The increase created the space and incentive for an explosive growth in private label securitizations that were largely outside governmental oversight. Adrian Blundell-Wignall & Paul Atkinson, The Sub-prime Crisis: Causal Distortions and Regulatory Reform, in Lessons From the Financial Turmoil of 2007 and 2008 55, 80-84 (Paul Bloxham & Christopher Kent eds., 2008), available at http:www.oecd.org/dataoecd/33/6/42031344.pdf (last visited Dec. 16, 2011). Private label securitizations totaled $2.52 trillion in 2007. Wilmarth, supra note 3, at 970. Mortgage originators received "significantly higher fees" for originating nonprime mortgages for private label securitizations than for GSE-issued RMBs. Id. at 1025. The leaders in securitizing mortgages for the period 2004-2007 were Lehman Brothers and Bear Stearns. Id. at 989. While some commentators have blamed the financial crisis on the Community Reinvestment Act (CRA), Professor Korngold explains:

Federal legislation--primarily the Community Reinvestment Act--encouraged lending to lower-income borrowers to promote home ownership and the establishment of credit. The data indicate, however, that CRA cannot be blamed for the current subprime crisis: most subprime loans were not made by CRA lenders (perhaps 20% were), and legislation passed in 1977 could not logically have suddenly caused a crisis thirty years later--if the CRA were the problem, why wasn't there a subprime crisis years ago?

Gerald Korngold, Legal and Policy Choices in the Aftermath of the Subprime and Mortgage Financing Crisis, 60 S.C. L. Rev. 727, 728-29 (2009). Professor Coffee shows high concentration levels in the securitization markets for subprime mortgages, with 6 private label underwriters controlling over 50% of the market and the top 12 private label underwriters controlling over 80% of the market. Coffee, supra note 102, at 8-9; Keys et al., supra note 101, at 309 ("Whereas the GSEs [Fannie Mae and Freddie Mac] actively securitized loans when the nascent subprime mortgage market was relatively small, since 2000 this role has shifted entirely to investment banks and hedge funds (the non-agency sector).").

112 See Wilmarth, supra note 3, at 1027; Keys et al., supra note 101, at 314 (noting an increase in securitization rates from 1995 to 2006, from under 30% to over 80%). For figures on all mortgage-backed securities, not just nonprime mortgage-backed securities, see Murdock, supra note 110, at 22.

113 Mian & Sufi, supra note 99, at 1462 (noting a sharp drop in subprime interest rate spreads from 2002-2005 despite "a rapid increase in the quantity and observed riskiness of subprime mortgages"); Wilmarth, supra note 3, at 1028.

114 Mian & Sufi, supra note 99, at 1483 (finding the evidence more supportive of a supply-based hypothesis for the financial crisis than an income-based or house-price-expectation-based hypothesis); Hyun Song Shin, Securitisation and Financial Stability, 119 Econ. J. 309, 331 (2009).

115 See supra note 61 for a definition of the shadow banking system. Professor Blair notes the explosive growth of the effective money supply leading to the financial crisis, most likely attributed to the creation of credit through securitizations and the repo-markets and made possible by the increased amount of debt of shadow banks. Margaret M. Blair, Financial Innovation, Leverage, Bubbles, and the Distribution of Income 30 Rev. Banking & Fin. L. 225, 227-32 (2010); Gary Gorton & Andrew Metrick, Regulating the Shadow Banking System, in Brookings Papers on Economic Activity 261, 276 (2010) (referring to the "rapid growth of money under management by institutional investors, pension funds, mutual funds, states and municipalities, and nonfinancial firms"); Shin, supra note 114, at 331 (stating that the "importance of securitisation for financial stability derives from the ability of the shadow banking system to increase total supply of credit to end-users"). See Hsu & Moroz, supra note 99, at 55 (claiming that "[b]ank runs on the shadow banking system was a significant factor in the spread of subprime losses to the overall financial system").

116 Hsu & Moroz, supra note 99, at 45.

117 Raghuram Rajan, Has Financial Development Made the World Riskier? 313, 339-40 (Nov. 2005) (unpublished manuscript), available at http:// www.kansascityfed.org/publicat/sympos/2005/pdf/rajan2005.pdf; Wilmarth, supra note 3, at 1005-06 (explaining how the reduction in interest rates was designed to avoid deflationary pressures resulting from the bursting of the dot-com bubble and to boost housing prices. Wilmarth explains that the reduction would cause homeowners to increase personal consumption as they withdrew equity from their homes.). But see Mian & Sufi, supra note 99, at 1490-91, 1474-76 (finding the interest rate less explanatory of the subprime mortgage credit expansion than other supply explanations because such an expansion did not occur with the drop in interest rates from 1990-1994).

118 A sovereign wealth fund is defined as:
a state-owned investment fund composed of financial assets such as stock, bonds, real estate, or other financial instruments funded by foreign exchange assets. These assets can include: balance of payments surpluses, official foreign currency operations, the proceeds of privatizations, governmental transfer payments, fiscal surpluses, and/or receipts resulting from commodity exports. [They] can be structures as a fund, pool, or corporation.
About Sovereign Wealth Funds, SWF Inst., http://www.swfinstitute.org/what-is-a-swf/ (last visited Dec. 16, 2011).

119 Blundell-Wignall & Atkinson, supra note 111, at 57-58, 64, 94; Wilmarth, supra note 3, at 1006-07.

120 Blundell-Wignall & Atkinson, supra note 111, at 76-80 (noting that Northern Rock was one of the first banks to utilize the Basel II approach and within a few years preceding its collapse increased its assets by over 25% per annum, funded by short-term financing). From the end of 2002 to mid-2007 at Citibank "risk weight adjustments, that is, assets not requiring capital backing, rose from 35 per cent to 46.5 per cent of total assets, allowing an overall balance sheet expansion of more than 100 per cent. Securitised off balance sheet assets--mostly real estate related--rose even faster." Id. at 87. For an explanation of how financial firms did an end run around Basel capital requirements, see Blair, supra note 115, at 261-65, 300; Murdock, supra note 110, at 40-41.

121 Taub, supra note 6, at 8. Taub explains:
Between 2001 and 2006, subprime mortgage origination and securitization skyrocketed. In 2001, $190 billion subprime loans were originated. In that year $87 billion in bonds or pools of subprime loans were issued. This is a 46% ratio. Five years later, in 2006 there was $600 billion in subprime origination and $448.6 billion in issuance, a 75% ratio. In contrast, there was a substantial decline in conventional mortgage origination and issuance.

Id. (citing Adam B. Ashcraft & Til Schuermann, Fed. Reserve Bank of N.Y., Understanding the Securitization of Subprime Mortgage Credit 2 tbl.1 (2008), available at http://www.newyorkfed.org/research/staff_reports/sr318.pdf (showing an even larger growth story for Alt-A with an increase in originations from $60 billion in 2001 to $400 billion in 2006 with a ratio of issuance of 91%)); Wilmarth, supra note 3, at 1034 (noting an "intense demand for nonprime-related investments").

122 Georges Dionne, Structured Finance, Risk Management, and The Recent Financial Crisis 1 (Oct. 13, 2009) (unpublished manuscript), available at http://papers.ssrn.com/so13/papers.cfm?abstract_id=1488767 (defining structured finance, which has become "an important hidden side of the economy since the 1990s" as including "all advanced financial arrangements that serve to efficiently refinance and hedge any economic activity beyond the scope of conventional forms of traditional financial instruments (debt, bonds, and equity)").

123 Taub, supra note 6, at 5; Wilmarth, supra note 3, at 971, 988, 1035-43.

124 Wilmarth, supra note 3, at 986.

125 Id. at 985-86; Taub, supra note 6, at 7 (noting "[o]f the total $14 trillion in mortgage debt, $7.6 trillion or more than half was held by shells--mortgage pools or trusts. Around $5 trillion was held by major financial institutions.") (internal citations omitted).

126 Wilmarth, supra note 3, at 986.

127 Taub, supra note 6, at 5.

128 Wilmarth, supra note 3, at 986.

129 Taub, supra note 6, at 5.

130 Id.

131 Wilmarth, supra note 3, at 987 (explaining that credit enhancements were often included for senior tranches to ensure AAA ratings which consisted of "over-collateralization (ie., issuing ABS [asset backed securities] with a lower face value than the par value of the pooled loans), agreements by lenders to buy back loans that defaulted early, or third-party guarantees against loss (e.g., insurance provided by monoline insurers)").

132 Taub, supra note 6, at 5; Wilmarth, supra note 3, at 987.

133 Wilmarth, supra note 3, at 985 n.84 (stating that "lenders were able to sell many of the junior tranches in their MBS [mortgage-backed securities] by packaging them into CDOs that were sold to hedge funds and other institutional investors who wanted the higher yields offered by such securities").

134 Frank Partnoy, How and Why Credit Rating Agencies Are Not Like Other Gatekeepers 74-75 (Univ. of San Diego Sch. of Law, Working Paper No. 07-46, 2006), available at http://ssrn.com/abstract=900257 (referring to these transactions as "CDO squared" transactions and noting that "CDO cubed" transactions were also entered into that involved portfolios of CDO squared transactions); Taub, supra note 6, at 5; Wilmarth, supra note 3, at 990 (referring to these CDOs as asset-backed securities collateralized-debt obligations (ABS CDOs)).

135 Murdock, supra note 110, at 59 (explaining how the combination of below-AAA tranches in a new CDO resulted in the senior tranches of the new CDO receiving AAA ratings because they had the "first claim on payments in the CDO pool and [were] undergirded by the lower tranches"); Wilmarth, supra note 3, at 990, 1029-30.

136 Commodity Futures Modernization Act of 2000, Pub. L. No. 106-554, 114 Stat. 2763 (2000) (clarifying that they may not be regulated for the most part under the Commodity Exchange Act or as securities under the federal securities acts); Taub, supra note 6, at 2.

137 Taub, supra note 6, at 9-10.

138 Wilmarth, supra note 3, at 995.

139 Taub, supra note 6, at 10.

140 Wilmarth, supra note 3, at 970, 1032.

141 Taub, supra note 6, at 11.

142 Id.; Wilmarth, supra note 3, at 1032.

143 Jeffrey D. Amato & Jacob Gyntelberg, CDS Index Tranches and the Pricing of Credit Risk Correlations, BIS Q. Rev., Mar. 2005, at 73-74.

144 Moorad Choudhry, Credit Default Swaps and the Synthetic CDO (Mar. 20, 2003) (unpublished manuscript), available at http:// www.yieldcurve.com/Mktresearch/files/Choudhry_BloombergMar03.pdf; Partnoy, supra note 134, at 74-75.

145 Wilmarth, supra note 3, at 995.

146 Id. at 985, 995 (explaining that securitization also enabled banks with less than AAA ratings to create mortgage-backed securities with AAA ratings).

147 Id. at 995.

148 Murdock, supra note 110, at 26-28.

149 Dionne, supra note 122, at 3; Wilmarth, supra note 3, at 995-96, 1024-25 (summarizing five studies linking securitization with lax lending standards and higher default rates on underlying mortgages).

150 Wilmarth, supra note 3, at 785 n.84, 970-71, 995-96, 1028, 1030, 1032-33. Profitable “negative basis trading” was possible by firms retaining senior tranches of CDOs and purchasing CDS protection for these tranches and thus recording as profit the difference between the net present value of income from the CDOs and premium payments on the CDSs. Id. at 1033.

151 Id.

152 Coffee, supra note 102, at 11-12; Taub, supra note 6, at 8, 9, 14; Willmarth, supra note 3, at 1034; Patrick Rucker, Wall Street Often Shelved Damaging Subprime Reports, Reuters, July 27, 2007, http:// www.reuters.com/article/2007/07/27/us-usa-subprime-diligence-idUSN2743515820070727 (“Investment banks that bundle and sell home mortgages often commissioned reports showing growing risks in subprime loans to less creditworthy borrowers but did not pass much of the information to credit rating agencies or investors.”). See text accompanying notes 154-58 (discussing the deterioration of underwriting standards preceding the financial crisis).

153 Dr. Alan Greenspan in his testimony before Congress stated:
The consequent surge in global demand for U.S. subprime securities by banks, hedge and pension funds supported by unrealistically positive rating designations by credit agencies was, in my judgment, the core of the problem. Demand became so aggressive that too many securitizers and lenders believed they were able to create and sell mortgage backed securities so quickly, that they [would] never put their shareholders' capital at risk and hence did not have the incentive to evaluate the credit quality of what they were selling. Pressures on lenders to supply more “paper” collapsed subprime underwriting standards from 2005 forward. Uncritical acceptance of credit rating by purchasers of these toxic asset has led to huge losses.
The Financial Crisis and the Role of Federal Regulators: Hearing Before the Committee on Oversight and Government Reform, 110th Cong. 17-19 (2008) (statement of Alan Greenspan, Former Chairman of the Federal Reserve Board) [hereinafter Financial Crisis and the Role of Federal Regulators]. See text accompanying notes 159-67 (discussing the relaxation of credit rating agency standards prior to the financial crisis).

154 Korngold, supra note 111, at 730 n.10 (citing Brooke Masters & Saskia Scholtes, Payback Time: As Subprime Bites, US Investigators Look for Culprits, Fin. Times, Aug. 9, 2007, http://www.ft.com/cms/s/0/1f7200ca-4611-11dc-b359-0000779fd2ac.html.

155 Coffee, supra note 102, at 11-12, 16-17 (reporting that the due diligence review by specialized due diligence firms, such as Clayton Holdings, Inc., declined after 2000, meaning that lower percentages of the mortgages in pools were reviewed); Wilmarth, supra note 3, at 1026 n.321 (reporting that underwriters often outsourced due diligence but pressured outsourced firms to do quick, cursory reviews of nonprime mortgage pools).

156 Coffee, supra note 102, at 16 (citing E. Scott Reckard, Sub-Prime Mortgage Watchdogs Kept on Leash; Loan Checkers Say Their Warnings of Risk Were Met With Indifference, L.A. Times, Mar. 17, 2008, at C-1).

157 Id. at 16-17.

158 Id. at 17.

159 See infra Part VII.B.1.b (examining the issuer-pay model).

160 Partnoy, supra note 134, at 65-66 (providing information on the increased revenues of RAs). See infra notes 574 (noting the regulatory response to the conflict of interest of RAs providing such consulting services).

161 Coffee, supra note 102, at 2, 9; Partnoy, supra note 134, at 68-72.

162 Blundell-Wignall & Atkinson, supra note 111, at 63, 67; Coffee, supra note 102, at 10-11 (showing how increased competition resulted in more investment grade ratings); Willmarth, supra note 3, at 1026. For studies on the impact of competition on credit ratings, see infra text accompanying note 560 (describing research that showed a positive correlation between competition among rating agencies on the one hand and higher ratings and more downgrades of them on the other hand). Basel II, in reducing capital requirements for AAA grade assets, increased the motivation of issuers to obtain AAA ratings for their structured products which placed added pressure on rating agencies to provide those ratings. Dionne, supra note 122, at 3.

163 Coffee, supra note 102, at 14-15; Murdock, supra note 110, at 60-61; Wilmarth, supra note 3, at 1028. Professor Coffee explains:
In subprime deals, the AAA tranche constituted on average 82.4% of all the securities in the portfolio over the period from 2001 to 2007 (and some years was over 90%), and in "Alt-A deals," the AAA-rated tranche represented over 93% of the securities in the CDO pool over the same period.
Coffee, supra note 102, at 14-15.

164 Coffee, supra note 102, at 12-15; John M. Griffin & Dragon Yongjun Tang, Did Subjectivity Play A Role in CDO Credit Ratings, J. Fin. (forthcoming) (manuscript at 4), available at http://ssrn.com/abstract=1364933 (reporting the finding that between January 1997 and March 2007 only 1.4% of AAA CDO transactions met rating agency standards).

165 Griffin & Tang, supra note 164, at 4, 28.

166 Financial Crisis and the Role of Federal Regulators, supra note 153, at 17-18 (explaining that models used only data from the "past two decades, a period of euphoria" and should have been "fitted more appropriately to historic periods of stress"). Professor Gabilondo also explains the importance of "internalizing extreme liquidity events ... in risk management models," which Alan Greenspan remarked on in 1999:
Probability distributions that are estimated largely, or exclusively, over cycles excluding periods of panic will underestimate the probability of extreme price movements because they fail to capture a secondary peak at the extreme negative tail that reflects the probability of occurrence of a panic.... Under these circumstances, fear, and disengagement by investors often result in simultaneous declines in the values of private obligations .... Consequently, the benefits of portfolio diversification will tend to be overestimated when the rare panic periods are not taken into account.
Jose Gabilondo, Leveraged Liquidity: Bear Raids and Junk Loans in the New Credit Market, 34 J. Corp. L. 447, 504, 509 (2009) (citing Alan Greenspan, New Challenges for Monetary Policy, Remarks Before a Symposium Sponsored by the Federal Reserve Bank of Kansas City (Aug. 27, 1999)); Joshua D. Coval et al., Economic Catastrophe Bonds, 99 Am. Econ. Rev. 628, 660 (2008) (stating that "investors in senior CDO tranches are grossly undercompensated for the highly systematic nature of the risk they bear" and that ratings "contain no information about the state of the economy in which default occurs," such as economic catastrophes for senior tranches of CDOs); Dionne, supra note 122, at 3 (explaining that a "cause of the current crisis was that prices of these

sophisticated instruments were often too low and did not reflect their true risk exposure"). In addition, Professor Murdock explains how the data was stale because of decreasing underwriting standards. Murdock, supra note 110, at 59.

167 Partnoy, supra note 134, at 77-80. Professor Murdock claims that the computer models used for CDOs were based on corporate debt. Murdock, supra note 110, at 59. He cites a statement by Paul Wilmot, a leading quant, about CDOs: "They built these things on false assumptions without testing them, and stuffed them full of trillions of dollars. How could anyone have thought that was a good idea? ... We don't have the tools to truly price them. People thought we did, but they were nowhere near robust enough." Id. (citing Matthew Phillips, Revenge of the Nerd, Newsweek, June 8, 2009, at 51).

168 See supra note 99 (citing sources showing that household debt drastically rose from 2000-2007 and the negative association between income growth and mortgage credit in subprime neighborhoods from 2002-2005); accord Wensong Chu, Home Prices and Median Household Income, FixedIncomeColor.com (Mar. 2, 2009, 10:19 AM), http://www.fixedincomecolor.com/articles/mortgage-mbs/credit/14-home-prices-a-median-household-income; Bohdy Hedgcock & David J. Lynn, Price-to-Income Ratios Offer Insights: Understanding This Market Metric Could Help Brokers Make Better Decisions at Local Levels, Scotsman Guide (July 2009), available at http://www.scotsmanguide.com/pdfs/HedgcockRES0709.pdf.

169 Mian & Sufi, supra note 99, at 1482-83. Restructuring of mortgages underlying RMBSs and CDOs was made more difficult because of conflicts of interest among investors in various tranches, exposing servicers to liability risk. Schwarcz, supra note 39, at 225.

170 Hsu & Moroz, supra note 99, at 51 (noting that the failure of IndyMac was "one of the biggest bank failures in US history" and that it was due to a "large amount of mortgage loans that [IndyMac] was unable to securitize and instead kept on its books").

171 Id. at 52.

172 Wilmarth, supra note 3, at 1003 n.183 ("[D]omestic financial assets were equal to ten times domestic GDP in 2007, compared to five times GDP between 1960 and 1980.").

173 Bank assets as a percent of GDP increased to 79%, increasing 13 percentage points from January 2004 to March 2008. Blundell-Wignall & Atkinson, supra note 111, at 58. This dramatic rise was largely attributed to RMBSs. Id. at 59-60. Citibank's assets increased by $1.1 trillion from the beginning of 2003 to 2007, more than doubling during this period. Id. at 84 (noting that there was only a 2.7% equity backing for this increase).

174 Gorton & Metrick, supra note 115, at 280 ("[Asset-backed commercial paper conduits] ... and structured investment vehicles are operating companies that purchased long term [asset-backed securities] and financed [them] with short-term debt, largely commercial paper."); McLean, supra note 5, at 126 (noting that short-term borrowing was used because it is cheaper than long-term borrowing); Blundell-Wignall & Atkinson, supra note 111, at 64 (describing the global business model of financing long-term assets with commercial paper). See Rajan, supra note 117, at 317-18 (noting that "banks today also require liquid markets to hedge some of the risks associated with complicated products they have created, or guarantees they have offered" and that "[t]heir greater reliance on market liquidity can make their balance sheets more suspect in times of crisis, making them less able to provide the liquidity assurance that they have provided in the past").

175 Taub, supra note 6, at 7, 9 (noting that "[a]nother problem with these conduits--structured investment vehicles holding mortgage pools--was that they were often undercapitalized or leveraged" and that the amount of equity invested was a small fraction of the total assets); Hsu & Moroz, supra note 99, at 50 (noting that Northern Rock, a UK retail bank, was the first major casualty that "used brokered deposits to finance a significant part of its balance sheet").

176 Blundell-Wignall & Atkinson, supra note 111, at 63-64 (discussing the decrease in value of the assets under corporate reporting requirements, the credit rating agencies' downgrading of securities, the refusal of money market investors to roll over their investments in bank conduits and structured investment vehicles, and the loss of bank capital); Gorton & Metrick, supra note 115, at 279 (describing the crisis as a run on short-term debt with the following epicenters: "the sale and repurchase market, the market for asset-backed commercial paper, and money-market mutual funds"); Hsu & Moroz, supra note 99, at 49-50 (stating that "issuers of [asset-backed commercial paper] ... could not find buyers when they tried to roll it over" and that the loss spiral was "fueled by the lack of liquidity in the markets and by the high leverage of the funds"); Anil Kashyap et al., Rethinking Capital Regulation, in Maintaining Stability

in a Changing Financial System, A Symposium Sponsored by the Federal Reserve Bank of Kansas City 431-32 (2009), available at http:// scholar.harvard.edu/sites/scholar.iq.harvard.edu/files/kashyaprajanstein.03.12.09.pdf (describing the inability of banks to obtain short-term financing, thus resulting in their fire sale of assets).

177 Credit rating agencies downgraded the securities and mark-to-market accounting rules required holders of these assets to realize losses on the securities which decreased the capital of banks, resulting in deleveraging. Blundell-Wignall & Atkinson, supra note 111, at 63-64. Professor Schwarcz has proposed in future crises that firms have the option of disclosing fully their asset portfolio rather than realizing losses under the mark-to-market accounting rules. Schwarcz, supra note 39, at 232-33, 245-47, 263.

178 Hsu & Moroz, supra note 99, at 49.

179 Id. at 50 fig.6.

180 Blundell-Wignall & Atkinson, supra note 111, at 64.

181 Hsu & Moroz, supra note 99, at 48-49 (discussing shadow banks' attempts to prevent a run on their funds by investors through freezing redemptions).

182 Credit Default Swap Insurance Prices Soar on Financial Crisis, Bionomicfuel.com (Feb. 6, 2009), http://www.bionomicfuel.com/credit-default-swap-insurance-prices-soar-on-financial-crisis/; Steven B. Kamin & Laurie Pounder DeMarco, How Did A Domestic Housing Slump Turn into a Global Crisis 5 (Bd. of Gov. of the Fed. Reserve System, Int'l Fin. Discussion Paper No. 994, 2010), available at http:// www.federalreserve.gov/pubs/ifdp/2010/994/ifdp994.pdf.

183 Hsu & Moroz, supra note 99, at 50-52; Taub, supra note 6, at 11-12.

184 Gorton & Metrick, supra note 115, at 280 (explaining the losses of money-market mutual funds as due to their investments in "[asset-backed commercial paper] conduits, [structured investment vehicles], and troubled financial firms, such as Lehman Brothers"); Hsu & Moroz, supra note 99, at 52 (noting that problems at The Reserve Primary Fund, "the oldest money-market fund," occurred because of the "$785m face amount of Lehman Brothers commercial paper and medium-term note securities in the fund's portfolio"). These money market funds play an important role in short-term debt markets due to their appetite for commercial paper; the Treasury Department instituted a temporary guarantee program guaranteeing money in these funds to curtail redemptions from them. Id. at 53-54. Agency markets also became illiquid. Id. at 52-53.

185 Hsu & Moroz, supra note 99, at 50, 52 (describing the run on capital markets as "driven by a combination of a subprime mortgage meltdown and the lack of information about exposures and valuations in the market"). Contributing to mispricing leading to the financial crisis were mathematical models that value complex financial products which even sophisticated investors often do not understand and the paucity of information about the financial interdependencies and connectivity among market participants. Charles R.P. Pouncy, Contemporary Financial Innovation: Orthodoxy and Alternative, 51 SMU L. Rev. 505, 509 (1998); Gabilondo, supra note 166, at 451-52; Michiko Kakutani, Investors Who Foresaw the Meltdown, N.Y. Times, Mar. 14, 2011, at C1; Taub, supra note 6, at 2 ("Even the most intelligent, experienced individuals using complex mathematical models could not accurately price them or understand their risk because there was not enough performance history, transparency as to the amount outstanding and they were incredibly interdependent."); Schwarcz, supra note 39, at 222, 225, 235-36, 242-43 (explaining how the "complexity of these securities made the risks very difficult to understand" and the interconnectedness of market participants created a domino-effect collapse in financial markets).

186 Hsu & Moroz, supra note 99, at 55-56. In addition, "the lack of a multilateral settlement mechanism in such markets as CDS created gridlock where trading partners could not cancel out offsetting positions because of concern about counterparty credit risk." Id. at 56 (citing Markus Brunnermeier, Decifering the Liquidity and Credit Crunch 2007-2008, 23 J. Econ. Perspectives 77 (2009)).

187 Taub, supra note 6, at 12, 15-16.

188 Wilmarth, supra note 3, at 1043-44.

189 Id. at 1044. Lehman Brothers went bankrupt, Bear Stearns was taken over by Chase, Wachovia by Wells Fargo, Washington Mutual by Chase, Countrywide by Bank of America, and Merrill Lynch by Bank of America. Id. at 1044-45.

190 Id. at 1044.

191 Id. at 1045. There was also an increase in the size of large banks as "Bank of America acquired Countrywide and Merrill Lynch, and grew 138%; J.P Morgan Chase acquired Bear Stearns and Washington Mutual, and grew 51%; and Wells Fargo acquired Wachovia, and grew 43%." Murdock, supra note 110, at 48.

192 Wilmarth, supra note 3, at 966-68.

193 E.g., Catharine Rampell, Jobs Data Highlights the Challenges for Washington, N.Y. Times, Nov. 5, 2010, at A1.

194 E.g., Andrew Martin, A Credit Squeeze for Small-Business Owners, N.Y. Times, June 19, 2009, at B1.

195 E.g., Ylan Q. Mui, Families Struggle to Build Nest Egg in Wake of Recession, Wash. Post, Sept. 19, 2010, http:// www.washingtonpost.com/wp-dyn/content/article/2010/09/19/AR2010091903951.html.

196 E.g., Timothy A. Canova, Obama's Budget Fix for States Misses the Mark, San Francisco Chronicle, Feb. 17, 2011, at A12; Michael Powell, Illinois Stops Paying Its Bills, But Can't Stop Digging Hole, N.Y. Times, July 3, 2010, at A1; Catherine Rampell, Public Jobs Drop Amid Slowdown in Private Hiring, N.Y. Times, Oct. 9, 2010, at A1.

197 Gabilondo, supra note 166, at 476; Charles J. Whalen, The U.S. Credit Crunch of 2007: A Minsky Moment (Levy Economics Institute of Bard College, Public Policy Brief No. 92, 2007), available at www.levyinstitute.org/pubs/ppb_92.pdf; John Cassidy, Comment, The Minsky Moment, New Yorker, Feb. 4, 2008, available at http:// www.newyorker.com/talk/ comment/2008/02/04/080204taco_talk_cassidy.

198 Hyman P. Minsky, Stabilizing An Unstable Economy 219-38 (2008).

199 Id. at 232-33, 356.

200 Id. at 232-33.

201 Id. at 234-35.

202 One study found that during bubbles when asset values increase on financial firms' balance sheets, commercial banks, due to regulations, maintain a targeted-leverage level whereas investment bank broker-dealers increase their leverage level. Gabilondo, supra note 166, at 492-93 (citing Tobias Adrian & Hyun Song Shin, Fed. Reserve Bank of N.Y., Liquidity and Leverage 7-8 (2009), available at http://www.ssrn.com/abstract=1139857 (documenting that marked-market leverage is strongly pro-cyclical).

203 Gabilondo, supra note 166, at 493. The SEC's modification of its net capital rules for brokers facilitated increased leverage. Alternative Net Capital Requirements for Broker-Dealers That Are Part of Consolidated Supervised Entities, Exchange Act Release No. 34-49,830, 69 Fed. Reg. 34,428 (June 21, 2004). For data about increases in the ratio of total assets to capital of specific investment banking firms, see Murdock, supra note 110, at 39-40. See supra notes 120, 172-73 (describing the dramatic expansion of financial firm assets in the period preceding the financial crisis).

204 Wilmarth, supra note 3, at 1003 n.179-80.

205 Minsky, supra note 198, at 230-32.

206 See supra notes 174-76 (explaining the utilization of short-term debt by financial firms contributing to the financial crisis).

207 See supra text accompanying notes 174-80, 187 (discussing the role of short-term debt in creating a liquidity crisis for financial firms and the role of the federal government in dealing with it).

208 Hsu & Moroz, supra note 99, at 47 ("[M]any subprime borrowers could only afford mortgage payments by continuously refinancing the property at fast-growing valuations."); Wilmarth, supra note 3, at 970, 1023 (claiming that large financial firms had "turned the U.S. housing market into a system of 'Ponzi finance' in which nonprime borrowers had to keep taking out new loans to pay off their old ones"). See supra notes 101-03 (describing the characteristics of mortgages in mortgage pools and the system of Ponzi finance of retail mortgages).

209 Shleifer & Vishny, supra note 21, at 149-50.

210 Id.

211 Hedge funds, however, generally have provisions that limit withdrawal rights. Grace Wong, Hedge Fund Redemption Shock: Investors Looking to Cash Out This Fall May Be Met With An Unpleasant Surprise, CNNMoney (Aug 23, 2007), http://money.cnn.com/2007/08/23/markets/hedge_fund_ redemptions/index.htm.

212 Shleifer & Vishny, supra note 21, at 149-50.

213 Id.

214 Id.

215 Shleifer & Vishny, supra note 21, at 149-50. The term "noise traders" applies to traders who trade "on the basis of something other than information about fundamental values" and includes "[t]hose who seek to gauge 'market psychology' or guess how the guesses of others will evolve." Summers & Summers, supra note 39, at 268.

216 Shleifer & Vishny, supra note 21, at 149-50.

217 Rajan, supra note 117, at 348-49; see infra note 218 (providing evidence that switching funds based on past performance is generally not a profitable strategy).

218 Rajan, supra note 117, at 349 (noting that movement of investors between funds probably has negative social value); Frazzini & Lamont, supra note 29, at 299-301; Breaking the Short-Term Cycle, supra note 7, at 17 (summarizing two studies that found that switching asset managers "usually resulted in the destruction of value"); Scott D. Stewart et al., Absence of Value: An Analysis of Investment Allocation Decisions by Investment Plan Sponsors, 65 Fin. Analyst 34, 35-37 (2009) (finding that institutional plan sponsors in changing the allocation of fund assets contribute to investment products that underperform products experiencing withdrawals over one, three and five years). Competition among credit rating agencies, like competition among asset managers, can have negative effects. See infra text accompanying note 561 (showing that an increase in rating agency competition led to a decline in the quality of ratings, with issuers possessing greater bargaining power receiving higher ratings for their issues); Coffee, supra note 102, at 10-11 (determining that heightened competition among the RAs resulted in "a significant inflation in ratings").

219 See infra text accompanying notes 275-77.

220 See infra text accompanying notes 278-84.

221 See infra text accompanying notes 295-96.

222 Revisiting Short-Termism, supra note 12, at 7.

223 Lynn A. Stout, Are Stock Markets Costly Casinos? Disagreement, Market Failure, and Securities Regulation, 81 Va. L. Rev. 611, 634-35 (1995).

224 Concept Release on Equity Market Structure, Exchange Act Release No. 34-61,358, 75 Fed. Reg. 3594, 3596 (Jan. 21, 2010).

225 Breaking the Short-Term Cycle, supra note 7, at 11-12; NYSE, Report of the New York Stock Exchange Commission on Corporate Governance 12-13 (2010) [hereinafter NYSE Report], available at http://www.nyse.com/pdfs/CCGReport.pdf; Yvan Allaire & Mihaela E. Firsirotu, Hedge Funds as Activist Shareholders: Passing Phenomenon or Grave-Diggers of Public Corporations 3 (Jan.

27, 2007) (unpublished manuscript), available at http://ssrn.com/abstract=961828 (noting an increase in average turnover from 12% in 1960 to 87% in 2005). Developments in the 1970s and 1980s, namely the change from fixed to floating rate commissions in the early 1970s and the decline in the 1980s in the differential between income tax rates and capital gains tax rates on stock held for more than one year, contributed to declining holding periods and increasing turnover rates. Revisitng Short-Termism, supra note 12, at 6.

226 Iman Anabtawi, Some Skepticism About Increasing Shareholder Power, 53 UCLA L. Rev. 561, 579 (2006); NYSE Report, supra note 225, at 12-13.

227 Allaire & Firsirotu, supra note 225, at 3.

228 Robin Greenwood & Michael Schor, Hedge Fund Investor Activism and Takeovers 13 (Harvard Bus. Sch. Working Paper Series, Paper No. 08-004, 2007), available at http://www.hbs.edu/research/pdf/08-004.pdf (reporting that the median holding period of a non-hedge fund is 21 months and the median holding period of a hedge fund is 4.5 months); Grossman, supra note 66, at 911.

229 Concept Release on Equity Market Structure, Exchange Act Release No. 34-61,358, 75 Fed. Reg. 3594, 3606 (Jan. 21, 2010). Proprietary trading firms for purposes of this Article include "proprietary trading firms (which may or may not be a registered broker-dealer and member of FINRA), ... the proprietary trading desk of a multi-service broker-dealer, or a hedge fund." Id. The SEC also raised the issue of whether trading by long-term investors has shifted to dark pools and whether OTC market makers with high-frequency traders dominate the public markets. Id. at 3613.

230 Rappaport, supra note 7, at 65-66.

231 E.g., Turner, supra note 29, at 26-28, 33-35. Candlestick charts are popular with traders to track price movements. A candlestick chart is a bar chart that depicts the price movement of a security, derivative, or currency and that shows at a glance, daily highs, lows, open, and close prices. Introduction to Candlesticks, Stockcharts.com, http:// stockcharts.com/school/doku.php?id=chart_school:chart_analysis:introduction_ to_ candelsticks (last visited Dec. 16, 2011). Traders use volume indicators to detect intensity of interest in the security and predict price movements. A popular volume indicator is the on-balance volume indicator (OBV) which represents a cumulative total of volumes that adds the volume for the time period when the price goes up and subtracts the volume when the price goes down; changes in volume are expected to precede price changes. Turner, supra note 29, at 155-56. Various momentum indicators (oscillators) determine the rate of change in security prices over a given time period. These include the Moving Average Convergency/Divergence indicator (MACD) which is based on exponential moving price averages, the Stochastics Oscillator that considers closing prices relative to high and low prices over a set number of periods, the Average Directional Indicator (ADX) which focuses on the part of today's price range that is outside of yesterday's price range, and Fibonacci retracement levels based on key numbers identified by mathematician Leonardo Fibonacci. Id. at 178-95.

232 Turner, supra note 29, at 99 (distinguishing "technical" analysis, which is a "study of a stock or indices' price history, as plotted on a chart" to take advantage of "temporary imbalances in supply and demand" for securities from "fundamental" analysis which analyzes the underlying value of companies).

233 Revisiting Short-Termism, supra note 12, at 7.

234 Concept Release on Equity Market Structure, Exchange Act Release No. 34-61,358, 75 Fed. Reg. 3594, 3607-12 (Jan. 21, 2010).

235 Id. at 3607-08.

236 Id. at 3607.

237 Id. at 3607-08.

238 Co-location involves locating equipment in a third-party data center.

239 Concept Release on Equity Market Structure, Exchange Act Release No. 34-61,358, 75 Fed. Reg. at 3608, 3610-11.

240 Id. at 3607, 3609.

241 Id. at 3607 n.69 ("[T]here is an important distinction between using tools such as pinging orders as part of a normal search for liquidity ... and using such tools to detect and trade in front of large trading interest as part of an 'order anticipation' trading strategy.").

242 This term is "typically ... used to refer to professional traders acting in a proprietary capacity that engage in strategies that generate a large number of trades on a daily basis." Id. at 3606.

243 Id.

244 Alexandra Twin, Glitches Send Dow on Wild Ride, CNNMoney (May 6, 2010), http://money.cnn.com/2010/05/06/markets/markets_newyork/index.htm.

245 Id.

246 Concept Release on Equity Market Structure, Exchange Act Release No. 34-61,358, 75 Fed. Reg. at 3594. A problem with computer-generated mathematical strategies is that "particular events can formulaically trigger massive sell-offs without parties having the time or opportunity to exercise judgment." Schwarcz, supra note 39, at 232. Hedge-fund trading based on such strategies may have contributed to the financial crisis. Id. at 231-32.

247 Concept Release on Equity Market Structure, Exchange Act Release No. 34-61,358, 75 Fed. Reg. at 3598.

248 See Twin, supra note 244 (providing information on high-frequency trading); Concept Release on Equity Market Structure, Exchange Act Release No. 34-61,358, 75 Fed. Reg. at 3606 n.68 (citing Scott Patterson & Geoffrey Rogow, What's Behind High-Frequency Trading, Wall St. J., Aug. 1, 2009, at B1). Higher estimates of this trading have also been made. Adam Sussman, TABB Group Pulls Back the High-Frequency Trading Curtain, Advanced Trading (Oct. 7, 2009), http://www.advancedtrading.com/algorithms/220301041?pgno=2.

249 Concept Release on Equity Market Structure, Exchange Act Release No. 34-61,358, 75 Fed. Reg. at 3606.

250 See e.g., Stiglitz, supra note 9, at 109 (discussing speculative short-term trading as rent-seeking behavior that does not contribute to "society's productive potential"); Stout, supra note 223, at 684-86 (criticizing excessive costs associated with highly speculative secondary market trading); Summers & Summers, supra note 39, at 261-63 (claiming that the efficiency benefits of curbing speculation justify a securities transaction tax).

251 Stout, supra note 223, at 684-86.

252 Id. at 622.

253 Id. at 623. See also Summers & Summers, supra note 39, at 271-73 (describing such trading as a zero-sum game). Short-term trading is considered rent-seeking behavior, which is behavior that does not result in the creation of wealth, but merely the redistribution of it. Rent is defined as "[w]hen a company, organization or individual uses their resources to obtain an economic gain from others without reciprocating any benefits back to society through wealth creation." Rent-Seeking, Investopedia, http:// www.investopedia.com/terms/r/rentseeking.asp#axzz1gpartmIT (last visited Dec. 16, 2011). Investments with short time horizons provide little in terms of an informational function to markets and, as previously discussed, excessive liquidity. Other consequences of speculative short-term trading are its contribution to the substantial costs of running the financial system and the brain drain to Wall Street to engage in rent-seeking rather than increasing "society's productive potential." John C. Bogle, The Clash of the Cultures, 37 J. Portfolio Mgmt. 14, 16, 23 (2010); Stiglitz, supra note 9, at 109; Summers & Summers, supra note 39, at 270-72.
In seeking to understand Professor Stout's claim, it is useful to point out that speculative business activities are not limited to stock markets. For example, a real estate investor may purchase a real estate parcel which subsequently declines in value. The seller has gained and the buyer has lost on this transaction and the parties have incurred substantial transactions costs, such as real estate agent fees and escrow costs. The real estate investor may sell the real estate for a loss or hold the parcel in anticipation that real estate prices will rise in the future. If these prices rise, the investor may sell the parcel and a new negative-sum game is played. However, if the buyer purchased the real estate parcel for his use, the game is not a zero-sum game, although the buyer in a declining real estate market has purchased a parcel that is worth less than he may have anticipated. The parcel has not lost its use value. In the same way, a manufacturer of a product provides an item with some use value to the purchaser. Of course, the trading of stocks may

provide some use value to the purchaser or seller to the extent it provides non-speculative value, such as liquidity, tax advantages, or a better balanced portfolio. Another difference between stock market trading and real estate transactions that are entered into only for speculation is that real estate has a lower turnover rate due to high transaction costs which diminish the social loss from this activity when compared to short-term stock trading.

254 Stout, supra note 223, at 636-37.

255 Id. at 622-23, 664 n.167-68. Index funds are passively managed funds that through their portfolio structure attempt to mirror market indexes, such as the S&P 500.

256 Id. at 640-41.

257 Turner, supra note 29, at xxii. Professional traders find individual traders attractive to trade with because the individual traders are often less informed about short-term price movements than professional traders. Concept Release on Equity Market Structure, Exchange Act Release No. 34-61,358, 75 Fed. Reg. 3594, 3612 (Jan. 21, 2010). For a definition of dumb money, see supra note 29. Professor Stiglitz writes about short-term trading: "For every fool that is weeded out, a new one enters the market. In spite of the overwhelming evidence of the difficulty of beating the market, small investors continue trying to do it." Stiglitz, supra note 9, at 106.

258 Concept Release on Equity Market Structure, Exchange Act Release No. 34-61,358, 75 Fed. Reg. at 3603.

259 Id.

260 Regulation NMS, Exchange Act Release No. 34-51,808, 70 Fed. Reg. 37,496, 37,500 (June 29, 2005).

261 Concept Release on Equity Market Structure, Exchange Act Release No. 34-61,358, 75 Fed. Reg. at 3608.

262 Id. A concern with reducing short-term trading is that liquidity will decrease. Summers and Summers point out that while liquidity is important, excessive liquidity can have negative consequences to the proper functioning of the securities markets. They conclude that the "efficiency benefits derived from curbing speculation are likely to exceed any costs of reduced liquidity or increased cost of capital." Summers & Summers, supra note 39, at 261. Also, they claim that no major liquidity problems occurred in the 1950s, 1960s, and early 1970s when liquidity was much less than it is today. Id. at 271; Stout, supra note 223, at 684-86 (explaining that non-speculative trading and new stock offerings would not suffer from reduced liquidity resulting from decreasing stock turnover). Finally, liquidity is often an "illusion" when it is needed most, such as when "the value of the American corporate sector" declined by 22% in one day in October 1987, and during the financial crisis of 2007-2009. Summers & Summers, supra note 39, at 265, 274.

263 Concept Release on Equity Market Structure, Exchange Act Release No. 34-61,358, 75 Fed. Reg. at 3605, 3610.

264 Summers & Summers, supra note 39, at 262.

265 Id. at 264-68.

266 For a definition of noise trader, see supra note 215.

267 Stiglitz, supra note 9, at 108; Summers & Summers, supra note 39, at 268-69.

268 Summers & Summers, supra note 39, at 264-69.

269 Differentiating among institutional shareholders based on their portfolio characteristics permits the segregation of shareholders into long-term and short-term shareholders. Professor Bushee of the Wharton School of Business has identified a method for classifying firms based on a firm's portfolio. Brian Bushee, The Influence of Institutional Investors on Myopic R&D Investment Behavior, 73 Acct. Rev. 305, 310-11 (1998) [hereinafter Influence of Institutional Investors]; Brian J. Bushee, Do Institutional Investors Prefer Near-Term Earnings Over Long-Run Values?, 18 Contemp. Acct. Res. 207, 213-14 (2001) [hereinafter Do Institutional Investors Prefer Near-Term Earnings]; Brian J. Bushee, Identifying and Attracting the Right Investors: Evidence on the Behavior of Institutional Investors, 16 J. Applied Corp. Fin. 28, 29-31 (2004) [hereinafter Identifying and Attracting the Right Investors]. Michael Porter, who

compared investments in U.S., German, and Japanese companies inspired Bushee's approach. Michael E. Porter, Capital Choices: Changing the Way America Invests in Industry 42-49 (1992).

270 The classification system is performed at the Form 13-F level. Bushee explains:
My classification system is performed at the Form 13-F level, so it is at the fund family level rather than the individual mutual fund level for investment companies. This does cause some investment companies to change between transient and quasi-indexer (or vice versa) based on the relative balance of their funds. However, about 80% of fund managers have the same classification three-years in the future, so the classification tends to be very stable. Also, for my research, I use the modal classification over the institutions' life to classify it based on its most common portfolio management style.
The problem with classifying at the mutual fund level is that it would omit bank trusts, insurance companies, pensions and endowments, and investment advisers. Moreover, many mutual fund companies also manage money as investment advisers, so the mutual fund is only part of what the institution may be managing. Finally, I have heard that some mutual fund families do "back office netting," where offsetting trades by their funds are handled as an internal reallocation, rather than as open market trades. Thus, I think the better level of analysis is the Form 13-F institution.
E-mail from Brian Bushee, Associate Professor of Accounting, Univ. of Penn., Wharton Sch., to Lynne Dallas, Professor of Law, Univ. of San Diego Sch. of Law (Nov. 3, 2009) (on file with author).
Other classification schemes of institutional shareholders are possible by legal types of firms. These categories, however, do not capture the nature of the institutional shareholders' investment and trading strategies as does the Bushee classification system. Bushee found that within each of the legal types of firms, consisting of insurance companies, investment advisers, and pensions and endowments, there was a similar percentage of transient institutional shareholders (ranging from 25% to 37%), quasi-indexer institutional shareholders (ranging from 56% to 64%), and dedicated institutional shareholders (ranging from 7% to 11%). The category of banks, however, had a "somewhat lower-than average representation of transient investors," approximately 11%. Identifying and Attracting the Right Investors, supra note 269, at 31. Thus, these categories relating to legal types of firms are "a weak proxy for whether the firms create pressures for managers to focus on short-term results." Id.

271 See infra text accompanying notes 278-84 (discussing these studies).

272 Ownership stability is measured by two factors, quarterly portfolio turnover and the percentage of portfolio stocks held continuously within the portfolio for the past two years. Stake size, the other portfolio characteristic, is comprised of three measures: the average percentage ownership in portfolio firms, the average size of investments in portfolio firms, and the percentage of portfolio stocks that are large block holdings (greater than five percent).

273 The high diversification of their portfolios facilitates trading without having to worry about the impact of their trades on stock prices.

274 Identifying and Attracting the Right Investors, supra note 269, at 30-31.

275 Do Institutional Investors Prefer Near-Term Earnings, supra note 269, at 213.

276 Bin Ke & Kathy Petroni, How Informed Are Actively Trading Institutional Investors? Evidence from Their Trading Behavior Before a Break in String of Consecutive Earnings Increases, 42 J. Acct. Res. 895, 924 (2004).

277 Edith S. Hotchkiss & Deon Strickland, Does Shareholder Composition Matter? Evidence from the Market Reaction to Corporate Earnings Announcements, 58 J. Fin. 1469, 1471 (2003).

278 See infra text accompanying notes 279-84 (discussing studies on transient institutional ownership and earnings management).

279 Influence of Institutional Investors, supra note 269, at 307. See also Dawn A. Mastumoto, Management's Incentives to Avoid Negative Earnings Surprise, 77 Acct. Rev. 483, 511 (2002) (finding that firms with higher transient institutional ownership are more likely to take actions to avoid negative earnings surprises, to manage earnings upward, and to guide forecasts downward).

280 Dawn A. Matsumoto, Management's Incentives to Avoid Negative Earnings Surprises, 77 Acct. Rev. 483, 507, 511 (2002). See also Ping-Sheng Koh, Institutional Investor Type, Earnings Management and Benchmark Beaters, 26 J. Acct. & Pub. Pol'y 267, 269-70, 294-95 (2007) (finding that transient institutional ownership is associated with "accrual management to avoid losses and earnings

declines" and that "long-term institutional ownership constrains accruals management among firms that manage earnings to achieve earnings targets").

281 See Laura Yue Liu & Emma Y. Peng, Institutional Ownership Composition and Accruals Quality 2-3 (Sept. 2006) (unpublished manuscript), available at http://ssrn.com/sol13/papers.cfm?abstract_id=929582 (finding positive association with dedicated institutional shareholders).

282 Natasha Burns et al., The Effects of Institutional Ownership and Monitoring: Evidence from Financial Restatements, 16 J. Corp. Fin. 443, 450, 453-54 (2010) (finding that this relationship is mitigated by transient-ownership concentration).

283 Id. at 444 (finding, however, a positive relationship between quasi-indexer ownership and the likelihood and magnitude of misreporting which the authors attribute to the fact that many indexing firms engage in active trading strategies based on quantitative analysis that is not related to "analysis of firm fundamentals").

284 Alex P. Tang & Li Xu, Institutional Ownership and Internal Control Material Weakness, 49 Q.J. Fin & Acct. 93, 94-95 (2010).

285 See Xia Chen et al., Monitoring: Which Institutions Matter?, 86 Fin. Econ. 279, 281-82 (2007) (considering mergers with announcement dates between January 1, 1984 and December 31, 2001; monitoring effects of these shareholders found to be more significant for mergers occurring between 1990 and 2001 than between 1984 and 1989).

286 Id.

287 Jose-Miguel Gaspar et al., Shareholder Investment Horizons and the Market for Corporate Control, 76 J. Fin. Econ. 135, 138 (2005). See also Allaire & Firsirotu, supra note 225, at 12.

288 Liu & Peng, supra note 281, at 5. See also Koh, supra note 280, at 270; Alfred Shang, Earnings Management and Institutional Ownership (Nov. 2003) (unpublished manuscript), available at http://www.af.polyu.edu.hk/seminer_ abstract/Alfred_28Jan04.pdf; Shivaram Rajgopal et al., Institutional Ownership and the Extent to Which Stock Prices Reflect Future Earnings, 19 Contemp. Acct. Res. 117, 140-41 (2002).

289 Burns et al., supra note 282, at 450, 453-54.

290 Tang & Xu, supra note 284, at 93.

291 Id. at 94-95.

292 Id. at 95.

293 Executive Compensation, supra note 21, at 580.

294 Id. at 588. Patrick Bolton et al., Pay for Short-Term Performance: Executive Compensation in Speculative Markets, 30 J. Corp. L. 721, 728 (2005) [hereinafter Pay for Short-Term Performance] (discussing the relationship of higher stock values with higher trading volumes in firms).

295 Executive Compensation, supra note 21, at 580, 598; Jensen, supra note 74, at 8-14; Michael C. Jensen et al., Remuneration: Where We've Been, How We Got Here, What are the Problems, and How to Fix Them (Harvard Bus. Sch., Harvard NOM Working Paper No. 04-28, 2004), available at http:// papers.ssrn.com/sol3/papers.cfm?abstract_id=561305; see also Stiglitz, supra note 9, at 108-09 (explaining that one of the disadvantages of high stock volatility is the greater likelihood of overvalued equity, which causes firms to "do more investment than is 'socially desirable"').

296 Christopher K. Polk & Paola Sapienza, The Stock Market and Corporate Investments: A Test of Catering Theory, 22 Rev. Fin. Stud. 187, 188, 205 (2009).

297 Executive Compensation, supra note 21, at 597-99; Bolton et al., Pay for Short-Term Performance, supra note 294, at 732-34.

298 Pay for Short-Term Performance, supra note 294, at 732 (relying on "overconfident or inattentive" investors to drive up stock prices due to earnings management); see supra note 29 (defining "dumb money").

299 Executive Compensation, supra note 21, at 597. Executive compensation packages may also align the interests of managers with current (short-term) shareholders to incentivize them to engage in earnings management. Id. at 598; see infra Parts VI, VII.C. (discussing the relevance of firm culture and compensation arrangements to short-termism).

300 Shleifer & Vishny, supra note 21, at 152. See Iman Anabtawi & Lynn Stout, Fiduciary Duties for Activist Shareholders, 60 Stan. L. Rev. 1255, 1290-92 (2008).

301 Damien J. Park & Matteo Tonello, The Role of the Board in Turbulent Times ... Avoiding Shareholder Activism 4-6 (2009), available at http:// papers.ssrn.com/sol3/papers.cfm?abstract_id=1390340; Grossman, supra note 66, at 907.

302 William W. Bratton, Hedge Fund and Governance Targets: Long-Term Results 11, 13, 17-18 (Univ. of Penn. Law Sch. Inst. for Law and Econ., Research Paper No. 10-17, 2010), available at http:// papers.ssrn.com/sol3/papers.cfm?abstract_id=1677517.

303 Gabilondo, supra note 166, at 461-62.

304 Id. at 462.

305 Shleifer & Vishny, supra note 21, at 152-53.

306 Gabilondo, supra note 166, at 486-87.

307 See Bratton, supra note 302, at 8-9 (noting additionally that the incentive profile of activist hedge funds are an "ambiguous mix of both long term and short term"). Bratton explains that, unlike other institutional investors, hedge funds limit the ability of their investors to withdraw their funds, although hedge funds are nevertheless subject to significant withdrawal pressures. Id. at 8-9. Bratton states that as long as investors have the option to exit or sell their shares they will have a conflict with the long-term interests of the corporation, regardless of how long they have held their shares in the corporation. Id. at 11-12. Short-termism, however, depends on other factors as well, such as the ability of markets to accurately reflect long-term performance, the costs of trading, and also on investment cultures. Interestingly, Bratton's statement may indicate the importance of defining long-term shareholders by portfolio characteristics as well as the duration of share ownership.

308 Id. at 9-10 (reporting that his sample of activist hedge funds yields an "average hold for two and one half years"); Alon Brav et al., Hedge Fund Activism: A Review, 4 Found. & Trends in Fin. 185, 205 (2010) (showing that "[f]ocusing on the subsample of the completed events where the information to determine the exit date is available, the median duration from the first Schedule 13D filing to divestment is 266 days" and the "average duration of investment is 376 days," but that when using an annual portfolio turnover test, the "average holding period of a position is close to two years").

309 Brav et al., supra note 308, at 207, 231-32 (indicating that a value investor considers how market price deviates from fundamental value).

310 Id. at 188, 208.

311 Id. at 207.

312 Id. at 207-08, 210.

313 Id. at 207-08.

314 Some studies find that these firms have lower leverage rates, and other studies find that they have higher leverage rates, so a conclusion cannot be drawn about this subject. Brav et al., supra note 308, at 208, 210.

315 Id. at 208-09. Target firms may have lower R & D and be more diversified than comparable firms. Id. at 208, 210-11. Lower R & D expenses may indicate that firms with less complicated businesses are targeted "in order to avoid delay in the resolution (in the market price) of the intervention's impact." Id. at 210.

316 Id. at 213 (defining "event" date as the date of filing of a Schedule 13D regarding the hedge fund activism or if no Schedule 13D is required to be filed, the first announcement of the hedge fund activism).

317 Brav et al., supra note 308, at 217 (referring to positive average-abnormal returns).

318 Id. at 222 (referring to positive average-abnormal returns).

319 Bratton, supra note 302, at 2.

320 Brav et al., supra note 308, at 222.

321 Id. at 222-25.

322 Bratton, supra note 302, at 16-17.

323 Id. at 17-18.

324 Id. at 19.

325 Id. at 18.

326 Id. at 19.

327 Brav et al., supra note 308, at 226 (finding using an additional test that bankruptcy risk did not produce statistically significant results).

328 Id. (citing H. Aslan & H. Maraachlian, The New Kids on the Block: Wealth Effects of Hedge Fund Activism on Bondholders (2009) (unpublished manuscript) (on file with the Univ. of Houston, Bauer College of Bus.)). Brav et al. conclude that shareholders do not create value by expropriating value from creditors. Id. at 230-34. In addition, they find that within two years of the hedge fund activism 18.6% of target companies delist because they are sold or for other reasons. Id. at 222-27. Average CEO turnover of (surviving) target companies increased when compared to turnover rates one year prior to the hedge fund intervention. Id. at 229. Moreover, the compensation of CEOs of target firms which was higher than their peers prior to the event year decreased to "peer levels one year after the hedge fund targeting," although pay-for-performance as a percentage of total CEO compensation increased "two years after the event year compared to the year before the event." Brav et al., supra note 308, at 229-30.

329 Grossman, supra note 66, at 912-13.

330 See infra Part V.A.

331 See infra Parts V.B-C.

332 See infra Parts V.D-E.

333 Stein, supra note 40, at 655-56.

334 Langevoort, supra note 98, at 1219-20 (discussing the role of over-optimism in financial risk taking).

335 John Cassidy, How Markets Fail: The Logic of Economic Calamities 12-13 (2009). "Rational irrationality" is another factor that causes mispricing and myopic behavior because rational conduct by an individual investor may lead to irrational results for the system as a whole. Id. at 139-50. Social consequences are not taken into account in individual decision making and systematic risks are created which ultimately damage the economy as a whole and its participants. Id.

336 See supra note 3 (discussing the dancing quotation); see also Langevoort, supra note 98, at 1224-34 (discussing the emotional components of "feeling the music"--the contagion of enthusiasm, and "dancing"--competitive arousal).

337 Keynes, supra note 3, at 156.

338 See David Kesterbaum, Ranking Cute Animals: A Stock Market Experiment, 90.9 wbur (Jan. 14, 2011), available at http:// www.wbur.org/npr/132906135/ranking-cute-animals-a-stock-market-experiment (illustrating the gap between conventional expectations of value and true preference/value).

339 Simon Grant et al., Information Externalities, Share-Price Based Incentives and Managerial Behavior, 10 J. Econ. Surveys 1, 2 (1996); Mizik, supra note 8, at 595-96; Stein, supra note 40, at 667. "Signaling" and "signal-jamming" are considered "complementary" with myopia occurring through both signaling, which provides some information to the market, and signal-jamming, which provides none. Id.

340 Merton H. Miller & Kevin Rock, Dividend Policy under Asymmetric Information, 40 J. Fin. 1031, 1040 (1985).

341 Grant et al., supra note 339, at 9-10. This weight is greater when managers have short-term time horizons due to compensation arrangements or planned retirements.

342 See supra text accompanying notes 83-86.

343 Similarly, if the positive signal to the markets is the announcement of projects with early resolution of uncertainty attached to them, then the better firm will choose projects with even earlier resolution in order to separate themselves from the firms with poorer prospects. Grant et al., supra note 339, at 10-11 (noting that projects with early resolution of uncertainty, however, are not necessarily short term projects because "certain R & D expenditures can accelerate the resolution of uncertainty about whether a future project will be a success"). Moreover, if the issuance of dividends signals the company's ability to distribute earnings, under-investment may result. Miller & Rock, supra note 340, at 1040; Stein, supra note 40, at 667. It has been observed that managers usually "put too much emphasis on activities that boost short-term performance compared to those whose benefits will be hidden." Mizik, supra note 8, at 596.

344 Mizik, supra note 8, at 596.

345 Schwarcz, supra note 39, at 226, 328 (explaining that risks of MBSs and CDSs were not taken into account in VaR computations of risk, and monoline insurance companies "did not always adequately stress-test for the scenario of rapidly falling house prices"). In addition, to compete with highly-leveraged institutions, such as hedge funds, institutions invested in risky assets in order to prevent an outflow of assets from their funds. Contributing to the decision to assume large risks was the high demand and competition for capital assets.

346 Mian & Sufi, supra note 99, at 307.

347 Id.

348 Coffee, supra note 102, at 12.

349 See supra text accompanying notes 163-67 (discussing the problems with credit ratings).

350 Taub, supra note 6, at 6.

351 Id. at 39-43.

352 Brandenburger & Polak, supra note 21, at 526-27; Grant et al., supra note 339, at 3-11; Mizik, supra note 8, at 596; Stein, supra note 40, at 664; Stewart Myers & Nicholai Majluf, Corporate Financing and Investment Decisions When Firms Have Information that Investors Do Not Have, 13 J. Fin. Econ. 187, 187-221 (1984).

353 See Henry T.C. Hu, New Financial Products, The Modern Process of Financial Innovation, and The Puzzle of Shareholder Welfare, 69 Tex. L. Rev. 1273, 1285-86 (noting the difference between actual shareholder maximization based on maximizing actual stock prices and "blissful" shareholder maximization whereby managers ignore irrational stock prices in favor of maximizing true value).

354 Grant et al., supra note 339, at 12 (noting that the lemon problem assumes that "the financial structure of the firm is important for efficiency").

355 Id. In addition, these corporations may turn to internal financing which raises liquidity issues such as whether "to keep idle funds, to choose projects that may payoff more quickly, and to centralize the allocation of capital within the firm." Id.

356 Blundell-Wignall & Atkinson, supra note 111, at 63.

357 Id.

358 The market may observe the manager's choice of investment strategy but it does not know managerial private information which cannot be effectively communicated. Therefore, the market's assessment of the choice of action reflects the market's prior knowledge of it, without the manager's private knowledge. Mizik, supra note 8, at 596.

359 Id.

360 Brandenburger & Polak, supra note 21, at 526.

361 Abhijit V. Banerjee, A Simple Model of Herd Behavior, 107 Q.J. Econ. 797, 798 (1992); Sushil Bikhchandani et al., A Theory of Fads, Fashion, Custom and Cultural Change as Informational Cascades, 100 J. Pol. Econ. 992, 994 (1992) (explaining managers' behavior with regard to other managers' behavior); Schwarcz, supra note 39, at 234 n.128. The "reasoning process that takes into account the decision of others is entirely rational even if individuals place no value on conformity for it own sake." Bikhchandani et al., supra, at 995. "Herds" or "informational cascades" exist when firms ignore their own private information on the suspicion that other executives of other corporations are more knowledgeable. Brandenburger & Polak, supra note 21, at 526. "An informational cascade occurs when it is optimal for an individual, having observed the actions of those ahead of him, to follow the behavior of the preceding individual without regard to his own information." Bikhchandani et al., supra, at 994.

362 Grant et al., supra note 339, at 17.

363 Rajan, supra note 117, at 333-34.

364 Id. at 339. "Tail" losses are viewed as having a very low probability of materializing. Rajan explains that a volatile combination is the incentive to take tail risk, herd behavior, and low interest rates. He explains:
If herd behavior moves asset prices away from fundamentals, the likelihood of large realignments--precisely the kind that trigger tail losses increases. One last ingredient can make the cocktail particularly volatile, and that is low interest rates after a period of high rates, either because of financial liberalization or because of extremely accommodative monetary policy.
Id.

365 Brandenburger & Polak, supra note 21, at 526.

366 Rajan, supra note 117, at 316.

367 Coffee, supra note 39, at 31-32.

368 Id.

369 Richard Herring & Susan Wachter, Bubbles in Real Estate Markets 8-9 (Univ. of Penn., Wharton Sch., Working Paper No. 402, 2002), available at http://realestate.wharton.upenn.edu/newsletter/bubbles.pdf. See also Nassum Nicholas Taleb, The Black Swan: The Impact of the Highly Improbable (2d ed. 2010) (discussing the tendency of persons to overestimate their knowledge of rare events and the importance of taking a least fragile risk management approach to build robustness against black swan events).

370 Herring & Wachter, supra note 369, at 8-9.

371 Id.

372 Gabilondo, supra note 166, at 504; Taub, supra note 6, at 2, 7, 20.

373 Gabilondo, supra note 166, at 510; Financial Crisis and the Role of Federal Regulators, supra note 153, at 17-18 (according to Dr. Alan Greenspan, "The whole intellectual edifice, however, collapsed in the summer of last year because the data inputted into the risk management models generally covered only the past two decades, a period of euphoria. Had instead the models been fitted more appropriately to historic periods of stress, capital requirements would have been much higher and the financial world would be in far better shape today, in my judgment."); Schwarcz, supra note 39, at 224-25 (explaining that risk of losses from RMBSs and CDSs were excluded from VaR computations of investment risk because they were viewed as having less than one percent (or in some cases five percent) likelihood of occurring "within the model's limited time frame").

374 See supra text accompanying notes 32-40 (discussing incentives and motivations for engaging in short-term behavior).

375 Lynne L. Dallas, A Preliminary Inquiry into the Responsibility of Corporations and Their Officers and Directors for Corporate Climate: the Psychology of Enron's Demise, 35 Rutgers L.J. 1, 45-55 (2003) [hereinafter Corporate Climate] (discussing energy trading culture at Enron). Moreover, overoptimism and competitive arousal supported by firm cultures contribute to misperceptions of risks as well as cultural rationalizations supporting greater risk. See Langevoort, supra note 98, at 14-16, 18-19, 22.

376 Corporate Climate, supra note 375, at 25-32, 34-40.

377 See Bratton, supra note 42, at 1278, 1285, 1288 (discussing the transformation of Enron's business from a producer and distributor of natural gas to a financial energy trading company).

378 McLean, supra note 5, at 124; see Patricia A. McCoy et al., Computerization and the ABACUS: Reputation, Trust and Fiduciary Responsibility in Investing (Oxford Univ. Centre for Corporate Reputation, Working Paper No. 10:301, 2010), available at http://www.sbs.ox.ac.uk/centres/reputation/Documents/Final%20WP%20Abacus-Morrison-Intermediaries.pdf (noting the shift in power within investment banking firms from the "advisory function" to the "trading room"); Murdock, supra note 110, at 43.

379 McLean, supra note 5, at 123-24.

380 Id. Clients became counterparties raising conflict of interest issues. Id. at 24.

381 Id. at 87 (noting that Morgan Stanley became a public company in 1986 and Goldman Sachs, "Wall Street's last private partnership," became a public company in the spring of 1999).

382 With the financial crisis, investment banks such as Morgan Stanley and Goldman Sachs have reconstituted themselves as bank holding companies, allowing them access to taxpayers' money. Id. at 126-27. Another reason for short-termism in financial firms is caused by the high job insecurity of employees at investment banking firms. Karen Ho, Liquidated: An Ethnography of Wall Street 213-48 (2009).

383 Christine Harper, Wall Street Shareholders Suffer Losses Partners Never Imagined, Bloomberg.com (Feb. 10, 2008), http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a8wXme0GUnco.

384 Blundell-Wignall & Atkinson, supra note 111, at 91.

385 Corporate Climate, supra note 375, at 47.

386 Blundell-Wignall & Atkinson, supra note 111, at 90.

387 Id. at 89, 92-93.

388 Id. at 90.

389 Id. at 93.

390 Id. at 91.

391 Blundell-Wignall & Atkinson, supra note 111, at 91 (noting resistance to balance sheet risk-weighed asset limits and a stricter funding model).

392 Rajan, supra note 117, at 334.

393 Id. at 334-37.

394 Frazzini & Lamont, supra note 29, at 300.

395 See supra note 185 and accompanying text (discussing difficulties in understanding complex financial products).

396 Rajan, supra note 117, at 337 ("These strategies have the appearance of producing very high alphas (high returns for low risk), so managers have an incentive to load up on them.").

397 Id. at 335-36 (explaining that the consequence of this fact is that new, smaller funds with more need for assets under management pursue more risky strategies and are more likely to be liquidated than more established funds).

398 Allaire & Firsirotu, supra note 225, at 4.

399 Grossman, supra note 66, at 911-12.

400 Wilmarth, supra note 3, at 1030.

401 Andrew M. Clearfield, "With Friends Like These, Who Needs Enemies?" The Structure of the Investment Industry and Its Reluctance to Exercise Governance Oversight, 13 Corp. Governance 114, 118 (2005) (discussing the short time horizons of the relatively youthful personnel in the investment industry and stating that "[t]he Investment industry tends to think in relatively short periods of time, a month or a quarter. Bonuses, and the continuance of management contracts, revolve around the year with a period of three years at most sufficient to define the longest term worth envisioning.").

402 Blundell-Wignall & Atkinson, supra note 111, at 91.

403 See supra note 39.

404 Revisitng Short-Termism, supra note 12, at 5, 7.

405 Id. at 8, 48 (noting a cultural resistance as well to expanding valuation methods to consider long-term value metrics).

406 Bogle, supra note 253, at 19, 21.

407 Id. at 20.

408 Id. at 20, 22.

409 Lynne L. Dallas, The New Managerialism and Diversity on Corporate Boards of Directors, 76 Tul. L. Rev. 1363, 1364-65, 1375-76 (2002) [hereinafter New Managerialism].

410 Id.

411 Mark L. Mitchell & J. Harold Mulherin, The Impact of Industry Shocks on Takeover and Restructuring Activity, 41 J. Fin. Econ. 193, 199 (1996).

412 The deduction limit of $1 million in compensation for executive officers did not apply to incentive-based compensation, such as stock options. I.R.C. § 162(m) (2006).

413 Mathias Benz et al., Are Stock Options the Managers' Blessing? Stock Option Compensation and Institutional Controls 6 (Univ. of Zurich, Inst. for Empirical Research in Econ., Working Paper No. 61, 2000), available at http://papers.ssrn.com/so13/papers.cfm?abstract_id=251009; New Managerialism, supra note 409, at 1379-80.

414 New Managerialism, supra note 409, at 1374 ("Institutional investor ownership in the United States had substantially increased from 15.8% in 1970 to 38% in 1981.").

415 Stock option grants rose by 683% between 1980 and 1994 with the mean option grant to the individual CEO increasing from $155,000 to $1.2 million during this period. Id. at 1378.

416 Id. at 1376 (citing Korn/Ferry Inst., 26th Annual Board of Directors Study 5 (1999)).

417 Id. at 1377-78.

418 Value Destruction, supra note 33, at 31-33, 35, 38.

419 New Managerialism, supra note 409, at 1365.

420 Id. at 1378.

421 Lawrence Mishel et al., The State of Working America 2000/01 211 (2001).

422 Kent Greenfield, Reclaiming Corporate Law in a New Gilded Age, 2 Harv. L. & Pol'y Rev. 1, 12 (2009).

423 Revisiting Short-Termism, supra note 12, at 13.

424 Larry Ribstein, Market vs. Regulatory Responses to Corporate Fraud: A Critique of the Sarbanes-Oxley Act of 2002, 28 J. Corp. L. 1, 9 (2002) (describing a "new breed of corporate executives ... who are hyper-motivated survivors of a highly competitive tournament" and who have "the proven ability to make money while putting on a veneer of loyalty to the firm"). But see Iman Anabtawi, Explaining Pay Without Performance: The Tournament Alternative, 54 Emory L.J. 1557, 1590-91 (2005) (explaining some positive benefits of tournaments in firms).

425 Multiple Roles of Corporate Boards, supra note 71, at 816-17; Kathleen M. Eisenhardt & L.J. Bourgeois III, Politic of Strategic Decision Making in High-Velocity Environments: Toward a Midrange Theory, 31 Acad. Mgmt. J. 737, 743, 756-59 (1988).

426 Corporate Climate, supra note 375, at 36-37, 47-49.

427 Lynne L. Dallas, Presentation at New York Law School Corporate Governance Conference on Boards of Directors 9-10 (Apr. 13, 2007) (on file with author) (describing the decline in inside directors on corporate board from five in 1973 to two in 2006).

428 Id. (reporting that from 2001 to 2006 there was a decrease in Fortune 500 companies having executive committees, with only 46% having such committees in 2006).

429 Dual Board, supra note 71, at 114-30.

430 Multiple Roles of Corporate Boards, supra note 71, at 817 (internal quotation from Jonathan P. Charkham, Keeping Good Company: A Study of Corporate Governance in Five Countries 361 (1994)) (noting that the microcomputer industry study found that "politics is characterized by behind-the-scenes coalition formation, office lobbying, cooptative attempts, withholding information, and the controlling of agendas").

431 Dual Board, supra note 71, at 122-24, 138.

432 Id. at 104-11; New Managerialism, supra note 409, at 1401-02; Marleen O'Connor, The Enron Board: The Perils of GroupThink, 71 Cinn. L. Rev. 1233, 1233-42 (2003).

433 New Managerialism, supra note 409, at 1401; Dual Board, supra note 71, at 107.

434 New Managerialism, supra note 409, at 1401-02.

435 Id. at 1396, 1401-03.

436 See supra text accompanying notes 163-67 (explaining problems with financial models used by credit rating agencies for determining ratings of securities).

437 Revisiting Short-Termism, supra note 12, at 29.

438 Id.

439 Enhanced Business Reporting Consortium Releases Framework to Promote Greater Transparency in Corporate Reporting, The Free Library, Oct. 18, 2005, http:// www.thefreelibrary.com/Enhanced+Business+Reporting+Consortium+Releases+Framework+ to +Promote...-a0137677132 [hereinafter Enhanced Business Reporting Consortium Framework].

440 Baruch Lev, Intangibles: Management, Measurement and Reporting 100, 127, 178 (2001).

441 Lessons Learned from Enron's Collapse: Auditing the Accounting Industry: Hearing Before the Committee on Energy and Commerce, 107th Cong. 96, 103-05 (2002) (prepared statement of Baruch Lev, Philip Bardes Professor of Accounting and Finance, Stern School of Business, New York University) [hereinafter Lessons Learned from Enron's Collapse], available at http:// republicans.energycommerce.house.gov/107/action/107-83.pdf.

442 Id. at 103.

443 See supra Part III (revisiting the financial crisis); Blundell-Wignall & Atkinson, supra note 111, at 87 (describing how substantial assets, mainly mortgages, were not consolidated on Citi's balance sheet); Hsu & Moroz, supra note 99, at 55 (noting informational problems during the financial crisis because of hidden bank exposures to toxic assets).

444 Lessons Learned from Enron's Collapse, supra note 441, at 104.

445 Disclosure in Management's Discussion and Analysis about Off-Balance Sheet Arrangements and Aggregate Contractual Obligations, Exchange Act Release No. 34-47,264, 68 Fed. Reg. 5982 (Jan. 28, 2003).

446 See The Role of the Accounting Profession in Preventing Another Financial Crisis: Hearing Before the Subcomm. on Sec., Ins., and Inv. of the S. Comm. on Banking, Housing, and Urban Affairs, 112th Cong. 8 (2011) (statement of James L. Kroeker, Chief Accountant, SEC) (noting the importance of learning from the financial crisis to improve auditing and accounting standards); Office of the Chief Accountant, SEC, Report and Recommendations Pursuant to Section 401(c) of the Sarbanes-Oxley Act of 2002 On Arrangements with Off-Balance Sheet Implications, Special Purpose Entities, and Transparency of Filings by Issuer (2005), available at http://www.sec.gov/news/studies/soxoffbalancerpt.pdf (concluding regarding the rules put in place after Enron that “the quality of the issuer disclosures provided in the off-balance sheet section of MD&A [Management's Discussion and Analysis] can and should be improved”); Fin. Acct. Standards Bd., Statement of Financial Accounting Standards No. 166: Accounting for Transfers of Financial Assets, an Amendment of FASB Statement No. 140 (2009), available at http://www.fasb.org/cs/BlobServer? blobcol=urldata&blobtable=MungoBlobs&blobkey= id&blobwhere=1175820927331&blobheader=application%2Fpdf (eliminating accounting for the transfer of mortgage securitizations as a sale when the transferor is exposed to risk regarding the transferred assets because of continuing involvement with such assets); Fin. Accounting Standards Bd., Statement of Financial Accounting Standards No. 167: Amendments to FASB Interpretation No. 46(R) (2009), available at www.fasb.org/cs/BlobServer? blobcol=urldata&blobtable=MungoBlobs&blobkey= id&blobwhere=1175820928961&blobheader=application%2Fpdf; Jose Gabilondo, Financial Moral Panic! Sarbanes-Oxley, Financier Folk Devils, and Off-Balance Sheet Arrangements, 36 Seton Hall L. Rev. 781, 831-35 (2006) (explaining that after

Enron, a relatively weak disclosure standard was adopted for off-balance sheet transactions which granted "broad leeway" to firms regarding such disclosures); Marie Leone, Expect More Securitization Disclosure Soon, CFO (Nov. 24, 2008), http:// www.cfo.com/article.cfm/12671413/c_12667974?f=TodayInFinance_Inside (stating that "off-balance sheet losses were fingered as one of the culprits that exacerbated the credit crisis"); Floyd Norris, Why Surprises Still Lurk After Enron, N.Y. Times, Feb. 29, 2008, http://www.nytimes.com/2008/02/29/business/29norris.html?dlbk (noting the need for greater transparency regarding off-balance sheet transactions).

447 Lessons Learned from Enron's Collapse, supra note 441, at 104.

448 Lessons Learned from Enron's Collapse: Auditing the Accounting Industry: Hearing Before the Committee on Energy and Commerce, 107th Cong. 166 (2002) (letter from Baruch Lev to Representative W.J. Billy Tauzin, Chairman, Committee on Energy and Commerce, U.S. House of Representatives (Mar. 4, 2002)) [hereinafter Baruch Lev Letter], available at http://republicans.energycommerce.house.gov/107/action/107-83.pdf.

449 Revisiting Short-Termism, supra note 12, at 29. In addition, financial analysts need to value and develop methods for evaluating long-term performance which take into account environmental, social and governmental (ESG) factors. Some asset owners and asset managers are supporting the Enhanced Analytics Initiative to support research on such methods of valuation in an effort to decrease the focus of asset managers on short-term price movements and overcome cultural resistance to doing so. Id. at 34-37, 40. Tonello described a study of young analysts which found that they were uninformed about ESG factors and resistant to learning about them. Id. at 40.

450 Baruch Lev Letter, supra note 448, at 166.

451 Lessons Learned from Enron's Collapse, supra note 441, at 105.

452 See infra Parts VII.A.2.c-B.1.a (discussing informational and structural regulatory measures concerning derivative transactions).

453 Such conceptual frameworks include Economic Value Added (EVA), Cash Flow Return on Investment, and the Balanced Scorecard and Enhanced Business Reporting (EBR). Revisitng Short-Termism, supra note 12, at 30, 32-33, 40 (citing Robert S. Kaplan & David P. Norton, The Balanced Scorecard (1996)); Robert S. Kaplan & David P. Norton, The Balanced Scorecard: Measures That Drive Performance, Harv. Bus. Rev., July-Aug. 2005, at 71-73 (1992).

454 Revisiting Short-Termism, supra note 12, at 33 (citing Enhanced Business Reporting Consortium Framework, supra note 439).

455 Breaking the Short-Term Cycle, supra note 7, at 2; U.S. Chamber of Commerce, Commission on the Regulation of the U.S. Capital Markets in the 21st Century: Report and Recommendations 74-75 (2007), available at www.uschamber.com/sites/default/files/reports/0703capmarkets_full.pdf.

456 Cheng et al., supra note 32, at 1. In contrast, some commentators have opposed firms stopping quarterly earnings guidance by pointing to the benefits of voluntary disclosure that include increased liquidity, "reduced informational asymmetry, lowered cost of capital and lowered stock volatility." Id.

457 One study supports the view that stopping earnings guidance may have positive effects. It found that dedicated guiders (those who provide frequent quarterly earnings guidance) "meet or beat analyst consensus earnings forecasts more frequently [than occasional guiders] and ... manage expectations downward and cut R&D [research and development] expenditures to achieve this goal." Id. at 20. It also found that dedicated guiders "invest significantly less" in R&D than occasional guiders and that they have "long-term growth rates" that are "significantly lower than those of occasional guiders." Id. at 1. In contrast, another study, examining firms that actually stopped earnings guidance, found that these firms decreased total long-term capital expenditures and R&D after the stoppage, although it found "tentative evidence of an R&D increase for a subsample of firms." Joel F. Houston et al., To Guide or Not to Guide? Causes and Consequences of Stopping Quarterly Earnings Guidance, 27 Contemp. Acct. Res. 143, 145-46, 172, 179 (2010). This study also found that firms that stopped issuing quarterly earnings guidance did not increase their disclosure of forward-looking disclosures as some had predicted, but curtailed it, and that analyst coverage decreased, resulting in an increase in forecast errors by analysts. Id. at 179. Thus, voluntary stoppage of quarterly guidance did not result in voluntary provision of other types of

information. This study found that the major reason for the stoppage of earnings guidance was poor firm performance; other reasons were a "change in management philosophy, low frequency of guidance by the industry peers and difficulty in predicting earnings." Id.

458 Houston et al., supra note 457, at 178-80.

459 Rappaport, supra note 7, at 70-72 (explaining that his Statement would not entirely replace the traditional cash flow statement which would include cash flows from financing activities).

460 Id. at 69.

461 Id. at 70.

462 Id.

463 Id. at 70-73.

464 Rappaport, supra note 7, at 72.

465 Id.

466 Id. See Schwarcz, supra note 39, at 238-39 (explaining how abstraction and simplifications "can introduce significant uncertainty").

467 Rappaport, supra note 7, at 72.

468 NYSE Report, supra note 225, at 4-5.

469 Id.

470 See supra Part V.A (describing firm behavior in a prisoner's dilemma context).

471 Short-Term Borrowing Disclosure, Exchange Act Release No. 34-62,932, 75 Fed. Reg. 59,866, 59,866-68 (Sept. 28, 2010).

472 See supra text accompanying notes 83-86 (explaining the pattern of banks closing out transactions just before the end of quarters to obscure debt amounts).

473 Short-Term Borrowing Disclosure, Exchange Act Release No. 34-62,932, 75 Fed. Reg. at 59,869.

474 Taub, supra note 6, at 1-3.

475 Securities Act of 1933 § 11, 15 U.S.C. § 77(k) (2002). But see Schwarcz, supra note 39, at 220-22 (arguing that the problem was not disclosure, because the risks of these securities were disclosed; it was the complexity of these securities and the large amount of information disclosed about them which made the risks associated with them very difficult to understand).

476 Asset-Backed Securities, Exchange Act Release No. 34-61,858, 75 Fed. Reg. 23,328, 23,330, 23,332 (Apr. 7, 2010).

477 Breaking the Short-Term Cycle, supra note 7, at 2, 17.

478 See supra Parts IV.B-C.1 (discussing the effects of competition among asset managers and the inability of such managers, on average, to beat the market); Bogle, supra note 253, at 26.

479 Henry T.C. Hu, The New Portfolio Society, SEC Mutual Fund Disclosure, and the Public Corporation Model, 60 Bus. Law. 1303, 1326 (2005); Jeff Schwartz, Reconceptualizing Investment Management Regulation, 16 Geo. Mason L. Rev. 521, 546-47 (2009). Investors are merely told in mutual fund prospectuses that portfolio turnover "costs, which are not reflected in annual operating expenses or in the example, affect the Fund's performance." SEC, Form N-1A, at Item 3 (expires Apr. 30, 2013) [hereinafter Form N-1A], available at http://www.sec.gov/about/forms/formn-1a.pdf. To obtain information on brokerage commissions, investors must specifically request the SAI (Statement of Additional Information) from the mutual fund. Id.

480 Form N-1A, supra note 479, at Item 3. Troubling is the increase in the "average equity fund expense ratios, weighed by fund assets" since 1960. Bogle, supra note 253, at 20 (reporting an increase in the ratio from 0.5% in 1960 to .99% in 2010, an increase of 86% taking into account kinds of funds that did not exist in 1960).

481 Schwartz, supra note 479, at 546-47; Jason Karceski et al., Portfolio Transaction Costs at U.S. Equity Mutual Funds, Floattypepad.com, http://thefloat.typepad.com/the_float/files/2004_zag_study_on_mutual_fund_ trading_costs.pdf (last visited Dec. 16, 2011) (finding that investors in equity mutual funds bear substantial trading costs of which they are unaware).

482 Hu, supra note 479, at 1326.

483 Schwartz, supra note 479, at 571. In addition, changes in mutual fund disclosure obligations have been proposed by Professors Henry Hu and Jeff Schwartz regarding the performance of mutual funds. Hu, supra note 479, at 1314-15, 1317-18; Schwartz, supra note 479, at 545-46, 572-73. Bar charts on past performance of mutual fund that are required in prospectuses are problematic. As previously noted, past performance is not a very good indicator of future performance. See supra notes 217-18 (providing information on the negative consequences of switching funds); Hu, supra note 479, at 1314. While mutual funds are required to state that past performance "is not necessarily an indication of how the Funds will perform in the future," the bar chart makes information on past performance particularly salient to the investor. Schwartz, supra note 479, at 546.

484 Stout, supra note 223, at 674-75.

485 Warren Buffet on Derivatives, FinTools.com, http:// www.fintools.com/docs/Warren%20Buffet%C20***o***n%20Derivatives.pdf (last visited Dec. 16, 2011) (edited excerpt from Berkshire Hathaway 2002 Annual Report).

486 See supra text accompanying notes 163-65.

487 See supra note 166.

488 See supra note 167.

489 Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 931, 124 Stat. 1376, 1872-83 (2010).

490 Id. § 932.

491 Id.

492 Id.

493 Id.The SEC has proposed new rules to implement Section 932 of the Dodd-Frank Act. Proposed Rules for Nationally Recognized Statistical Rating Organizations, Exchange Act Release No. 34-64,514, 76 Fed. Reg. 33,420 (June 8, 2011).

494 94. Dodd-Frank Act § 932.

495 See supra text accompanying notes 154-56 (discussing lax underwriting standards preceding the financial crisis). The new proposed SEC rules would require a due diligence provider to file a written certification on Form ABS Due Diligence-15E, setting forth its findings and conclusions. Proposed Rules for Nationally Recognized Statistical Rating Organizations, Exchange Act Release No. 34-64,514, 76 Fed. Reg. at 33,466.

496 Dodd-Frank Act § 933(b).

497 Id.

498 Securities Act of 1933 § 11, 15 U.S.C. § 77k (2002). Other provisions relating to liability have also been adopted which are intended to make credit rating agencies more accountable for their ratings. Dodd-Frank Act §§ 932(a), 933, 939G; Murdock, supra note 110, at 52-53.

499 Michelle Welsh & Renee Jones, Enforcing Directors' Duties in Australia: A Model for U.S. Corporate Governance? (unpublished manuscript) (on file with author).

500 Partnoy, supra note 134, at 84-88.

501 Dodd-Frank Act § 931.

502 See, e.g., Compuware Corp. v. Moody's Investors Serv., Inc., 499 F.3d 520, 526 (6th Cir. 2006) (holding that credit ratings are opinions and the standard for recovery is "actual malice," that is, proof "that defendant made the statement with knowledge of its falsity or with reckless disregard of its truth"); Jefferson Cnty. Sch. Dist. No. R-1 v. Moody's Investor's Serv., Inc., 175 F.3d 848, 856 (10th Cir. 1999) (holding that an article evaluating refunding bonds issued by the school district was protected speech); Abu Dhabi Commercial Bank v. Morgan Stanley & Co., 651 F. Supp. 2d 155, 176, 188 (S.D.N.Y. 2009) (holding that First Amendment protections were not applicable to ratings made to only a select group of investors rather than the general public, thus removing them from public concern); Cnty. of Orange v. McGraw-Hill Cos., 245 B.R. 151, 156 (C.D. Cal. 1999) (holding that ratings are a matter of public concern and are, therefore, entitled to heightened protection under the actual malice standard absent special circumstances). See Coffee, supra note 102, at 27; Murdock, supra note 110, at 51; Partnoy, supra note 134, at 84-88 (discussing the First Amendment claims of RAs).

503 In addition, Section 939G of the Dodd-Frank Act has been unsuccessful in imposing a reasonableness standard on RAs in public offerings of asset-backed securities (ABSs). Dodd-Frank Act § 939G. Section 939G repealed Rule 436(g) under the Securities Act of 1933. Rule 436(g) had granted to RAs an exemption from the due diligence standards of the Securities Act of 1933 by exempting them from the status of an "expert" when their ratings were used in the registration statement of an issuer of ABSs. Because of liability concerns, the major RAs refused to consent to the use of their ratings in ABS registration statements, which resulted in freezing new ABS issues because ratings were required to be disclosed in ABS registration statements under Items 1103(a)(9) and 1120 of Regulation AB. Brady Willett, Rating Agencies Hold SEC Hostage, Fin. Sense (July 23, 2010), http:// www.financialsense.com/contributors/brady-willett/rating-agencies-hold-sec-hostage; Gretchen Morgenson, Hey, S.E.C., That Escape Hatch Is Still Open, N.Y. Times, Mar. 5, 2011, at BU1. Subsequently, the SEC issued no-action letters that essentially permitted issuers to omit ratings in ABS registration statements. SEC, Response of the Office of Chief Counsel, Division of Corporation Finance (Nov. 23, 2010), available at http:// www.sec.gov/divisions/corpfin/cf-noaction/2010/ford072210-1120.htm (SEC no-action letter to Ford Motor Credit Company, LLC.).

504 See infra Section VII.B.1.b. (discussing alternatives to an issuer-pay model).

505 See supra text accompanying notes 152-67 (discussing the decline of underwriting and credit rating standards that contributed to the financial crisis).

506 See supra text accompanying notes 106-10, 122-35, 145-48 (describing the supbprime mortgages securitization process).

507 Coffee, supra note 102, at 11-12.

508 See supra text accompanying notes 150-51 (detailing the retention of significant residual risk exposure by financial firms to mortgage-related securities).

509 See supra text accompanying notes 106, 145-48, 160 (providing information on the substantial fees earned by participants in the securitization process).

510 See supra text accompanying notes 4, 188-94 (providing information on the benefits to financial firms' officers and the damage to these firms from short-termism).

511 Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 941(b), 124 Stat. 1376, 1891 (2010); SEC, Agencies Seek Public Comment on Risk Retention Proposal (Mar. 31, 2011) [hereinafter SEC Release on Risk Retention], available at www.sec.gov/news/press/2011/2011-79.htm. Professor Schwarcz recommends a skin-in-the-game rule to counter the moral hazard problem associated with the originate-to-distribute model, although he recognizes a mutual-misinformation problem when both underwriters and investors fail to understand fully the risks of the complex securities. Schwarcz, supra note 39, at 257-58. Professor

Schwarcz also notes that banks in buying loan participation interests require the originator to retain "typically at least ten percent" of the loan exposure in contrast to five percent under the Dodd-Frank Act. Steven L. Schwarcz, Protecting Financial Markets: Lessons From the Subprime Mortgage Meltdown, 93 Minn. L. Rev. 373, 389 (2008).

512 Dodd-Frank Act § 941(b).

513 Id.

514 Id. § 943(2); see Disclosure for Asset-Backed Securities Required by Section 943 of the Dodd-Frank Wall Street Reform and Consumer Protection Act, Exchange Act No. 34-63,741, 76 Fed. Reg. 4489 (Jan. 20, 2011) (explaining the SEC's new rules relating to the disclosure of fulfilled and unfulfilled repurchase requests).

515 Dodd-Frank Act § 941(b); see Disclosure for Asset-Backed Securities Required by Section 943 of the Dodd-Frank Wall Street Reform and Consumer Protection Act, Exchange Act Release No. 34-63,029, 75 Fed. Reg. 62,718 (Oct. 13, 2010); Schwarcz, supra note 511, at 388-89 (noting the limitations of representations and warranties).

516 Asset-Backed Securities, Exchange Act Release No. 34-61,858, 75 Fed. Reg. 23,328, 23,330 n.28, 23,393 (Apr. 7, 2010).

517 The SEC is directed to require an issuer of an asset-backed security "(1) to perform a review of the assets underlying the asset-backed security; and (2) to disclose the nature of the review under paragraph (1)" in the publicly-filed registration statement. Dodd-Frank Act § 945.

518 Asset-Backed Securities, Exchange Act Release No. 34-61,858, 75 Fed. Reg. at 23,330, 23,332.

519 Id. at 23,395.

520 Dodd-Frank Act § 945.

521 Id. § 942(b).

522 Securities Act of 1933 § 11, 15 U.S.C. 77k (2002).

523 Sarra, supra note 55, at 9.

524 Id. at 9-10. Professor Schwarcz notes, however, that contingent liabilities are already required to be disclosed by generally accepted accounting principles and under the Sarbanes-Oxley Act of 2002. Therefore, a disclosure approach may be "inadequate to address the uncertainty and information failures caused by credit derivatives." Schwarcz, supra note 39, at 243-44. See Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, § 401(j), 116 Stat. 745, 786 (2002) (regarding the disclosure of contingent obligations).

525 Frank Partnoy & David A. Skeel, Jr., The Promise and Perils of Credit Derivative, 75 U. Cin. L. Rev. 1019, 1047 (2007); Sarra, supra note 55, at 10.

526 Sarra, supra note 55, at 10.

527 Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 731, 124 Stat. 1376, 1708 (2010). In addition, they are required to disclose material conflicts of interest and any other information that the Commission deems appropriate. Responding to the possible inability of parties to meet their obligations as counterparties under the CDS, the SEC has proposed rules which would replace the creditworthiness of original counterparties with the credit worthiness of a central counterparty, a central clearing agency. Extension of Temporary Exemptions for Eligible Credit Default Swaps to Facilitate Operation of Central Counterparties to Clear and Settle Credit Default Swaps, Exchange Act Release No. 34-64,800, 75 Fed. Reg. 72,660 (Nov. 26, 2010). See also Letter from Barry D. Miller, Assoc. Dir. of Office of Legal and Disclosure, SEC, to Karrie McMillan, Gen. Counsel, Inv. Co. Inst. 6 (July 30, 2010), available at http:// www.sec.gov/divisions/investment/guidance/ici073010.pdf (opining on the importance of disclosures by mutual funds and other investment companies regarding the identity of counterparties to forward currency and swap contracts due to the "risk of nonperformance of the counterparty").

528 Dodd-Frank Act § 731. In addition, the Commission has authority to promulgate additional rules. The Commission or prudential regulator may require the disclosure of this information in confidence.

529 Id. § 731(e).

530 See infra notes 601-06 and accompanying text (discussing reservations about the effectiveness of capital requirements applicable to banks).

531 Dodd-Frank Act § 719(b). Standardized contract terms should not be determined exclusively by major market participants. Sarra, supra note 55, at 4-5.

532 SEC & U.S. Commodity Futures Trading Comm'n, Joint Study on the Feasibility of Mandating Algorithmic Descriptions for Derivatives 1 (Apr. 7, 2011), available at www.sec.gov/news/studies/2011/719b-study.pdf.

533 Id. at 1, 23 (noting the need to resolve three issues: "a universal entity identifier and product or instrument identifiers, a further analysis of the costs and benefits of having all aspects of legal documents related to derivatives represented electronically, and a uniform way to represent financial terms not covered by existing definitions").

534 See infra Part VII.B.1.a (discussing regulations regarding standardized derivatives and position limits).

535 Sarra, supra note 55. See Blair, supra note 115, at 248 (stating that "market participants were using derivatives not so much to offset other risks but to place bets"); Thomas Lee Hazen, Disparate Regulatory Schemes for Parallel Activities: Securities Regulation, Derivatives Regulation, Gambling, and Insurance, 24 Ann. Rev. Banking & Fin. L. 375, 377-82 (2005) (analogizing speculative derivative transactions to gambling).

536 Sarra, supra note 55, at 2.

537 A bona fide hedging transaction is defined under Dodd-Frank Act § 737(c) as a position that
(A)(i) represents a substitute for transactions made or to be made or positions taken or to be taken at a later time in a physical marketing channel;
(ii) is economically appropriate to the reduction of risks in the conduct and management of a commercial enterprise; and
(iii) arises from the potential change in the value of--
(I) assets that a person owns, produces, manufactures, processes, or merchandises or anticipates owning, producing, manufacturing, processing, or merchandising;
(II) liabilities that a person owns or anticipates incurring; or
(III) services that a person provides, purchases, or anticipates providing or purchasing; or
(B) reduces risks attendant to a position resulting from a swap that--
(i) was executed opposite a counterparty for which the transaction would qualify as a bona fide hedging transaction pursuant to subparagraph (A); or
(ii) meets the requirements of subparagraph (A).
Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 737(c), 124 Stat. 1376, 1725 (2010).

538 Id. § 737.

539 Id. § 730.

540 Id. § 737.

541 Id.

542 The CFTC has proposed rules regarding position limits for certain physical commodity futures, options contracts, and physical commodity swaps. Position Limits for Derivatives, 76 Fed. Reg. 4752 (Jan. 26, 2011).

543 Dodd-Frank Act § 719(a). See Reports and Studies, U.S. Commodity Futures Trading Commission, http:// www.cftc.gov/ LawRegulation/DoddFrankAct/ReportsandStudies/index.htm (last visited Dec. 16, 2011) (providing information on studies conducted under the Dodd-Frank Act).

544 Dodd-Frank Act § 719(a). While international standards of conduct could support the prohibition of speculative derivative trading or the imposition of position limits, the Dodd-Frank Act's provision for a study on international swap regulation falls short. It does not direct attention to these important issues but is intended to collect information on the regulation of swaps in other jurisdictions.

545 Dodd-Frank Act §§ 723, 733. See Registration and Regulation of Security-Based Swap Execution Facilities, Exchange Act Release No. 34-63,825, 76 Fed. Reg. 10,948 (Feb. 2, 2011) (proposing regulations for security-based swap execution facilities).

546 Regulation SBSR-Reporting and Dissemination of Security-Based Swap Information, Exchange Act Release No. 34-63,346, 75 Fed. Reg. 75,208, 75,215 (Dec. 2, 2010).

547 Dodd-Frank Act § 727.

548 Conversation with Professor Janis Sarra, Univ. British Colum. (Feb. 7, 2011).

549 Katy Burne, Derivatives Rules Seen Lifting Cost of Swaps, Wall St. J., Nov. 22, 2010, http:// online.wsj.com/article/ SB10001424052748704170404575625071140314; Matthew Goldstein, Derivatives and the Blizzard of Paperwork, Bloomberg Bus. Wk., May 15, 2009, http://www.businessweek.com/investing/wall_street_news_ blog/archives/2009/05/derivatives_and.html; Hearing to Review the Role of Credit Derivatives in the U.S. Economy: Hearings Before the H. Comm. on Agric., 110th Cong. 73 (2008) (statement of Patrick M. Parkinson, Deputy Dir., Div. Of Research and Statistics, Bd. of Governors of the Fed. Res. Sys.), available at http://agriculture.house.gov/testimony/110/110-49.pdf.

550 Sarra, supra note 55, at 8. See infra Part VII.B.2.a (discussing the securities transaction tax).

551 Dodd-Frank Act § 719(b). Standardized contract terms should not be determined exclusively by major market participants. Sarra, supra note 55, at 4-5.

552 John (Xuefeng) Jiang et al., Does It Matter Who Pays for Bond Ratings? Historical Evidence, J. Fin. Econ. (forthcoming) (manuscript at 4 n.1), available at http://papers.ssrn.com/so13/papers.cfm?abstract_ id=1683495 (reporting that "[a]ccording to Moody's 2008 annual report, 32% of Moody's revenues in 2008 are from structured finance ($405m), exceeding revenues from corporate finance ($307m), public finance ($230m) and financial institutions ($263m)"); Partnoy, supra note 134, at 64-65.

553 Coffee, supra note 102, at 9.

554 See supra text accompanying notes 153, 159-67 (explaining the policies and practices of credit rating agencies during this period which resulted in lowered standards for credit ratings).

555 Staff of the Office of Compliance Inspections and Examinations Div. of Trading and Markets and Office of Econ. Analysis, SEC, Summary Report of Issues Identified in the Commission Staff's Examinations of Select Credit Rating Agencies 12 (2008) [hereinafter SEC Staff Report on Credit Rating Agencies], available at http:// www.sec.gov/news/studies/2008/craexamination070808.pdf.

556 Id.

557 Jiang et al., supra note 552, at 2-3.

558 Id. at 3.

559 Id. at 4-5.

560 Bo Becker & Todd T. Milbourn, How Did Increased Competition Affect Credit Ratings? 4 (Harvard Bus. Sch., Working Paper No. 09-051, 2010), available at http://www.hbs.edu/research/pdf/09-051.pdf.

561 Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, §§ 939D, 939F, 124 Stat. 1376, 1886, 1886-87 (2010); see Solicitation of Comments to Assist on Assigned Credit Ratings, Exchange Act Release No. 34-64,456, 76 Fed. Reg. 28,265 (May 16, 2011); Press Release, SEC, SEC Seeks Public Comment to Assist in Study on Assigned Credit Ratings (May 10, 2011), available at http://www.sec.gov/news/press/2011/2011-108.htm (noting that by July 21, 2012, the "SEC is required to submit the findings of the study to Congress along with any recommendations for regulatory or statutory changes that the Commission determines should be made").

562 Dodd-Frank Act § 939F.

563 Coffee, supra note 102, at 34.

564 Id. at 37-38.

565 Id. at 35.

566 Partnoy, supra note 134, at 74-76, 80.

567 Mark J. Flannery et al., Credit Default Swap Spreads as Viable Substitutes for Credit Ratings, 158 U. Pa. L. Rev. 2085, 2086-89 (2010) (showing that CDS spreads did not expose accumulating risk exposures prior to the financial crisis (before 2007) but more quickly disclosed information than credit ratings beginning in the summer of 2007).

568 Matthew Karnitschnig et al., U.S. to Take Over AIG in $85 Billion Bailout; Central Banks Inject Cash as Credit Dries Up, Wall St. J., Sept.16, 2008, http://online.wsj.com/articles/SB122156561931242905.html.

569 Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 932(a)(4), 124 Stat. 1376, 1872-83 (2010). For proposed rules dealing with conflicts of interests relating to sales and marketing, see Proposed Rules for Nationally Recognized Statistical Rating Organizations, Exchange Act Release No. 34-64,514, 76 Fed. Reg. 33,420, 33,425-27 (June 8, 2011).

570 SEC Staff Report on Credit Rating Agencies, supra note 555, at 62.

571 Dodd-Frank Act § 932. For proposed rules on employee transition requiring a look-back review, see Proposed Rules for Nationally Recognized Statistical Rating Organizations, Exchange Act Release No. 34-64,514, 76 Fed. Reg. at 33,429.

572 Proposed Rules for Nationally Recognized Statistical Rating Organizations, Exchange Act Release No. 34-64,514, 76 Fed. Reg. at 33,429. For proposed rules on RA internal controls, see id. at 33,421.

573 Dodd-Frank Act § 932.

574 Dodd-Frank Act § 939C(b); see Proposed Rules for Nationally Recognized Statistical Rating Organizations, Exchange Act Release No. 34-64,514, 76 Fed. Reg. at 33,462 (proposing rule regarding disclosure of ancillary services to purchasers of credit ratings); Amendments to Rules for Nationally Recognized Statistical Rating Orgnizations, Exchange Act Release No. 34-59,342, 74 Fed. Reg. 6456, 6481 (Feb. 9, 2009) (discussing amendments to Rule 17g-5 regarding consulting services); Implementing Dodd-Frank Wall Street Reform and Consumer Protection Act--Upcoming Activity, SEC.gov, http:// www.sec.gov/spotlight/dodd-frank/dfactivity-upcoming.shtml (last visited Dec. 16, 2011).

575 Dodd-Frank Act § 932.

576 Proposed Rules for Nationally Recognized Statistical Rating Organizations, Exchange Act Release No. 34-64,514, 76 Fed. Reg. at 33,513-15 (discussing proposed rules relating to sales and marketing).

577 See supra Part III (exploring the factors leading to the financial crisis).

578 Pouncy, supra note 185, at 586. There is uncertainty or unknowable risks in areas of importance such as the economy. Even in such situations, there is the advisability of avoiding financial fragility due to high leverage, opaque interdependence among market participants, and unduly complex financial products. But see Schwarcz, supra note 39, at 240, 242-43 (expressing concern that

regulators could not keep up with the development of complex derivative products and that they may ban beneficial transactions while acknowledging that complex financial products create uncertainty and pose risk to the economy). It is important, however, to acknowledge limits to disclosure for complex financial products. Many of these products are not understood by the sophisticated investor and are essentially "disclosure-impaired" transactions. Schwarcz, supra note 56, at 8. Regarding such transactions, Professor Schwarcz recommends that regulations go beyond disclosure to prohibit participants from having material conflicts of interests regarding such transactions. Id. at 30. Such a rule would go part of the way to alleviate the problems found in problematic transactions engaged in by Goldman Sachs and other investment banks. U.S. Senate Permanent Subcommittee on Investigations, Wall Street and The Financial Crisis: Anatomy of a Financial Collapse: Majority and Minority Staff Report 318-639 (Apr. 13, 2011), available at http:// hsgac.senate.gov/public/_files/Financial_Crisis/FinancialCrisisReport.pdf. Alternatively, in view of the substantial danger that derivatives pose for the economy, consideration should be given to prohibiting derivatives that do not have standardized descriptions. See supra Part VII.B.1.a (regarding such proposal).

579 Dodd-Frank Act § 121.

580 Id. § 120(a).

581 Id. § 120 (emphasis supplied).

582 Id. § 1011.

583 Id. § 1031; Carey Alexander, Abusive: Financial Reform Section 1031 and the Continuing Struggle to Protect Consumers (St. John's Univ. Sch. of Law, Legal Studies Research Paper No. 10-193, 2010), available at http:// papers.ssrn.com/so13/papers.cfm?abstract_id=1719600 (recommending that the Bureau adopt an expansive definition of "abusive" acts or practices to protect consumers).

584 Dodd-Frank Act § 1032.

585 Id. § 1411. Consideration of additional requirements is desirable. Professor Timothy Canova points out the importance of various credit controls to regulate the economy in addition to the provisions mentioned above and in addition to monetary measures. Timothy Canova, Financial Market Failure as a Crisis in the Rule of Law: From Market Fundamentalism to a New Keynesian Regulatory Model, 3 Harv. L. & Pol'y Rev. 369, 376 (2009). Professor Canova explains how stock margin requirements and down-payment requirements on the purchase of real estate were important credit controls put in place after the Great Depression of 1930 to prevent another recession. Id. at 374-76. Deregulation in the 1970s, however, swept away these protections even though a down payment requirement would have prevented the financial crisis. Id. at 376. Professor Canova concludes that dismantling selective credit control in favor of general monetary measures to manipulate short-term interest rates fueled the financial crisis. Id. at 376-77. Professor Schwarcz agrees that a minimum real-estate-value-to-loan requirement would "protect against a repeat of the subprime mortgage problem," but points to the high cost of this approach in terms of the cost of home ownership and monitoring costs of lenders and government regulators. Schwarcz, supra note 511, at 390.

586 Vincent DiLorenzo, The Federal Financial Consumer Protection Agency: A New Era of Protection or More of the Same? 64 (St. John's Univ. Sch. of Law, Legal Studies Research Paper No. 10-0182, 2010), available at http:// papers.ssrn.com/so13/papers.cfm?abstract_id=1674016.

587 Dodd-Frank Act § 1411. Some refinancings are exempt from the ability-to-pay provision. The exemption, however, is subject to a number of conditions, including that the refinanced loan may not have a higher principal payment than the original loan and that the interest rate of the refinanced loan be lower than that of the original loan (although the latter condition does not apply to the refinancing of an adjustable rate loan into a fixed rate loan). In addition, the creditor is limited in assessing fees and points in order to qualify for the exemption. Id.

588 Id. § 1403.

589 Wilmarth, supra note 3, at 1037-43.

590 See supra Part IV.A (discussing the Minsky financial instability theory).

591 Dodd-Frank Act § 113(a)(1).

592 Id. § 113(a)(2). The Council may recommend to the Federal Reserve prudential regulations for these nonbank financial firms and also "large, interconnected bank holding companies" that are "more stringent" than those applicable to other financial firms. Id. §§ 115(a)(1)(A), 165(a)(1)(A). The Council, acting through the Office of Financial Research, may also require the designated firms to submit certified reports on their operations and on matters that bear on their ability to disrupt financial markets. Id. § 116(a). In addition, the FRB, on determination by a two-thirds vote that a designated financial firm "poses a grave threat to the financial stability of the United States," may limit the ability of such firm to engage in a merger or acquisition, restrict the ability of the firm to offer a financial product, or require the firm to terminate one or more activities. Id. § 121. The Council may also recommend to primary financial regulatory agencies of other bank holding companies and nonbank finance companies, regulations of activities or practices that "could create or increase the risk of significant liquidity, credit, or other problems" spreading among financial firms and markets. Dodd-Frank Act § 120. Such recommendations must "take costs to long-term economic growth into account" and "may include prescribing the conduct of the activity or practice in specific ways ... or prohibiting the activity or practice." Id.

593 Jennifer S. Taub, supra note 61. See Addressing the Need for Comprehensive Regulatory Reform: Hearing to Review Proposals for Federal Financial System Regulatory Reform to Mitigate Future Financial System Systemic Risk Before the H. Comm. on Fin. Serv., 111th Cong. 6, 7 (2009) (statement of Timothy F. Geithner, U.S. Secretary of Treasury) (stating that "[f]inancial products and institutions should be regulated for the economic functions they provide and the risks they present, not the legal form they take").

594 Davis Polk, Summary of the Dodd-Frank Wall Street Reform and Consumer Protection Act, Enacted into Law on July 21, 2010 50-51 (July 21, 2010), available at http://www.davispolk.com/files/Publication/efb94428-9911-4472-b5dd-006e9c6185bb/Presentation/PublicationAttachment/efd835f6-2014-4a48-832d-00aa2a4e3fdd/070910_Financial_Reform_Summary.pdf.

595 Dodd-Frank Act §§ 102(a)(4)(B), 102(a)(6), 113 (applying only to firms with 85% or more of revenues from financial activities). Jane D'Aristqa, The Vitter Amendment Breaches the Banking/Commerce Barrier, Huffington Post (May 17, 2010), http://www.huffingtonpost.com/safer/the-vitter-amendment-brea_ b_578804.html?view=print (noting that GMAC "was one of the largest mortgage lenders before the crisis and received $12.5 billion in TARP capital," and that GE Capital's "lending activities were larger than those of all but the biggest banks" with "$620 billion in assets at year-end 2007").

596 Dodd-Frank Act §§ 401-416, 767.

597 Michael P. Malloy, Banking Law and Regulation 37-39, 156-57 (2d ed. 2011) (describing the fragmented regulatory structure with "overlapping lines of authority and regulatory interests"); Addressing the Need for Comprehensive Regulatory Reform: Hearing to Review Proposals for Federal Financial System Regulatory Reform to Mitigate Future Financial System Systemic Risk Before the H. Comm. on Fin. Serv., 111th Cong. 6, 7-8, 10 (2009) (statement of Timothy F. Geithner, U.S. Secretary of Treasury) (referring to the problem of regulatory arbitrage and bureaucratic conflict).

598 The Dodd-Frank Act requires that the FRB adopt various safety and prudential regulations for the designated nonbank financial firms and also bank holding companies with consolidated assets equal or greater than $50 billion. Dodd-Frank Act § 165(c)(2)(A).

599 Murdock, supra note 110, at 42. The FRB has substantial discretion to promulgate appropriate rules and has the authority to exempt designated firms from risk-based capital and leverage standards. Dodd-Frank Act § 165 (b)(1)(A)(i). In addition, certain matters such as requirements for contingent capital (the inclusion of trust preferred capital instruments as Tier 1 capital) await further study.

600 Its authority also includes the establishment of liquidity requirements, overall risk management requirements, resolution plan and credit exposure report requirements, and concentration of credit exposure limits. It may also establish standards that include a contingent capital requirement, enhanced public disclosures, short-term debt limits, and other appropriate requirements. Dodd-Frank Act § 165(b)(1)(A)-(B).

601 Arthur E. Wilmarth, Jr., The Dodd-Frank Act: A Flawed and Inadequate Response to the Too-Big-to-Fail Problem, 89 Or. L. Rev. 951, 1009-11 (2011). Some scholars have proposed for added protection a "market liquidity provider of last resort." E.g., Schwarcz, supra note 39, at 247-56. As envisioned by Professor Schwarcz, this market liquidity provider would not prevent a crisis, but would limit its extent when the crisis is exacerbated by panic and market prices are declining below the true worth of assets. Id. at 252, 263.

602 Wilmarth, supra note 601, at 1011-12 (discussing the regulatory capture of financial regulatory agencies by large financial institutions); Blair, supra note 115, at 291-95 (discussing the power and influence of the financial sector due to its financial contributions to political candidates and lobbying (the Money Channel) and the revolving door between Wall Street and the White House, Congress, and regulatory agencies (the People Channel)).

603 Press Release, Bank for International Settlements, Group of Governors and Heads of Supervision Announces Higher Global Minimum Capital Standards (Sept. 12, 2010), available at http://www.bis.org/press/p100912.pdf.

604 See Wilmarth, supra note 3, at 1009-11 (noting the incentives of bank managers to delay recognition of depreciating assets).

605 See supra Part IV.A (discussing Minky's financial instability theory).

606 In addition, some scholars have argued that capitalization ratios are too low and that too little attention is being given to short-term debt. See generally Jennifer Taub, Let's Put the “Capital” Back into Capitalism, TheParetoCommons (Jan. 24, 2011), http://www.theparetocommons.com/2011/01/lets-put-the-capital-back-into-capitalism/ (arguing for the adoptions of higher capital requirements); Taub, supra note 61. For a discussion of how short-term debt and low capitalization ratios contributed to the financial crisis, see supra text accompanying notes 174-80, 203-04. See Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 165(g), 124 Stat. 1376, 1429 (2010) (regarding short-term debt for certain financial institution).

607 Jeffrey D. Bauman et al., Corporations Law and Policy Materials and Problems 133-34 (2010).

608 Anat R. Admati et al., Fallacies, Irrelevant Facts, and Myths in the Discussion of Capital Regulation: Why Bank Equity is Not Expensive 20-21 (Mar. 23, 2011) (unpublished manuscript), available at http:// gsbapps.stanford.edu/researchpapers/library/RP2065R1&86.pdf (arguing that tax policies should neutralize tax subsidies for debt).

609 The SEC may wish to consider whether its focus on assuring fair access to traders to colocation facilities is misplaced when short-termism is the issue, although fair access would most likely diminish the ability of traders to take advantage of having prior access to information by milliseconds. Concept Release on Equity Market Structure, Exchange Act Release No. 34-61,358, 75 Fed. Reg. 3594, 3610 (Jan. 21, 2010). In addition, the SEC may wish to abandon its concern about decreasing the transaction costs of trades which merely encourages more short-term trading.

610 Malcolm S. Salter, Lawful But Corrupt: Gaming and the Problem of Institutional Corruption in the Private Sector 29 (Harvard Bus. Sch., Research Paper No. 11-060, 2010), available at http://papers.ssrn.com/so13/papers.cfm? abtract_id=1726004.

611 Keynes, supra note 3, at 160.

612 See generally Stiglitz, supra note 9 (advocating the use of tax policy to restrain speculative short-term trading); Summers & Summers, supra note 39.

613 Stout, supra note 223, at 634-35.

614 Id. at 699-700.

615 See supra Part III (discussing the contribution of derivative transactions to the financial crisis).

616 Stiglitz, supra note 9, at 105-06. For the definition of a noise trader, see supra note 215. But see Paul G. Mahoney, Is There A Cure for “Excessive” Trading?, 81 Va. L. Rev. 713, 725-26, 728-29 (1995) (noting that caution is necessary in assessing the noise trader approach and expressing concern that curbing trading may unduly injure rational, value-adding trading).

617 Stiglitz, supra note 9, at 104-06.

618 Id. at 110-12; see supra notes 265-68 (discussing the contributions of short-term trading to market volatility). But see Duruigbo, supra note 16, at 134-35 (explaining that a securities transfer tax may not decrease volatility).

619 Summers & Summers, supra note 39, at 268.

620 Bogle, supra note 253, at 25.

621 Overcoming Short-Termism, supra note 12, at 3.

622 Theresa A. Gabaldon, John Law, With A Tulip, in the South Seas: Gambling and the Regulation of Euphoric Market Transactions, 26 J. Corp. L. 225, 241-48, 281 (2001) (analyzing the similarities of short-term trading to gambling and proposing increased capital gains taxes on short-term trading); Salter, supra note 610, at 29-30 (suggesting a change in focus on tax effects from receipts and jobs to its effect on the "time horizons of decision makers in the corporate and financial sectors"); Overcoming Short-Termism, supra note 12, at 3 (recommending additionally an excise tax to "discourage excessive share trading and encourage longer-term share ownership"). See generally William K.S. Wang & Marc I. Steinberg, Insider Trading 2.3.1 n.76 (1997) (providing references regarding increasing capital gains taxes on short-term trading).

623 Bogle, supra note 253, at 25.

624 G. William Schwert & Paul J. Seguin, Securities Transaction Taxes: An Overview of Costs, Benefits and Unresolved Questions, 49 Fin. Analysts J. 27 (1993).

625 Summers & Summers, supra note 39, at 263.

626 Id.; EU assembly backs euro zone bank transaction tax, Reuters, Mar. 8, 2011, http://www.reuters.com/article/2011/03/08/eu-banks-tax-idUSLDE7260LI20110308.

627 Investment Companies Act of 1940, 15 U.S.C. §80a-22 (e) (2000).

628 Schwartz, supra note 479, at 564-65.

629 Id.

630 See supra Part IV.D (providing information on the possible use of nonfinancial firms as short-term arbitrage opportunities).

631 See Michelle M. Harner, Corporate Control and the Need for Meaningful Board Accountability, 94 Minn. L. Rev. 541, 557 (2010) (noting the role of creditors of distressed corporations in imposing short-term behavior on such corporations; recommending the application of the fairness test to board decisions regarding transactions which provide unique benefits to such activist stakeholders).

632 E.g., Dual Board, supra note 71, at 138-42.

633 Id. at 138-43.

634 E.g., E. Jacobs et al., The Approach to Industrial Change in Britain and Germany 117-20 (1978) (explaining that the approach of German firms to major corporate changes was to engage in long-term personnel planning, which may include providing early retirements for some employees, halting the recruitment of new employees, and redeploying existing employees in other parts of the organization, in contrast to the approach of firms in Great Britain which fired employees outright on massive scales).

635 See supra notes 193-94.

636 See generally Stephen M. Bainbridge, Director Primacy and Shareholder Disempowerment, 119 Harv. L. Rev. 1735 (2006); Stephen M. Bainbridge, Director Primacy in Corporate Takeovers, 31 Del. J. Corp. L. 769 (2006).

637 Millon, supra note 33, at 913-17 (arguing that liberating directors from accountability to shareholders is unlikely to decrease excessive executive compensation); Murdock, supra note 110, at 39 (noting that "directors have not distinguished themselves in building accountability into compensation systems," which, he claims, may be due to the fact that executives of other companies often serve on boards of directors).

638 William W. Bratton & Michael L. Wachter, The Case Against Shareholder Empowerment, 158 U. Pa. L. Rev. 653, 654 (2010) (stating that "management bears primary responsibility for the disastrous results"); George W. Dent, Academics in Wonderland: The Team

Production and Director Primacy Models of Corporate Governance, 44 Hous. L. Rev. 1213, 1238 (2008) (arguing that it may be managers with inappropriate compensation incentives and directors who cause managerial myopia rather than the shareholders).

639 Another method to deal with shareholders using firms as a short-term arbitrage opportunities is to impose a fiduciary duty on activist shareholder when a transaction provides a unique benefit to the activist shareholder. Anabtawi & Stout, supra note 300, at 1294-302. Another method is to impose a duty of fairness on directors for such transactions. Harner, supra note 631, at 588-94.

640 Additionally, certain self-regulatory organizations such as the NYSE would have to modify their rules regarding time phased voting. See infra note 653 (providing information on the rules of self-regulatory organizations).

641 Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 971, 124 Stat. 1376, 1915 (2010); Facilitating Shareholder Director Nominations, Exchange Act Release No. 34-62,764, 75 Fed. Reg. 56,668, 56,670 (Sept. 16, 2010).

642 Dodd-Frank Act § 971; Facilitating Shareholder Director Nominations, Exchange Act Release No. 34-62,764, 75 Fed. Reg. at 56,668, 56,669-740. See Business Roundtable v. SEC, 647 F.3d 1144 (D.C. Cir. 2011) (vacating the proxy access rules for SEC failure to consider properly the rule's effect on efficiency, competition and capital formation).

643 Dodd-Frank Act § 951; Shareholder Approval of Executive Compensation and Golden Parachute Compensation, Exchange Act Release No. 34-62,768, 75 Fed. Reg. 66,590 (Oct. 28, 2010).

644 The shareholders that are at the heart of this debate are the institutional shareholders. These shareholders include banks, insurance companies, investment companies, pensions, endowments, and hedge funds. Institutional shareholders have come to dominate the U.S. stock markets. Institutional ownership of shares has increased from 7% in 1950 to over 51% by the end of 2004. Chen et al., supra note 285, at 280; Steven A. Rosenblum, Proxy Reform, Takeovers, and the Corporate Control: The Need for a New Orientation, 17 J. Corp. L. 185, 191 (1991); Robert G. Vanecko, Regulation 14A and 13D and the Role of Institutional Investors in Corporate Governance, 87 Nw. U. L. Rev. 376, 379 (1992); Revisiting Short-Termism, supra note 12, at 14 (recording that institutional equity holdings constituted 59.2% of such holdings in 2003). The increase in institutional ownership was initially welcomed by most commentators as a potentially positive development for corporate governance. It was believed that the sophistication and access to information of institutional shareholders had the potential to provide effective monitoring of managers. While various drawbacks of institutional ownership were recognized, much attention was given to examining the legal and other kinds of barriers that might hinder their active participation in corporate governance with a view to removing some of these barriers. See generally Bernard S. Black, Shareholder Passivity Reexamined, 89 Mich. L. Rev. 520 (1990); Alfred F. Conard, Beyond Managerialism: Investor Capitalism?, 22 U. Mich. J.L. Ref. 117 (1988). See also John H. Matheson & Brent A. Olson, Corporate Law and the Longterm Shareholder Model of Corporate Governance, 76 Minn. L. Rev. 1313, 1369-70, 1371-72 (1992) (arguing in favor of greater voting rights for institutional investors to create “an environment in which it is desirable to be a longterm shareholder”). More recently, questions have been raised about whether the participation in corporate governance of institutional shareholders has in fact been positive. It is believed that their participation may tie corporations too closely to financial markets with the effect of encouraging short-term thinking on the part of managers to the detriment of the public. E.g., Bratton & Wachter, supra note 638, at 653 (claiming that “[i]n the years preceding the financial crisis, shareholders validated the strategies of the very financial firms that pursued high leverage, high return, and high risk strategies”); Lawrence E. Mitchell, The Legitimate Rights of Public Shareholders, 66 Wash. & Lee L. Rev. 1635, 1667-70 (2010) (arguing that public shareholders “distort the behavior of corporate managers who place strong emphasis on stock price at the expense of long-term business health, a fact that has played some role in the current global financial debacle”).

645 Bratton & Wachter, supra note 638, at 158.

646 Mitchell, supra note 644, at 1635, 1640 n.16 (arguing that “shareholders' rights should, ideally, be eliminated, and certainly not expanded or enhanced”); but see Millon, supra note 33, at 914-17 (expressing skepticism that eliminating shareholder voting would “remove significant external pressure on management” to pursue stock price maximization).

647 See supra Part IV.C.2.b (noting the empowerment of long-term shareholders diminishes the conflict between future and current (short-term) shareholders which some scholars believe leads to earnings management).

648 Facilitating Shareholder Director Nominations, Exchange Act Release No. 34-62,764, 75 Fed. Reg. 56,668, 56,688-96 (Sept. 16, 2010).

649 Overcoming Short-Termism, supra note 12, at 3 (recommending minimum holding periods and time-based vesting in return for increased shareholder participation rights).

650 See supra Part IV.C.2 (discussing studies on the relationship between short-term trading and earnings management).

651 Id. See Emeka Duruigbo, Stimulating Long-Term Shareholding 22-29 (Oct. 5, 2011) (unpublished manuscript), available at http:// ssrn.com/abstract=1939502 (explaining the benefits of patient capital).

652 See supra note 642.

653 State law currently permits directors to adopt recapitalization plans for their corporations designed to facilitate long-term corporate planning. Williams v. Geier, 671 A.2d 1368, 1372, 1375 (Del. 1996) (upholding a recapitalization plan under the business judgment rule that provided ten votes per share, but on transfer the shares would have a single vote per share until they were owned for three years by the same shareholder). Listing standards of nationally recognized self-regulatory organizations, such as the NYSE, however, need to be changed to permit time phased voting. NYSE, Listed Company Manual § 313(A) (2011), available at http:// nysemanual.nyse.com/LCMTools/PlatformViewer.asp?selectednode=chp_1_4&manual=%2Flcm%C2Fsections %®lcm-sections%2F (providing that "[v]oting rights of existing shareholders of publicly-traded common stock registered under Section 12 of the Exchange Act cannot be disparately reduced or restricted through any corporate action or issuance" such as through time-phased voting). Changes to allow time-phased voting require attention to issues in addition to short-termism, such as their impact on takeovers, managerial entrenchment, and shareholder democracy. E.g., George W. Dent, Jr., The Essential Unity of Shareholders and the Myth of Investor Short-Termism, 35 Del. J. Corp. L. 97, 115 n.70 (2010) (expressing concern that higher voting stock winds up in the hands of insiders); Henry T.C. Hu & Bernard Black, Empty Voting and Hidden (Morphable) Ownership: Taxomy, Implications, and Reform, 61 Bus. Law. 1011, 1060 (2006) (noting the insider entrenchment effect of time phased voting); Jonathan Shub, Share Holder Rights Plans--Do They Render Shareholders Defenseless Against Their Own Management?, 12 Del. J. Corp. L. 991 (1987). Regarding the concern for shareholder democracy, it is possible to avoid nonvoting common stock by providing that all shares have one vote per share but that shares held for say two or three years would have more votes per share. With respect to tender offers, time phased voting would "dramatically increase the number of shares an offeror must acquire to achieve immediate control." Stephen M. Bainbridge, The Short Life and Resurrection of SEC Rule 19e-4, 69 Wash. U. L. Q. 565, 574 (1991). Nevertheless, control changes are possible through proxy contests, requiring raiders to persuade long-term shareholders that their plans for the company are in the long-term interests of the corporation. Because long-term shareholders under this Article's proposal are required to unwind their holdings over a period of years, they are less likely than short-term shareholders to approve short-term transactions. In addition, the kind of time phased voting plan proposed in this Article does not contemplate a dual stock capitalization structure where insiders become entrenched over time through their control of a class of stock with higher voting rights. Id.

654 See generally Henry T.C. Hu & Bernard Black, Equity and Debt Decoupling and Empty Voting II: Importance and Extensions, 156 U. Pa. L. Rev. 625 (2008); Henry T.C. Hu & Bernard Black, The New Vote Buying: Empty Voting And Hidden (Morphable) Ownership, 79 Cal. L. Rev. 811 (2006); Shaun Martin & Frank Partnoy, Encumbered Shares, 2005 U. Ill. L. Rev. 775; Overcoming Short-Termism, supra note 12, at 5.

655 Latham & Watkins LLP, M & D Deal Commentary, "Empty Voting" and Other Fault Lines Undermining Shareholder Democracy: The New Hunting Ground for Hedge Funds (Apr. 2007), available at http://www.lw.com/upload/pubContent/_ pdf/ pub1878_1.Commentary.Empty.Voting.pdf (noting that "time-phased voting would change the economics of most, if not all, 'empty voting' structures by making them more expensive").

656 Corporate Climate, supra note 375, at 8-11.

657 Id. at 25-32.

658 Id. at 3-32.

659 Tim Barnett & Elizabeth Schubert, Perceptions of the Ethical Work Climate and Covenantal Relationships, 36 J. Bus. Ethics 279, 280 (2002).

660 Id. at 288.

661 Id.

662 Corporate Climate, supra note 375, at 31-32. See Ho, supra note 382, at 213-48 (describing substantial job insecurity at financial firms contributing to selfishness and short-termism).

663 Corporate Climate, supra note 375, at 36. The Dodd-Frank Act's requirement that firms disclose the ratio of CEO pay to median employee pay may moderate the self-interest of senior executives by broadening their concerns to encompass other stakeholders. Dodd-Frank Wall Street Reform and Consumer Act, Pub. L. No. 111-203, § 953, 124 Stat. 1376, 1903-04 (2010).

664 Corporate Climate, supra note 375, at 36-37, 47-49; Multiple Roles of Corporate Boards, supra note 71, at 816-18.

665 See supra text accompanying notes 429-35 (discussing the dual board structure and the benefits of diverse perspectives on corporate boards). The dual board structure would allow more executives to participate on one of the boards (the business review board) along with outside directors; independent directors would serve on the other board, the conflicts board. Dual Board, supra note 71, at 122. Diverse perspectives diminish the polarization phenomena in groups which may result in more risk taking. New Managerialism, supra note 409, at 1401-02.

666 Dodd-Frank Act § 165(h). The Dodd-Frank Act provides for a risk committee for nonbank financial firms supervised by the Board of Governors of the Federal Reserve and large bank holding companies. The committee is to consist of a number of independent directors, as determined by the Board of Governors, and contain at least one risk management expert who has experience "identifying, assessing, and managing risk exposures of large, complex firms." Id. The SEC has also encouraged appropriate risk management policies through disclosure regulation and employment compensation arrangements. Proxy Disclosure Enhancements, Exchange Act Release No. 34-61175, 74 Fed. Reg. 68,334 (Dec. 23, 2009); see infra Part VII.C.2 (discussing discouraging excessive risk taking through compensation arrangements). Methods to improve risk management include suggestions to counter over-optimism and the confirmation bias; the confirmation bias occurs when individuals tend to perceive information as confirming their preexisting positions. Michelle M. Harner, Barriers to Effective Risk Management, 40 Seton Hall L. Rev. 1323, 1359-64 (2010) (recommending decreasing these biases through such methods as training to increase awareness of cognitive biases, establishing acceptable risk exposure levels with rigorous procedures for changing such levels, and hiring outside consultants to "model potential risks and to role play" risk decision making scenarios).

667 Martin Lipton & Steven A. Rosenblum, A New System of Corporate Governance: The Quinquennial Election of Directors, 58 U. Chi. L. Rev. 187, 229 (1991). The proposal to elect boards of directors every five years would most likely diminish accountability to the long-term shareholders as well as to short-term shareholders.

668 Grossman, supra note 66, at 961. See also Keith L. Johnson, Reclaiming Forgotten Fiduciary Duty Fundamentals, Network for Sustainable Fin. Markets (Mar. 21, 2011), available at www.sustainablefinancialmarkets.net/wp-content/uploads/2011/03/NSFM-ICPM-Reclaiming-Fiduciary-Duty-21-March-2011.pdf (joint project of James Hawley, Ed Waitzer & Keith Johnson) (exploring the importance of the fiduciary duty of loyalty and impartiality to strengthen the sustainability of pensions).

669 Grossman, supra note 66, at 948.

670 Id. at 964-65.

671 Dallas, supra note 26, at 211.

672 Id. at 257.

673 For example, the Dodd-Frank Act grants the SEC the authority to provide for a fiduciary duty that retail brokers and dealers would owe when providing personalized investment advice to a retail customer. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 913, 124 Stat. 1376, 1824-30 (2010). See supra note 67.

674 See supra text accompanying notes 32-40.

675 Incentive-Based Compensation Arrangements, 76 Fed. Reg. 21,170, 21,179 (Apr. 14, 2011); Bolton et al., Pay for Short-Term Performance, supra note 294, at 743.

676 Incentive-Based Compensation Arrangements, 76 Fed. Reg. at 21,179.

677 Clawback arrangements are advisable to discourage earnings management. Walker, supra note 69, at 439 n.22, 468. Congress has provided for the clawback of compensation of executive officers, first under the Sarbanes-Oxley Act of 2002, which was passed in response to the financial scandals of the early 2000s and more recently under the Dodd-Frank Act. See Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, § 304, 116 Stat 745, 778 (2002); Dodd-Frank Act § 954; Steven L. Schwarcz, Conflicts and Financial Collapse: The Problem of Secondary-Management Agency Costs, 26 Yale J. on Reg. 457, 465 (2009) (recommending clawbacks).

678 Bin Ke, Do Equity-Based Incentives Induce CEOs to Manage Earnings to Report Strings of Consecutive Earnings Increases? 2, 34 (Feb. 22, 2004) (unpublished manuscript), available at http://ssrn.com/abstract=446540 (finding "CEOs with high equity-based incentives are more likely to manage earnings to report longer earnings strings" and this effect is stronger for firms "whose stock prices are very sensitive to accounting earnings").

679 Corporate Climate, supra note 375, at 39.

680 Sanjai Bhagat & Roberta Romano, Reforming Executive Compensation: Focusing and Committing to the Long-Term, 26 Yale J. on Reg. 359, 361, 363, 366-67, 371-72 (2009) (advocating the requirement that TARP recipients, and possibly financial firms with liabilities guaranteed by the Federal Deposit Insurance Corp., provide incentive compensation to executives only in the form of restricted stock or restricted options that may be sold or exercised two to four years after termination of employment); Richard A Posner, Are American CEOs Overpaid, And If So, What if Anything Should Be Done About It?, 58 Duke L.J. 1013, 1045-46 (2009) (proposing that a percentage of executive compensation be in the form of restricted stock which could not be sold for a number of years).

681 Bhagat & Romano, supra note 680, at 363.

682 Rappaport, supra note 7, at 73.

683 Id. (recommending managers hold "meaningful equity stakes" in their company to induce appropriate risk taking). See Walker, supra note 69, at 443 (explaining that there are externalities to compensation arrangements that affect employees, suppliers, communities, and taxpayers, imposing costs on them that are not imposed on the parties to the contract, that is, the shareholders and managers).

684 Bhagat & Romano, supra note 680, at 363, 465-66 (stating that "[m]anagers with longer horizons will, we think, be less likely to engage in imprudent business or financial strategies or short-term earnings manipulation when the ability to exit before the problem comes to light is greatly diminished").

685 Cf. Rappaport, supra note 7, at 73 (discussing how "[r]elatively short vesting periods coupled with the belief that earnings fuel stock prices encourage executives to manage earnings, exercise their options early, and cash out shares opportunistically").

686 Id. See also Lucian A. Bebchuk & Jesse M. Fried, Paying for the Long-Term Performance, 158 U. Pa. L. Rev. 1915, 1924-33 (2010) (recommending additional provisions regarding unwinding of stock ownership by executives prior to and after retirement).

687 Kevin J. Murphy, Politics, Economics and Executive Compensation, 63 U. Cin. L. Rev. 713, 739 (1995).

688 Robert Huebscher, John Bogle on Leadership, Asset Allocation, and the Outlook for 2009, Advisor Perspectives (Dec. 23, 2008), http:// www.advisorperspectives.com/pdfs/John_Bogle_on_Leadership_Asset_Allocation_and_ the_Outlook_for_2009.pdf; John C. Bogle, The Executive Compensation System is Broken, 30 J. Corp. L. 761, 764 (2005).

689 Walker, supra note 69, at 441-42.

690 Id. at 27. See Incentive-Based Compensation Arrangements, 76 Fed. Reg. 21,170, 21,180 (Apr. 14, 2011) (proposing that financial institutions with more than $50 billion or more in total consolidated assets defer at least 50% of an executive's incentive-based compensation that may vest over a three-year period but at no faster a rate than a pro rata equal annual distribution rate and that the covered institution adjust the deferred amount to account for actual losses or other aspects of performance as they are realized during the period).

691 Walker, supra note 69, at 438.

692 Bhagat & Romano, supra note 680, at 367-69; Walker, supra note 69, at 437-38, 458-60.

693 David M. Schizer, Executives and Hedging: The Fragile Legal Foundations of Incentive Compatibility, 100 Colum. L. Rev. 440 (2000); Walker, supra note 69, at 437-38, 458-60. See Bhagat & Romano, supra note 680, at 367-68 (recommending prohibitions on derivative transactions for executives subject to TARP regulations).

694 Lucian A. Bebchuk & Holger Spamann, Regulating Bankers' Pay, 98 Geo. L.J. 247, 251-53 (2010). Cf. John C. Coffee, Jr., Bail-Ins Versus Bail-Outs: Using Capital to Mitigate Systemic Risk (Oct. 22, 2010) (unpublished manuscript), available at http://ssrn.com/abstract=1675015 (recommending contingent capital converting into preferred stock with voting rights at the point of insolvency to discipline common shareholders).

695 Bebchuk et al., supra note 4, at 259-60.

696 Id.

697 Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 956(b), 124 Stat. 1376, 1905 (2010).

698 Id. § 955.

699 Id. § 954. In addition, the Dodd-Frank Act focuses on matters that have less direct relevance to short-termism involving the process for determining executive compensation and disclosure rules. The Dodd-Frank Act has provisions requiring a shareholder advisory vote on executive compensation and golden parachute provisions. Id. § 951. The Act also provides for the independence of directors on board compensation committees of listed companies and rules for the appointment of compensation consultants and legal counsel by the committee. Id. § 952. In addition, the Act requires disclosure of information to Federal regulators concerning the structure of incentive-based compensation to enable them to determine whether compensation is excessive or could lead to material financial loss to the regulated financial institution. Dodd-Frank Act § 956(a). The Act also contains disclosure rules focusing on the relationship between executive compensation actually paid and the financial performance of the firm and, additionally, disclosure of the ratio of CEO pay to median employee pay. Id. § 953.