ADDRESSING THE INCOMPLETE CONCEPTUALIZATION AND OPERATIONALIZATION OF THE ZONE OF INSOLVENCY

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Abstract

The zone of insolvency adds to the uncertainty of directors and officers who face dramatically deteriorating corporate financial conditions. The complication posed by the multiple, non-operationalized definitions of zone of insolvency affects company stakeholders by the resulting damage to the company's decision processes and increases in transaction costs. This paper reviews recent case law decisions involving zone of insolvency, identifies directors' and officers' fiduciary duties owed to stakeholders as the company operates in the zone, and proffers an approach to improving the operational definition of zone of insolvency that can help clarify the leadership priorities of a financially troubled firm.

Outline

I. The Problematic Zone of Insolvency

The courts have defined four major financial conditions a company may experience as it deteriorates from solvency to bankruptcy.[1] In the first condition, the company is solvent,[2] where its current assets exceed its current liabilities.[3] A solvent company should have cash reserves, annual surpluses, minimal levels of debt, and be able to invest in its future operations. The second condition, zone of insolvency, includes a financially distressed company with deteriorating fiscal conditions such as minimal cash reserves, only marginal surpluses, increasing debt, and an inability to invest in future operations.[4] In the third condition, insolvency, the worsening of company's economic conditions causes the company to become insolvent as determined by the Bankruptcy Code[5] or case law.[6] In the fourth condition, bankruptcy, the company either voluntarily files for bankruptcy or is involuntarily pulled into bankruptcy by its creditors.

The fiduciary duties[7] that directors and officers owe to shareholders, creditors, and corporation are linked by the courts to each financial condition.[8] These fiduciary duties consist of care, loyalty, and good faith,[9] and must be carried out at all times.[10] Directors and officers owe these duties to the parties regardless of the company's size, industry, and period of existence.[11] Table 1 provides a summary of the laws that identify the parties to whom directors and officers owe their fiduciary duties, and how these parties change in priority depending on the financial condition of the company.

Cases regarding breaches of duty of care have generally accreted nonfeasance, where directors and officers failed to supervise or monitor, or misfeasance, where an improper decision was made.[12] The duty of care requires the director to be attentive and informed about all material facts prior to taking action on a matter.[13] A director must act in good faith and is held to the standard of care that an ordinary prudent director would exercise under similar circumstances.[14]

The nature and extent of reasonable depends on the type of corporation, its size, and its financial resources.[15] However, as a general rule, the director should possess at least a rudimentary understanding of the business and become

familiar with fundamentals of business operations and the competitive situation in which the corporation is engaged.[16] Although directors are not required to audit corporate books, they should maintain familiarity with the financial status of the corporation by a regular review of financial statements.[17] The courts believe that if a director does not have the sufficient business knowledge experience required to perform the job, the director should either acquire the knowledge by inquiry or refuse to act.[18] The duty of care also extends to protection of corporation and shareholders from perceived harm, whether threats originates from third parties or other shareholders.[19] The duty of care ensures that the directors fulfill their function of monitoring management.[20]

The duty of loyalty becomes relevant when there is a conflict between the interests of the fiduciary and the entity to which he owes loyalty.[21] The duty of loyalty requires an undivided and unselfish loyalty to the corporation, and demands that there shall be no conflict between the duty and self-interest.[22] In *Meinhard v. Salmon*, Judge Cardozo described the duty of loyalty between fiduciaries as "something stricter than the morals of the market place," and honesty.[23] The duty of loyalty suggests that interests of the corporation and shareholders must take precedence over any personal interests of corporations' directors or officers. This duty prevents directors and officers from usurping corporate opportunity,[24] competing with the corporation, voting on corporate opportunities where director has personal interest, profiting from inside information, assigning them excessive compensation,[25] or committing in waste with corporate funds.[26]

Directors and officers are considered "interested" if they make personal profit from a transaction by dealing with corporation, transact business with a second corporation of which they are also director or officer or are substantially associated, or transact corporate business in their capacity with a family member.[27] There is a violation of fiduciary duty when directors and officers deliberately misinform shareholders about company's business directly or via a public statement.[28]

The obligation to act in good faith is a component of the duties of loyalty and care.[29] Several courts recognized that the duty of good faith and the duty of loyalty are identical.[30] The duty of good faith requires directors and officers to act at all times with honesty of purpose and in the best interests and welfare of the corporation.[31] The duty of good faith requires all actions to be of "true faithfulness and devotion" to the corporation and shareholder's interest.[32] The act of a fiduciary constitutes a breach of good faith when the purpose is other than advancing corporation's best interest, when the intent is to violate the law, or when the intent is to violate or consciously disregard a duty.[33]

While the corporation is solvent, the director and officers owe fiduciary duties only to the corporation and its shareholders.[34] When the corporation becomes insolvent, the fiduciary duties of directors and officers switch to cover the company's creditors.[35] When the company moves into bankruptcy, the directors' and officers' fiduciary duties switch back and are once again owed to the corporation, creditors, and shareholders,[36] with the goal to maximize the bankruptcy estate.[37]

Financial deterioration for a corporation is often is a gradual process and the courts have elected not to declare a "magic dividing line" between solvency and insolvency[38] that would clarify when the recipients of the fiduciary duties of directors' and officers' switch in type or priority.[39] Instead, the transition between solvency and insolvency, called the zone of insolvency, is a quantitatively and operationally undefined period when insolvency is a suspected outcome of continuing operations.[40]

The case *Credit Lyonnais Bank Nederland, N.V. v. Pathe Communs. Corp* recognized that directors' duties of a solvent corporation operating near insolvency must also encompass the interests of creditors.[41] Creditors have viewed and applied *Credit Lyonnais* decision as a means to scrutinize directors' and officers' actions and decisions during the zone of insolvency period.[42] The recent court holdings in *N. Am. Catholic Educ. Programming Found., Inc. v. Gheewalla*, *Berg & Berg Enterprises, LLC v. Boyle*, and *Torch Liquidating Trust v. Stockstill* support this view by limiting the fiduciary duties that directors and officers owe to creditors when the corporation operates in the zone of insolvency. However, these latest court decisions leave numerous unanswered legal questions, making the zone of insolvency a topic subject to future litigation.

Each financial condition exposes corporation's directors and officers to lawsuits from dissatisfied shareholders, investors, creditors, and regulatory bodies.[43] In 2008, over 16 percent of 2,599 companies reported claims relating to director and officer liability in the preceding decade,[44] and approximately 26 percent of company executives believed that it was likely that their company would experience some type of director and officer lawsuit in the near future.[45]

However, the zone of insolvency and bankruptcy conditions are particularly litigious because the potential financial losses during these periods are especially large. The 2007-2009 recession in the U.S. produced severe forms of these two conditions. According to Administrative Office of the U.S. Courts, there were 43,546 bankruptcy filings involving business debts in 2008, a 54 percent increase over the prior year.[46] The filings during a 12-month period ending in September 30, 2009, report 58,721 business bankruptcies, which is a 51 percent increase over the same period prior year.[47] Consequently, the economic recession and a significant increase of Chapter 11 bankruptcy filings are likely to prompt a wave of litigation pertaining to breaches of fiduciary duties in the zone of insolvency.

Additionally, the latest settlements and class action lawsuits against directors and officers should great heighten their concern. The rulings suggest that a portion of these settlements must come from directors and officers personally rather than entirely from their liability insurance.[48]

Because there is no a clearly defined scope of obligations, responsibilities, and duties during the zone of insolvency, directors and officers find themselves in a period of heightened uncertainty. The difficult questions of when the period of

zone of insolvency begins and ends and to who fiduciary duties are owed continue to exist. As a result, directors and officers lack legal guidance as to exactly when creditors or shareholders must be primary recipients of their duties. In an economic environment where shareholders, creditors, and other parties look to recover their investments this lack of clarity in the law invites lawsuits from creditors seeking relief.[49] Creditors will aggressively assert that directors and officers owed them fiduciary duties in the zone of insolvency, if such claim materially expands the period during fiduciary duties were owed, thus enhancing their chances of recovery.[50]

Ambiguous guidelines imposed by the judiciary with regard to the zone of insolvency create uncertainty for directors and officers about to whom their duties are owed, which affect business decisions processes, thereby increasing transaction costs of risky decisions, and allowing creditors to pursue inventive ways to claim recovery.[51] These ambiguous guidelines and their negative consequences also affect highly debt-leveraged businesses engaged in M&A activity,[52] start-up companies,[53] and businesses emerging from Chapter 11 bankruptcy.[54] They also affect corporate efforts to recruit reputable directors and officers to run their business, in addition to attorneys, financial advisors, investment bankers, accountants, and shareholders who bear the risk of litigation, and substandard returns when companies operate at suboptimal levels to avoid lawsuits.[55]

The lack of an unambiguous, legal, and operational definition permits creditors, shareholders, courts, and other parties to unreliably, unpredictably, and inconsistently classify companies as operating in a zone of insolvency.[56] The problem posed by the zone of insolvency needs to be addressed to resolve uncertainty in the law, redefine ambiguous standards, specify the scope of the zone, and to provide guidance to directors and officers.

II. Corporate Directors' and Officers' Fiduciary Duties during Four Financial Conditions

The financial condition of the corporation dictates to whom its directors and officers owe fiduciary duties.[57] The parties to whom these fiduciary duties are owed significantly vary as the corporation economic health deteriorates from solvency to bankruptcy.

A. Solvency

When a corporation is solvent,[58] directors and officers owe fiduciary duties of care, duty loyalty, and duty to act in good faith[59] to the corporation and its shareholders.[60] If a director breaches fiduciary duty, corporation's shareholders may enforce the duties owed to them by directors by bringing derivative action claims on behalf of the corporation.[61]

When the corporation is solvent, directors and officers do not owe fiduciary duties to constituencies other than the corporation and its shareholders.[62] Thus, as long as the corporation is solvent, the creditors are not owed any fiduciary duties by the corporation's directors or officers.[63] The rationale for this general rule derives from concepts of corporate ownership and management. When the corporation is solvent, shareholders own the corporation, which is managed by the directors.[64] During solvency, directors have fiduciary duties to the corporation and shareholders because the directors' decisions directly affect corporate and shareholder income.[65]

Additionally, creditors are not owed fiduciary duties by the corporation's directors or officers because of the complete lack of privity among these parties.[66] If any duty is owed to creditors, it is contractual in nature.[67] No fiduciary duty exists because in solvency creditors, unlike shareholders, are free to negotiate and solidify their rights through contractual agreements,[68] and are protected by fraudulent conveyance law, implied covenants of good faith and fair dealing, bankruptcy law, general commercial law, and other sources of creditor rights.[69]

B. Zone of Insolvency

Zone of insolvency is a financial condition that exists for a company during an indeterminate period between its solvency and insolvency.[70] A great obstacle for corporate investors and creditors to understanding the duties they are owed by directors and officers is created by the judicial finding that the zone of insolvency is less objectively determinable than insolvency.[71]

The zone of insolvency does not have a generally accepted definition[72] and judiciary provides only limited guidance as to its definitional scope.[73] For instance, the bankruptcy court in *In re Healthco Int'l, Inc.*,[74] suggested that a company is in the zone of insolvency if the company has "unreasonably small capital," which is "a condition of financial debility short of insolvency but which makes insolvency reasonably foreseeable."[75] This may occur when directors or officers approve a transaction that leaves the company without adequate funds, such as a highly leveraged buyout.[76] However, any determination of whether a firm has unreasonably small capital requires an objective assessment of the companies' financial projections, where reliance on historical data alone is insufficient.[77] A company would be considered to be in the zone of insolvency if it fails to "account for difficulties that are likely to arise, including interest rate fluctuations and general economic downturns, and otherwise incorporate some margin for error."[78] However, addressing the impracticality of this approach, in *RSL Communs. PLC v. Bildirici* the court stated that in a recession it is difficult to imagine a coherent limiting principle that would preclude a plausible allegation that a corporation is operating in the zone of insolvency.[79]

In the zone of insolvency, the directors and officers of the corporation continue to have fiduciary duties to the corporation[80] and the corporation's shareholders.[81] Additionally, when a corporation is perceived to be on the verge of insolvency, its directors and officers become fiduciaries of the corporate assets for the benefit of creditors.[82] In *Credit Lyonnais*, the court established a modern common law notion that individual directors and officers of financially distressed corporations operating in the zone of insolvency owe a duty to the "community of interests," including creditors.[83] A Vermont court in *Gladstone v. Stuart Cinemas, Inc.* stated that this duty to creditors does not only apply when the corporation is insolvent, but also "when the corporation operates in the vicinity or zone of insolvency." [84] A Louisiana court, in *3 Point Holdings, L.L.C. v. Gulf South Solutions, L.L.C.* stated that when directors and officers operate in the zone of insolvency, their fiduciary duties include creditors.[85]

Other court decisions concentrated on the amount and scope of duty owed to creditors by directors and officers. These decisions state that duties of directors and officers require consideration of creditor interests but not necessarily giving their interests priority.[86] The courts stated that in the zone of insolvency the directors and officers of the company should exercise duty of care,[87] duty of loyalty,[88] and duty to act in good faith.[89]

However, rulings from Delaware, California, and Louisiana courts suggest that a legal trend of limiting and eliminating the directors' and officers' fiduciary duties to creditors while in the zone of insolvency.[90] In *Gheewalla*, the Delaware Court held that creditors of a Delaware corporation that is in the zone of the insolvency do not have a right to assert direct claims for the breach of fiduciary duty against the corporation's directors.[91] The court stressed that when corporation operates in the zone of insolvency, directors fiduciary duties do not change with respect to shareholders and the corporation. Directors must continue to exercise their business judgment in the best interests of the corporation and for the benefit of shareholders.[92]

Similarly, in *Berg*, a California court held that there is no fiduciary duty owned to creditors by directors and officers of the corporation solely by virtue of corporation operating in the zone of insolvency.[93] The court expressed its concern about creating such duty to creditors as it would conflict and dilute California's statutory and common law duties that directors and officers already owe to the shareholders and the corporation.[94] In focusing the duties of directors and officers, the *Berg* court stated that only upon actual insolvency, the creditors would enjoy the protection provided by the trust-fund doctrine.[95]

A Louisiana court in *Torch Liquidating Trust*[96] expanded the *Gheewalla* holding to prohibit derivative lawsuits in addition to direct lawsuits by creditors. In discussing and interpreting the *Gheewalla* decision, the court rejected the creditor's argument that a derivative cause of action exists in the zone of insolvency.[97] In *Torch Liquidating Trust*, the plaintiff argued that interpretation of *Gheewalla* states that when corporation enters the zone of insolvency, fiduciary duties are owed to the creditors can be enforced via a derivative suit.[98] The court concluded that plaintiff's reading of the *Gheewalla* decision was incorrect, because the *Gheewalla* court stated that the derivative claim may be brought against directors and officers for breaches of fiduciary duty only when corporation is in fact insolvent.[99]

However, the guidance offered by decisions in the cases involving director and officer liability when their company operates in the zone of insolvency, leaves critical issues unresolved.[100] Table 2 provides a summary of zone of insolvency case law. It displays key practical limitations of the findings and shows that courts in *Gheewalla*, *Berg*, and *Torch Liquidating Trust* have deal successfully with few of the major issues that inhibit the useful application of the zone of insolvency.

First, the *Gheewalla* decision does not directly prohibit creditors from pursuing derivative claims against directors and officers for breaches of their fiduciary duty while the company is operating in the zone of insolvency.[101] Although the *Gheewalla* decision states that directors do not owe fiduciary duties to creditors in the zone of insolvency, the decision only directly applies to Delaware corporations.[102] Similarly, the *Berg* decision only applies to California corporations, which is considered a director-friendly state.[103]

Second, the *Gheewalla*, *Berg*, and *Torch Liquidating Trust* decisions are in conflict with other courts' holdings, which stated that creditors of insolvent companies do have standing to bring direct claims for breach of fiduciary duties against directors and officers,[104] and do allow for possibility of affirmative duty to creditors when corporation is in the failing condition.[105] The case that originated the zone of insolvency, *Credit Lyonnais*, was not overruled or unanimously declared by jurisprudence as an anomaly that should not be followed. For as long as the precedent of *Credit Lyonnais* and accommodating cases remain valid, and are not eliminated through Supreme Court or federal legislation, the courts may continue to interpret that in the zone of insolvency directors' and officers' duties extend to creditors.[106]

Third, the finding in *Torch Liquidating Trust*, which precludes creditor's derivative claims, may be an anomaly that inappropriately interprets and extends the *Gheewalla* holding[107] because decision is limited to Louisiana jurisprudence and does not have a binding authority on any other courts.[108] According to *In re Vartec Telecom, Inc.*, creditors are free to pursue derivate claims against the directors and officers of corporations operating in the zone of insolvency.[109] Thus, creditors may continue to bring derivative suits against directors and officers in the zone of insolvency until the Delaware jurisprudence or legislation expressly prohibits them.[110]

Fourth, there are no operational definitions of the beginning and end of a zone of insolvency period that would trigger the redirection of Directors' and Officers' duties to or from creditors, or how the scope of directors' fiduciary duties during this zone of insolvency period is determined.[111]

Following the legal developments in *Gheewalla*, *Berg*, and *Torch Liquidating Trust*, the zone of insolvency continues to exist as an uncertain, problematic, and operationally undefined legal area, which requires further elucidation and strictly construed legal standards. The problems pertaining to duties to creditors while in the zone of insolvency "remains highly salient" for directors and officers, corporations, shareholders, and creditors.[112]

As a legal issue, the current recommendation concerning the zone of insolvency approaches absurdity. Lacking clearly defined beginning and ending points for the zone of insolvency, some practitioners suggest that directors and officers of a financially declining company should consider it to be in the zone if the company's financial circumstances cause them to seriously consider the possibility of that they are in the zone of insolvency.[113]

C. Insolvency

In insolvency, the fiduciary duties of directors and officers extend to company's creditors,[114] even as the duties continue to be owed to the corporation.[115] The courts are divided on the issue of whether directors' and officers' duties to shareholders completely terminate at corporate insolvency. Some courts adopt a view that when the corporation becomes insolvent, directors and officers no longer represent the shareholders, but the creditors.[116] However, other courts have stated that the directors' and officers' duties extended to creditors become primary, while the duties to shareholders remain, but become secondary in nature.[117] The logic for this second position is that an insolvent corporation's shareholders are 'last in line' for repayment and there is no repayment for shareholders until creditors have been paid.[118]

There are five general tests to determine if the company is insolvent:[119]

1. Under the equity test, the company is considered insolvent when it is unable to pays its debts as they come due in the ordinary course of business.[120] A company is insolvent in the equity sense if its assets lack short-term liquidity.[121]
2. Under the balance sheet test, the company is insolvent when its assets are below its liabilities with no reasonable prospect that the business can successfully be continued.[122]
3. Under the future operations test, the company's capital is evaluated in terms of its ability to support financing of its future operations.[123]
4. Under the insolvency in fact test, a company is insolvent when it has liabilities in excess of reasonable market value of assets held.[124] This fourth test is considered to adopt a broad view of insolvency, under which almost any start-up company may be considered insolvent.[125]
5. Under the bankruptcy test, a corporation is insolvent when its debts exceed the fair value of its property.[126] This variety of tests creates additional uncertainty for a court since any test can potentially be used to determine if the company is insolvent.

The variety of tests and lack of definitional or *pro forma* appropriateness of each test adds to the uncertainty of litigants because parties know that the evaluation of the company's financial position is partially dependent on the specific test or tests a court chooses to employ.[127]

The extension of a director's fiduciary duties to creditors is granted through a trust fund doctrine. In reality, the trust fund doctrine does not involve an application of actual trust, but it allows the court to administer an insolvent corporation's assets first among creditors and thereafter its shareholders.[128] Under the trust fund doctrine, the trustee directors owe the duty to protect the insolvent corporation's assets that they hold in trust for distribution to the beneficiary creditors. Thus, directors and officers are deemed as trustees for the benefit of creditors.[129]

The application of the trust fund doctrine is limited to protecting creditor's prior rights to assets upon liquidation and dissolution of an insolvent corporation.[130] The trust fund doctrine has been used against directors and officers who used their insider status to make preferential payments or to misappropriate corporation's assets to them or shareholders, or to wrongfully authorize dividends to shareholders while creditor claims were unpaid.[131]

Although the fiduciary duties of directors and officers extend to creditors when the company is in insolvency, the duties of loyalty and care remain the same and the rules of corporate governance continue to apply.[132] In addition, courts have recognized supplemental fiduciary duties that directors and officers owe to creditors while the corporation is insolvent. For example, when the corporation is insolvent, fiduciary duties prohibit directors and officers from transferring or encumbering corporate assets, which would enable director or officer to recover a greater percentage of debt than corporation's general creditors with otherwise similarly secured interests.[133] The directors and officers have the fiduciary duty not to engage in self-dealing,[134] commit preferential transfer of assets,[135] minimize loss to creditors upon insolvency,[136] maximize the corporation's long-term wealth creating capacity,[137] and avoid actions that divert, dissipate, or unduly risk corporate assets that might otherwise be used to pay creditor claims.[138] The directors and officers must act with due diligence and good faith when pursuing business strategies that require borrowing additional debt.[139] The directors and officers of insolvent corporations are not obligated to liquidate their corporation for unsecured creditor's benefit[140] and in fact can pursue risky restructuring plans if they do so in a good faith attempt to become solvent again,[141] even though they are not guarantors of the strategy's success.[142]

In insolvency, a corporation's creditors have the standing to maintain derivative claims against the directors[143] on behalf of the corporation for breaches of fiduciary duties.[144] The corporation's insolvency "makes the creditors the principal constituency injured by any fiduciary breaches that diminish the firm's value."[145]

Equitable considerations give creditors the standing to pursue derivative claims against directors when corporation is insolvent.[146] As a result, the insolvent corporation's creditors replace the shareholders as the residual beneficiaries of any increase in the company's asset value and "have the same incentive to pursue valid derivative claims on its behalf that shareholders have when the corporation is solvent."[147] Any recovery in these derivative actions belongs to the corporation, thus to creditors and shareholders as a whole, and not to a particular group of creditors or other stakeholders.[148]

The rationale for expanding fiduciary duties to creditors during the insolvency is that creditors bear the brunt of damages for the conduct of directors and officers, as contrasted to shareholders who have theoretically lost their investment.[149] The extension of fiduciary duty to creditors is also justified by the difference of investment risk between shareholders and creditors. The shareholders invest by buying stock with hopes that the corporation will generate profit and increase the value of shareholder's investment,[150] while the creditors lend money to the corporation with hope that they will recover their money with interest.[151]

During insolvency, directors and officers must be concerned about another variant of the breach of fiduciary duties known as the theory of deepening insolvency.[152] Deepening insolvency results from prolonging an insolvent corporation's life by increasing its outstanding debt.[153] It is "an injury to the Debtors' corporate property from the fraudulent expansion of corporate debt and prolongation of corporate life."[154] The fiduciary duty prevents directors and officers from approving an action that deepens the insolvency by causing the company to incur additional debt, thereby negligently or fraudulently prolonging its corporate life.[155] Courts have stated that deepening insolvency claims may be brought by bankruptcy trustees,[156] creditors' committees,[157] receivers,[158] insurance company liquidators,[159] equity-holders,[160] lenders,[161] and professional advisers including accountants,[162] financial advisers,[163] and attorneys.[164] Directors and officers must be concerned about this claim of action because it allows and encourages litigation that goes after the deep pockets.[165] Due to their involvement of management of the company during a financial condition of insolvency, directors and officers are potential targets for claims that they have contributed to keeping the company on life support by incurring additional debt that is unlikely to reverse the prospects of the company.[166]

D. Bankruptcy

When a company files for Chapter 11 bankruptcy protection, corporate directors and officers owe fiduciary duties to the corporation, creditors, and shareholders.[167] The corporation also experiences a significant change in its governance and business relations with its creditors and shareholders. In bankruptcy, creditors become active participants in all corporate affairs, negotiations, and reorganization processes.[168] In Chapter 11, the directors' and officers' duties continue to operate the business and manage assets as a debtor in possession ("DIP"),[169] where the DIP is a trustee in the position of a fiduciary with rights and powers of the Chapter 11 trustee.[170] A bankruptcy trustee, as any trustee, owes a duty of loyalty to the beneficiaries of the trust.[171] Thus as a DIP, directors and officers must act as fiduciaries and owe duty of care and loyalty to the creditors and shareholders with similar standards used when the corporation is operating outside of bankruptcy.[172]

In bankruptcy, directors and officers duty of care is multifold. The duty of care imposed is the same exercised by a trustee.[173] This duty of care requires directors and officers to exercise care and diligence that an ordinary prudent person would exercise under similar circumstances.[174] A mistake of judgment is not by itself a basis for imposing liability,[175] but a failure to confirm to a standard of care may impose liability on directors and officers.[176] As DIPs, the directors' and officers' duty of care is to maximize and protect estate's assets, abstain from wasting assets, furnish information about the estate and its administration, and exercise reasonable diligence and care in formulating a reorganization plan.[177]

The directors' and officers' duty of loyalty in Chapter 11 proceedings are identical to the duties they owe when the corporation is solvent.[178] The duty of loyalty requires the directors and officers to refrain from self-dealing,[179] to avoid conflicts of interest and appearance of impropriety,[180] and to treat all parties to the case fairly.[181]

E. Legal Distinctions of Fiduciary Duties across Four Financial Conditions

The courts have identified four financial conditions that impose legal duties on the directors and officers. With the exception of duties to the corporation, the parties to whom directors and officers owe fiduciary duties change depending on the financial condition of the company.[182] When the company is solvent, the duties are only owed to the corporation and shareholders. As company's financial condition deteriorate and the company enters the zone of insolvency, directors and officers duties extend to creditors.[183] In insolvency, the creditors and corporation are owed fiduciary duties, while the duties to shareholders become secondary. When the company has filed for bankruptcy, the creditors and the corporation are again the primary beneficiaries of directors' and officers' duties, while duties to the shareholders remain secondary.

The fiduciary duties of care, loyalty, and to act in good faith exist during all corporate financial conditions, although the parties to whom fiduciary duties are owed change in priority. Additionally, when the corporation is insolvent or has filed for bankruptcy, directors and officers should be aware of the reprioritization of beneficiaries of their duties.[184] The presence

of identical fiduciary duties of care, loyalty, and to act in good faith may create a false sense of security because directors and officers may incorrectly prioritize the parties to whom their duties are owed.

III. Innovative Approach to Monitoring and Operating in the Zone of Insolvency

To fulfill their fiduciary duties, directors and officers must know when their company enters and exits the zone of insolvency. The systematic application of financial metrics is an innovative approach that can enable directors and officers and other involved parties to determine when a company operates in the zone of insolvency,[185] and can aid in the priority of parties to whom director and officers' owe fiduciary duties. Although financial metrics are in popularly use for corporate evaluations by other evaluators[186], especially banks, federal and state courts have not yet employed them to address the need to operationally define a zone of insolvency. This unique application of financial metrics would allow directors and officers to exercise their business judgment confident that they had correctly identified the priority of stakeholders when operating in a well-defined and quantitatively operationalized zone of insolvency, additionally enhancing their protection from liability claims.

A. The Altman's Z-Score Model

The Altman's Z-Score model provides a method for directors and officers to measure their company's financial performance and determine whether it is operating in a zone of insolvency.[187] Altman's Z-Score is a measure of the financial health of the company, which was designed to predict bankruptcy[188] by forecasting the probability that a company enter into bankruptcy within a two-year period.[189] Over four decades, the Z-Score model has been an accepted financial distress measure.[190] The Z-Score model is convenient, easy to compute, and requires moderately small amount of data.[191] The Z-Score is used by auditors, accountants, security analysts, management consultants, and by bankers as part of many database systems for loan evaluations.[192] The use of the Z-Score model to determine the future risk of bankruptcy has also been recognized and upheld by a court in the D.C. Circuit.[193]

The Z-Score is a composite of seven calculations involving accounting and market-based values. These values are combined into five ratios, which then comprise the Z-Score. The five ratios address and measure a company's liquidity, cumulative profitability, asset productivity, market based financial leverage, and capital turnover.[194]

The original Z-Score equation is $Z = 1.2\ X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$, where X_1 is working capital divided by total assets, X_2 is retained earnings divided by total assets, X_3 is earnings before interest and taxes (EBIT) divided by total assets, X_4 is market value of equity divided by book value of total liabilities, and X_5 is sales divided by total assets.[195]

The lower the Z-Score, the greater is the possibility of the company becoming bankrupt.[196] A company with a Z-Score of 1.8 or less has a high probability of failure, while a company with a Z-Score of 3.0 or higher is unlikely to file for bankruptcy.[197] A company with a Z-Score of 1.81 to 2.99 places the business in the 'zone of ignorance'; a range where results are inconclusive and misclassification may be observed, suggesting that further analysis is necessary.[198] However, a score below 2.60 suggests that a company is in the financial distress.[199]

A logical parallelism between the Z-Score results and four financial conditions of the company may be drawn. When the Z-Score is 3.0 or higher the company is solvent. When the Z-Score is below 2.60, the company is in financial distress and may be operating within the zone of insolvency. The Z-Score of 1.8 or lower indicates that the company is insolvent and is likely to file for bankruptcy within a year.

The Z-Score has been used by the financial services community for more than 40 years and has been demonstrated to be reliable in a variety of contexts.[200] When used to measure potential for bankruptcy in one year, the Z-Score model has an accuracy rate up to 93.9 percent, decreasing to 36.0 percent when estimating the chances of a company declaring bankruptcy within five years.[201] The Z-Score formula can be modified to accommodate companies with specialized accounting ratios, such as privately held companies and non-manufacturing firms.[202]

Due to the Z-Score's dependence on accounting measures, it is unable to predict bankruptcies caused by factors that are not indicated on the balance sheet, such as major and unexpected business disruptions.[203] The Z-Score will not determine bankruptcies if the company engages in fraudulent accounting practices,[204] and it may not be useful for new companies with little or no earnings and for small firms with assets of less than $1 million.[205]

Results from regular testing of a company's financials with Z-score analysis will provide quantitative and verifiable analysis to indicate whether the firm is within a zone of insolvency, thus indicating the specific parties to whom directors and officers should give preferential consideration. Similarly, shareholders and creditors can use the test to monitor for possible violations when directors' and officers' duties change, when the company begins to operate in the zone of insolvency, and when it returns to solvency.

B. The Effect of the Business Judgment Rule on the Zone of Insolvency

The standard for determining whether directors and officers fulfill their fiduciary duties is the business judgment rule.[206] The rule absolves directors and officers of liability for honest errors in judgment, in situations where they acted in

good faith and in a reasonable manner.[207] It is a presumption that in making a business decision, a corporation's directors were informed and acted in good faith and honest belief in the best interests of the corporation.[208] If a plaintiff can demonstrate that directors had an interest in the transaction at issue, the burden shifts to the directors to prove that the transaction was fair and reasonable.[209] Absent an abuse of discretion, the courts will respect the business judgment of directors.[210]

The business judgment rule does not apply when the directors have conflicts of interest, stand on both sides of a transaction, or have a personal financial interest in a transaction.[211] Courts have generally declined to apply the business judgment rule where there was a breach of duty of loyalty[212] and where directors and officers did not act in good faith.[213] The business judgment rule has not applied where directors and officers made uninformed decisions, acted unlawfully, or possessed a conflict of interest.[214] Thus, breach of a fiduciary duty may not impose liability on the directors and officers as long as the transaction was fair.[215]

Directors and officers actions in the zone of insolvency may be protected by the business judgment doctrine.[216] Because procedural processes are strictly followed in the zone of insolvency, the probability that directors' and officers' actions fall under the protection of the business judgment rule is maximized.[217] Strict compliance is necessary because interested stakeholders will review directors' and officers' decisions for possible violations. In the zone of insolvency, protection is increased when directors and officers thoroughly document all decision-making processes, consider the competing interests of the corporation, shareholders, and creditors, and make informed decisions in good faith.[218]

The proper consideration of competing interests[219] may be achieved through a balancing approach, where the directors and officers conduct an in-depth weighing of creditors and shareholders interests.[220] The balancing of competing interests ensures that directors and officers are acting for the benefit of the entire corporate enterprise, rather than for the benefit of any single group[221] and helps to identify any directors' and officers' action that increases return of a single stakeholder at the cost of another.[222] By considering and balancing creditors and shareholders' competing interests until the company moves out of the zone of insolvency thereby clarifying and the primary stakeholder is known, directors and officers will fulfill their obligations to all parties and enhance their business judgment rule protection.

IV. Progress in Understanding the Zone of Insolvency

This article provides a categorization of the fiduciary duties that directors and officers owe to the corporation, investors, creditors and other interested stakeholders under each of four court-defined corporate financial conditions. These determinations can be used to identify the beneficiaries of directors' and officers' duties as they change with the financial condition of the company.

Our review of the law on the zone insolvency highlights the practical limitations of holdings in *Gheewalla*, *Berg*, and *Torch Liquidating Trust* that were thought to address the difficulties of dealing with the ill-defined period. It shows that zone of insolvency remains a problematic area of law with many unresolved legal issues, principally because of the limited scope of the holdings and the non-operational definitions of the zone on which they rely.

The problems posed by the zone of insolvency pertain to the responsibilities of the directors and officers of the company. The main responsibilities of directors and officers pertain to the strategic management of the company, which involves the formulation and implementation of plans designed to achieve the long-term objectives of the organization.[223] Typically, strategic management decisions involve multiple top-managers, require large amounts of the firm's resources, affect the firm's long-term prosperity, are future oriented, usually have multifunctional or multi-business consequences, and require consideration of the firm's external environment.[224] Such activities require a long timeframe to plan, activate, and refine. When a corporation begins to fail financially, the decisions of its board and directors continue to focus on strategic matters but give increased consideration to broadly-scoped impinging matters. This orientation makes quick shifts among major constituents in strategic decision-making extremely problematic for directors and officers.

Yet, the fall of a company toward serious financial trouble threatens to place it in the nebulous zone of insolvency. In this zone, the directors and officers are legally-required to realign their allegiance in decision making to include creditors and, in some states, even to give them priority consideration. Additionally, the imprecision of the in-coming and out-going boundaries of the zone profoundly hamper decision-making since the timeframe that encompasses the formulation and implementation of strategic plans can involves multiple years. A formulated plan might be fully implemented a year or more in the future, during which time the company might slide in (and out) of a zone of insolvency. Aborting a new strategic plan prior to its implementation would leave a company with the vestiges of a failed strategy. Abandoning a plan during implementation would send mixed and unsettling messages to a company's customers, investors, creditors, employees, and other stakeholders.

The evidence suggests that these and related problems could be a meliorated by the adoption of financial measures that could operationally define the boundaries of a zone of insolvency in financial terms. Altman's Z-score appears to be an appropriate tool for this purpose, in part because of its long and successful history in the financial services industry as a valid and reliable measure of a corporation's overall financial health and its likelihood of becoming bankrupt within two years. Using Altman's Z-Score and supplemental financial metrics to quantitatively and verifiably define the zone of insolvency

will provide guidance to directors, officers and other concerned parties in knowing their legal rights and responsibilities at any point in the company's operations.

The concept of zone of insolvency has value in cautioning directors and officers that their duties may soon be owed principally to different parties, in composition or in priority. Because the decisions of directors and officers principally have long-term foci, such caution may prevent them from committing to business plans with a risk factor that would increase dramatically in the event of a change in the company's financial condition. However, a clearly articulated, conceptually sound, operational definition of the boundaries of the zone of insolvency, made possible by the use of Altman's Z-Score analysis or similar financial measures, might increase and would enhance its applicability to the monitoring and management of financially troubled companies.

Table 1: Key Legal Distinctions of Directors' and Officers' Fiduciary Duties across Four Corporate Financial Conditions

Issue	Financial Condition			
	Solvency	**Zone of Insolvency**	**Insolvency**	**Bankruptcy**
Parties to whom Directors and Officers owe fiduciary duties of care, loyalty, and act in good faith.	▪ Shareholders ▪ Corporation	▪ Creditors (varies by jurisdiction) ▪ Shareholders (varies by jurisdiction) ▪ Corporation	▪ Creditors ▪ Shareholders (varies by jurisdiction) ▪ Corporation	▪ Creditors ▪ Shareholders ▪ Corporation
Additional duties owed by Directors and Officers			▪ To make no preferential transfer of assets ▪ To minimize loss to creditors ▪ To maximize the company's long-term wealth creating capacity ▪ To protect assets that might be used to pay creditors ▪ To be aware of potential deepening insolvency	▪ Duties of a Debtor in Possession, which are the same as of a trustee in bankruptcy
Definite in time	Yes	No	Yes	Yes
Consistencies in case law	Yes	No	Yes	Yes

Table 2: Summary of Zone of Insolvency Cases

Case	Holding	Practical Limitations
N. Am. Catholic Educ. Programming Found., Inc. v. Gheewalla, 930 A.2d 92 (Del. 2007).	Creditors of a corporation in the zone of the insolvency do not have a right to assert direct claims for a breach of fiduciary duty against the corporation's directors.	▪ Creditors are not prohibited from pursuing derivative claims against directors and officers for breach of their fiduciary duties while the company is operating in the zone of insolvency. ▪ *Credit Lyonnais* states that directors and officers of financially distressed corporations operating in the zone of insolvency owe a duty to the "community of interests," including creditors. ▪ *Gladstone* and *3 Point Holdings LLC* holding state that directors owe duty to creditors when the corporation operates in the zone of insolvency. ▪ *Gheewalla* holding applies only to Delaware companies.
Berg & Berg Enterprises, LLC v. Boyle, 178 Cal. App. 4th 1020 (Cal. App. 6th Dist. 2009).	No fiduciary duty is owned to creditors by directors and officers of the corporation solely by virtue of corporation operating in the zone of insolvency.	▪ See *Credit Lyonnais*, *Gladstone*, and *3 Point Holdings LLC*. ▪ *Berg* holding only applies only to California companies.
Torch Liquidating Trust v. Stockstill, 2008 U.S. Dist. LEXIS 19535 (E.D. La. Mar. 13, 2008).	Court rejected the creditor's argument that a derivative cause of action exists in the zone of insolvency.	▪ *In re Vartec Telecom, Inc.* states that creditors are free to pursue derivate claims against the directors and officers of corporations operating in the zone of insolvency. ▪ See *Credit Lyonnais*, *Gladstone*, and *3 Point Holdings LLC*. ▪ *Torch Liquidating Trust* holding applies only to Louisiana companies.

Footnotes

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[1] To address standards applicable in a particular jurisdiction, counsel should examine the laws of the specific jurisdiction involved, because questions of director and officer liability and other corporate affairs are determined under the laws of jurisdiction of incorporation. *See* RESTATEMENT (SECOND) OF CONFLICTS OF LAWS, §309 (1969). *See also* Anu R. Singh & Harold L. Kaplan, *Intensive Care: The Opportunity and "Duty" to Restructure Nonprofit Health Care Debt*, 28-5 AM. BANKR. INST. J. 14, n.12 (2009) (stating that "when considering application of zone-of-insolvency standards, the state law of the relevant jurisdiction may need to be reviewed").

[2] Mellon Bank, N.A. v. Aetna Business Credit, Inc., 619 F.2d 1001, 1014 (3d Cir. Pa. 1980) (stating that "determination of solvency requires a factual review of the borrowers' financial condition and the application of complex and sometimes conflicting accounting practices and valuation theories"). *See* Consolidated Tank-Line Co. v. Kansas City Varnish Co., 43 F. 204, 207 (C.C.D. Mo. 1890) (noting that "it is very difficult for a court to lay down a definition of solvency or insolvency that is applicable interchangeably to every case").

[3] Bowman v. United States Dep't of Agriculture, 363 F.2d 81, 84 (5th Cir. 1966). *See* Laker v. Vallette, 1993 U.S. Dist. LEXIS 4560 (E.D. La. Mar. 30, 1993) (stating that "in determining whether transfers are voidable, the courts look to this balance-sheet solvency/insolvency test - whether the assets outweigh the liabilities").

[4] Rutherford B. Campbell, Jr. & Christopher W. Frost, *Managers' Fiduciary Duties in Financially Distressed Corporations: Chaos in Delaware (and Elsewhere)*, 32 J. CORP. L. 491, 493 (2007).

[5] 11 U.S.C. §101(32) (stating that the term "insolvent" means, with reference to an entity other than a partnership and a municipality, a financial condition such that the sum of such entity's debts is greater than all of such entity's property, at a fair valuation, exclusive of – (i) property transferred, concealed, or removed with intent to hinder, delay, or defraud such entity's creditors; and (ii) property that may be exempted from property of the estate under 11 U.S.C. §522).

[6] Insolvency can also be determined by the equity test (company lacks liquidity that prevents paying debts as they become due in the ordinary course of business), balance sheet test (company's assets are below its liabilities with no reasonable prospect that the business can successfully be continued), company's ability to support financing of future operations, and if company's liabilities are in excess of reasonable market value of its assets.

[7] Denison State Bank v. Madeira, 230 Kan. 684, 691 (Kan. 1982) (stating that fiduciary relationship is an equitable concept where one party acts for the benefit of another); Carson v. Lynch Multimedia Corp., 123 F. Supp. 2d 1254, 1258 (D. Kan. 2000) (noting that "in a fiduciary relationship, the property, interest or authority of the other is placed in the charge of the fiduciary"). *See* Little v. Phipps, 208 Mass. 331, 333 (1911) (stating that the fiduciary duty is "founded on the highest and truest principal of morality"); Edwin W. Hecker, Jr., *Fiduciary Duties in Business Entities*, 54 KAN. L. REV. 975, 976 (2006) (noting that fiduciary-beneficiary relationship is based on fiduciary's discretionary authority and beneficiary's dependency and reliance on the fiduciary); Cory Dean Kandestin, *The Duty to Creditors in Near-Insolvent Firms: Eliminating the "Near Insolvency" Distinction*, 60 VAND. L. REV. 1235, 1241-42 (2007) (stating that fiduciary duties provide guidance as to obligations and relationships among the shareholders, corporation, directors, and officers and noting that owners, shareholders require the protection allowed by fiduciary law because of their lack of control over the corporation's ordinary business operations and their need to rely on directors and officers to property manage the corporation).
[8] Ganther v. Stephens, 2009 Del. LEXIS 33 (Del. Jan. 27, 2009) (stating that corporate officers elected by the board of directors owe duties identical to those of corporate directors).
[9] Rafool v. Goldfarb Corp. (*In re* Fleming Packaging Corp.), 370 B.R. 774, 783 (Bankr. C.D. Ill. 2007) *citing* McMullin v. Beran, 765 A.2d 910 (Del. 2000).
[10] *Id.* at 783 *citing* Emerald Partners v. Berlin, 787 A.2d 85 (Del. 2001). *See In re* Walt Disney Co. Derivative Litig., 907 A.2d 693, 745-46 (Del.Ch. 2005) (stating that although the duties of care and loyalty are largely regarded as separate and distinct under Delaware law, the duty of good faith has been considered, "inseparably and necessarily intertwined" with the duties of due care and loyalty).
[11] George W. Kuney, *Fiduciary Duties of Directors and Officers Operating in the Zone of Insolvency*, CAL. BUS. LAW. PRAC. 73 (2002).
[12] The specific concepts described in the duty of care, loyalty, and good faith during solvency also arguably apply in the zone of insolvency, insolvency, and bankruptcy. *See* Jonathan Friedman, Robert Scheinbaum & Andrea Johnson, *Shades of Gray: Recent Developments That Impact Advising Directors and Officers in the Twilight Zone of Insolvency*, NORTON ANN. SURV. OF BANKR. L. 286 (2006).
[13] Lange v. Schropp (*In re* Brook Valley VII), 496 F.3d 892, 900 (8th Cir. 2007) (stating that "the duty of care requires the fiduciary to make good-faith decisions that can be attributed to a rational business purpose"). *See* Malone v. Brincat, 722 A.2d 5, 10-12 (Del. 1998) (noting that directors and officers are required to make appropriate disclosures of pertinent information within board's control); Aronson v. Lewis, 473 A.2d 805, 812 (Del. 1984). *See also* MODEL BUS. CORP. ACT § 8.30 (2005) (stating that each member of the board of directors, when discharging the duties of a director, shall act: (1) in good faith, (2) with the care of an ordinary prudent person in a like position would exercise under similar circumstances, and (3) in a manner the director reasonably believes to be in the best interests of the corporation).
[14] Meyers v. Moody, 693 F.2d 1196, 1209 (5th Cir. 1982) (defining "due care" as "that degree of care which a person of ordinary prudence would exercise under the same or similar circumstances" in the director as fiduciary context).
[15] Francis v. United Jersey Bank, 87 N.J. 15, 29 (N.J. 1981).
[16] *Id.* at 31 *citing* Campbell v. Watson, 62 N.J. Eq. 396 (Sup. Ct. 1901).
[17] *Id.* at 32 (noting that in some circumstances, directors may be charged with assuring that bookkeeping methods conform to industry custom and usage).
[18] *Id.* at 31.
[19] Unocal Corp. v. Mesa Petroleum Co., 493 A.2d 946, 955 (Del. 1985).
[20] Martin v. Feilen, 965 F.2d 660, 670 (8th Cir. Iowa 1992). *See* Lawrence E. Mitchell, *The Fairness Rights of Corporate Bondholders*, 65 N.Y.U. L. REV. 1165, 1172 (1990).
[21] *In re* Brook Valley VII, 496 F.3d at 892. *See* Pepper v. Litton, 308 U.S. 295 (1939).
[22] Guth v. Loft, 5 A.2d 503, 510 (Del. 1939).
[23] Meinhard v. Salmon, 249 N.Y. 458, 464 (N.Y. 1928) ("A trustee is held to something stricter than the morals of the market place. Not honesty alone, but the punctilio of an honor the most sensitive, is then the standard of behavior").
[24] Liston v. Gottsegen (*In re* Mi-Lor Corp.), 348 F.3d 294, 303 (1st Cir. Mass. 2003) *citing* and *quoting* Demoulas v. Demoulas Super Mkts., 677 N.E.2d 159, 182 (Mass. 1997) (stating that "to meet a fiduciary's duty of loyalty, a director or officer who wishes to take advantage of a corporate opportunity or engage in self-dealing must first disclose material details of the venture to the corporation, and then either receive the assent of disinterested directors or shareholders, or otherwise prove that the decision is fair to the corporation").
[25] 1 JOSEPH D. ZAMORE, MARY C. SOTERA & SUSAN FERRARO SMITH, BUSINESS TORTS §2.01 (Matthew Bender, Rev. Ed. 2010).
[26] *Id.* *See* Thornton v. Bernard Techs., Inc., 2009 Del. Ch. LEXIS 29 (Del. Ch. Feb. 20, 2009).
[27] Floyd v. Hefner, 556 F. Supp. 2d 617, 649 (S.D. Tex. 2008).
[28] Malone v. Brincat, 722 A.2d at 10-14.
[29] Stone v. Ritter, 911 A.2d 362, 370-71 (Del. 2006) (stating that duty to act in good faith is subsumed within the duty of loyalty). *See In re* Fleming Packaging Corp., 370 B.R. at 783 *citing In re* Walt Disney Co. Derivative Litig., 907 A.2d at

745-46 (stating that "duty of good faith has, at times, been considered, 'inseparably and necessarily intertwined' with the duties of due care and loyalty").

[30] Torch Liquidating Trust v. Stockstill, 2008 U.S. Dist. LEXIS 19535, at *32 (E.D. La. Mar. 13, 2008). *See* Continuing Creditors' Committee of Star Telecommunications, Inc. v. Edgecomb, 385 F.Supp.2d 449, 460 (D.Del. 2004) *citing* Nagy v. Bistricer, 770 A.2d 43, 49 n.2 (Del.N. Ch. 2000).

[31] *In re* Walt Disney Co. Derivative Litig., 907 A.2d at 755.

[32] Mukamal v. Bakes, 383 B.R. 798, 825 (S.D. Fla. 2007).

[33] *Id.* at 825 ("There may be other examples of bad faith yet to be proven or alleged, but these three are the most salient").

[34] Rosenblatt v. Getty Oil Co., 493 A.2d 929, 944 (Del. 1985).

[35] N. Am. Catholic Educ. Programming Found., Inc. v. Gheewalla, 930 A.2d 92, 102 (Del. 2007).

[36] Commodity Futures Trading Comm'n v. Weintraub, 471 U.S. 343, 355 (1985).

[37] *In re* Truco, 110 B.R. 150 (Bankr. M.D. Pa. 1989). *See* Michael A. Bloom, Justice Randy J. Holland, Ann B. Laupheimer & Mark J. Sonnenfield, *The Fiduciary Duties of Officers and Directors*, PA. B. INST., Apr. 2, 2009, at 23 (stating that the duties of directors and officers in bankruptcy "is to maximize the total interests of creditors and shareholders as a whole" and preserve the value of the bankruptcy estate).

[38] Kandestin, *supra* note 7, at 1237 (2007) (nothing that "while the law of fiduciary duty is clear when applied to healthy, solvent corporations, its application becomes muddled when applied to financially distressed firms"). *See* Donald J. Detweiler & Sandra G.M. Selzer, *Scope of Directors' Fiduciary Duties to Creditors: New Delaware Decision Sets Bright-Line Limit*, 26-6 AM. BANKR. INST. J. 1, 54 n.4 (2007) (stating that the uncertainty of when a corporation is in the "zone of insolvency" is likely to lead to increased litigation).

[39] Prod. Res. Group, L.L.C. v. NCT Group, Inc., 863 A.2d 772, 788 n.52 (Del. Ch. 2004).

[40] Vincent Ryan, *World Turned Upside Down*, CFO, May 2009, at 36 (stating that zone of insolvency is a legal term for when a company is "in imminent danger of going bankrupt"). *See* Anna Manasco Dionne, *Living on the Edge: Fiduciary Duties, Business Judgment and Expensive Uncertainty in the Zone of Insolvency*, 13 STAN. J.L. BUS. & FIN. 188 (2007) (stating that the terms 'brink,' 'vicinity,' and 'zone' of insolvency are equivalent).

[41] Credit Lyonnais Bank Nederland, N.V. v. Pathe Communs. Corp., 1991 Del. Ch. LEXIS 215, at *108 (Del. Ch. Dec. 30, 1991) ("directors will recognize that in managing the business affairs of a solvent corporation in the vicinity of insolvency, circumstances may arise when the right (both the efficient and the fair) course to follow for the corporation may diverge from the choice that the stockholders (or the creditors, or the employees, or any single group interested in the corporation) would make if given the opportunity to act"). *See* Michael A. Bloom, *Fiduciary Duties of Officers and Directors under Delaware Law*, PA. B. INST., 2008 (stating that "*Credit Lyonnais* suggests that directors' obligations shift to the 'community of interests' when the entity is operating in the zone or vicinity of insolvency").

[42] Brian E. Geer, *Fiduciary Duties When the Corporation Is in the Zone of Insolvency*, 25-9 AM. BANKR. INST. J. 26 (2006).

[43] Rick Grimes & Karen Kutger, *Would Your D&O Policy Withstand A Bankruptcy Filing?*, NAT. UNDERWRITER, Aug. 3, 2009, at 12.

[44] Director & Officer Liability 2008 Survey of Insurance Purchasing Trends, TOWER PERRIN, *available at* http://www.towersperrin.com/tp/getwebcachedoc?webc=USA/2009/200908/DO_Survey_Report_2008_FINAL.pdf (reporting that in 2008, 430 of the 2,599 participants reported 1,009 different types of claims over the last 10 years. Survey states that one claim situation may produce more than one type of claim. Public companies, not surprisingly, were more likely to have had a D&O claim over the past 10 years (25.5%) than nonprofits (15.5%) and private organizations (13.1%)).

[45] Chubb 2007 Private Company Survey, CHUBB, *available at* http://www.chubb.com/businesses/csi/chubb8708.pdf.

[46] Bankruptcy Statistics, U.S. Courts, *available at* http://www.uscourts.gov/bnkrpctystats/statistics.htm.

[47] *Id*. During the 12-month period, ending September 30, 2008, only 38,651 business bankruptcies were filed.

[48] Shawn Young, *Ex-WorldCom Directors Reach Pact*, WALL. ST. J., Mar. 21, 2005, at A6 (directors were required to pay $ 20.2 million from their own funds); Rebecca Smith & Jonathan Weil, *Ex-Enron Directors Reach Settlement*, WALL ST. J., Jan. 10, 2005, at C3 (directors were required to pay $ 13 million from their own funds).

[49] Detweiler & Selzer, *supra* note 38, at 55.

[50] Roger A. Lane, *Direct Creditor Claims For Breach of Fiduciary Duty: Is They Is, Or Is They Ain't?*, 1 J. BUS. & TECH. L. 483, 485 (2007).

[51] Dionne, *supra* note 40, at 189. *See* Ryan, *supra* note 40, at 36, 39 (stating that chief financial officers are navigating in poorly defined terrain when their company is operating in the zone of insolvency; and that the zone of insolvency is a realm into which chief financial officers would rather not venture, but they cannot ignore it).

[52] *Id.* at 192-93.

[53] Douglas H. Flaum & Shahzeb Lari, *Fiduciary Duties of Directors Of Distressed Companies*, N.Y. L. J., Apr. 7, 2009

[54] Jon Dwain McLaughlin, *The Uncertain Timing of Directors' Shifting Fiduciary Duties in the Zone of Insolvency: Using Altman's Z-Score to Synchronize The Watches of Courts, Directors, Creditors, and Shareholders*, 31 HAMLINE L. REV. 145, 160 (2008).

[55] Dionne, *supra* note 40, at 192-93. *See* Ryan, *supra* note 40, at 38 (stating that attorneys have the job of informing the board of directors and management that their company is operating in the zone of insolvency and that their new decision-making should include the interests of creditors as well as shareholders).
[56] *Id.* at 190 (stating that companies that operate on close margins might never leave the zone of insolvency).
[57] Wooley v. Lucksinger, 14 So. 3d 311, 405 (La.App. 1 Cir. 2008) (defining fiduciary duty as a "a duty of utmost good faith, trust, confidence, and candor owed by a fiduciary (such as a lawyer or corporate officer) to the beneficiary (such as a lawyer's client or a shareholder); a duty to act with the highest degree of honest and loyalty toward another person and in the best interests of the other person (such as the duty that one partner owes to another").
[58] A corporation is solvent when its assets exceed its liabilities at fair value, and it is able to pay its debts as they come due.
[59] *In re* Abbott Labs. Derivative S'Holders Litig., 325 F.3d 795, 808 (7th Cir. Ill. 2003). *See* Emerald Partners v. Berlin, 787 A.2d at 90 *citing* Malone v. Brincat, 722 A.2d at 10.
[60] *In re* Doctors Hosp. of Hyde Park, Inc., 474 F.3d 421, 428 (7th Cir. Ill. 2007). *See* Campbell & Frost, *supra* note 4, at 499 (stating that fiduciary duties of corporate manaters "in normal or solvent periods are defined by reference to the best interest of the company's shareholders. Corporate managers owe a fiduciary duty to maximize total shareholder wealth and a duty not to facilitate wealth transfers detrimental to any of the shareholders"). *See also* Revlon v. MacAndrews & Forbes Holdings Inc., 506 A.2d 173, 179 (Del. 1986).
[61] *Gheewalla*, 930 A.2d at 92.
[62] Simons v. Cogan, 549 A.2d 300, 304 (Del. 1988); Katz v. Oak Indus., 508 A.2d 873, 879 (Del. Ch. 1986).
[63] Geyer v. Ingersoll Publications Co., 621 A.2d 784, 787 (Del. Ch. 1992); Seidel v. Byron, 405 B.R. 277, 287 (N.D. Ill. 2009).
[64] Berg & Berg Enterprises, LLC v. Boyle, 178 Cal. App. 4th 1020, 1039 (Cal. App. 6th Dist. 2009).
[65] *Berg*, 178 Cal. App. 4th at 1039.
[66] Brown v. Vencap Inv. Corp., 1984 Tenn. App. LEXIS 3424 (Tenn. Ct. App. Mar. 31, 1984).
[67] Campbell & Frost, *supra* note 4, at 496. *See* Katz v. Oak Indus. Inc., 508 A.2d at 879 (court rejected any duty to act in the best interests of creditors and stated that "if courts are to provide protection against such enhanced risk, they will require either legislative direction to do so or the negotiation of indenture provisions designed to afford such protection"). *See also* 11 U.S.C. § 548 (2005); MODEL BUS. CORP. ACT § 6.40(c) (2005) (showing that additional limitations may be imposed on the directors such as prohibition from engaging in fraudulent transfers or payment of excessive dividends to company's shareholders).
[68] Kandestin, *supra* note 7, at 1243.
[69] Bloom, Holland, Laupheimer & Sonnenfield, *supra* note 37, at 19.
[70] Gloria Chon, *Will the Courts Protect the Boards? Defending the Board of a Michigan Corporation in a "Zone of Insolvency"*, 53 WAYNE L. REV. 1085, 1087 (2007) (stating that zone of insolvency is to be distinguished from a corporation that is actually in a zone of insolvency).
[71] *Berg*, 178 Cal. App. 4th at 1041. *See* Kipperman v. Onex Corp., 411 B.R. 805, 845 (N.D. Ga. 2009) (stating that when the court has researched the term "zone of insolvency" arising out of *Credit Lyonnais* decision, the court could not find an opinion that provided an explicit definition; however, the court was able to find other opinions that repeatedly referred to the zone of insolvency as "hazy," "ill defined," or "confusing").
[72] *Gheewalla*, 930 A.2d 92 at n.20 (stating that the Court of Chancery did not attempt to set forth a precise definition of what constitutes the "zone of insolvency"). *See* Teleglobe Communs. Corp. v. BCE, Inc. (*In re* Teleglobe Communs. Corp.), 493 F.3d 345, 356 (3d Cir. Del. 2007).
[73] D.J. Baker, John Butler Jr. & Mark A. McDermott, *Corporate Governance of Troubled Companies and the Role of Restructuring Counsel*, 63 BUS. LAW. 855 (2008).
[74] Brandt v. Hicks, Muse & Co. (*In re* Healthco Int'l, Inc.), 208 B.R. 288 (Bankr. D. Mass. 1997).
[75] *In re* Healthco Int'l, Inc., 208 B.R. at 302.
[76] Kuney, *supra* note 11, at 76 (stating that "the company also enters the zone [of insolvency] when the directors consider approving a transaction that leaves the corporation on the brink of insolvency or with unreasonably small capital, such as a highly levered buyout").
[77] Peltz v. Hatten, 279 B.R. 710, 745 (D. Del. 2002). *See* Altice v. Nats, Inc., 2008 Tenn. App. LEXIS 229 (Tenn. Ct. App. Apr. 15, 2008) (stating that undercapitalization occurs when a company does not having enough money or assets of a business to carry on its business).
[78] Baker, Butler & McDermott, *supra* note 73, *quoting* Peltz v. Hatten, 279 B.R. at 745. *See* Steinberg v. Kendig (*In re* Ben Franklin Retail Stores), 225 B.R. 646, 655 n. 14 (Bankr. N.D. Ill. 1998) (stating that "the phrase 'vicinity of insolvency' seems to refer to the extent of the risk[s] that creditors will not be paid, rather than balance sheet insolvency").
[79] RSL Communs. PLC v. Bildirici, 649 F. Supp. 2d 184, 206 (S.D.N.Y. 2009).
[80] *Torch Liquidating Trust*, 2008 U.S. Dist. LEXIS 19535, at *19 *citing Gheewalla*, 930 A. 2d at 99-101.
[81] Hallinan v. Republic Bank & Trust Co., 519 F. Supp. 2d 340, 350 (S.D.N.Y. 2007) ("once a corporation enters the 'zone of insolvency,' the directors owe fiduciary duties to the corporations' creditors, in addition to its shareholders"). *See* Kuney,

supra note 11, at 77 ("directors operating in the zone of insolvency must take care to consider the interests of the corporation's creditors as paramount to those of its stockholders"); Adelphia Communs. Corp. v. Rigas (*In re* Adelphia Communs. Corp.), 323 B.R. 345, 386 n.140 (Bankr. S.D.N.Y. 2005).

[82] Helm Fin. Corp. v. MNVA R.R., 212 F.3d 1076, 1081 (8th Cir. Minn. 2000); Sherman v. FSC Realty LLC (*In re* Brentwood-Lexford Partners, LLC), 292 B.R. 255, 272 (Bankr. N.D. Tex. 2003) (holding that "when a corporation enters a zone of insolvency, the fiduciary duty shifts from the shareholders to the creditors of the corporation"). *See* Carrieri v. Jobs.com, Inc., 393 F.3d 508, 534 n. 24 (5th Cir. Tex. 2004) (stating that when officers and directors are aware that the corporation is insolvent or within the zone of insolvency have expanded their fiduciary duties to include creditors). *See also* Roselink Investors, L.L.C. v. Shenkman, 386 F. Supp. 2d 209, 215 (S.D.N.Y. 2004) (stating that "once a corporation enters 'the zone of insolvency,' the directors owe fiduciary duties not only to the corporation's shareholders but to its creditors as well"); *In re* Granite Broad. Corp., 369 B.R. 120, 135 (Bankr. S.D.N.Y. 2007) (stating "when a company is in the vicinity of insolvency a board of directors has a responsibility to manage its affairs in the interests of the corporation and all of its constituencies"); Wasserman v. Halperin (*In re* Classica Group), 2006 Bankr. LEXIS 2599 (Bankr. D.N.J. Sept. 29, 2006) (stating that New Jersey court "is in accord with a recent trend in the law, which expands the fiduciary duties of a corporate director or officer to include not only equity holders, but creditors as well, when a corporation is in the 'zone of insolvency'"). *See also* David B. Shemano & Jenifer Walder Leland, *The War On Corporate Fiduciaries: Have the Fiduciaries Won?*, AM. BANKR. INST., 433 (Spring 2007), *available at* http://www.abiworld.org/committees/newsletters/busreorg/vol9num5/war.pdf (stating there is "voluminous body of law" proposing there is a "shift" or "expansion" of duties to creditors in the zone of insolvency); Anu R. Singh & Harold L. Kaplan, *supra* note 1, at 66 ("Zone of insolvency concepts, which have been applied to commercial ventures for years to shift some of the duties of the board and officers of a corporation approaching or entering insolvency from the protection of stockholder interests but also the consideration of creditors' interests**,** have been viewed as increasingly relevant to nonprofit corporations, particularly health care providers. If a nonprofit enters the "zone of insolvency," the board and management may be required to consider and refrain from actions unreasonably threatening the interests of creditors in being paid, even if those decisions limit or conflict with the absolute fulfillment of the nonprofit' charitable purpose. As the corporation approaches the zone of insolvency, the board of directors and nondirector officers may have to consider the impact of their decisions on creditors and not to just 'roll the dice' so as to unreasonably sacrifice creditor recoveries").

[83] *Berg*, 178 Cal. App. 4th at 1038 *citing* Credit Lyonnais, 1991 Del. Ch. LEXIS 215, at *108 n. 55.

[84] Gladstone v. Stuart Cinemas, Inc., 2005 VT 44, 28 (Vt. 2005).

[85] 3 Point Holdings, L.L.C. v. Gulf South Solutions, L.L.C., 2008 U.S. Dist. LEXIS 19522 (E.D. La. Mar. 13, 2008) (stating that "officers and directors who are aware that the entity is within the 'zone of insolvency' have expanded fiduciary duties which include the creditors, not just the equity holders").

[86] *Berg*, 178 Cal. App. 4th at 1038.

[87] *Id.* (stating that "[t]he modern common law notion that the individual directors of a financially distressed corporation operating in the zone of insolvency or even upon insolvency owe a duty of care to its creditors finds its genesis in Credit Lyonnais"). *See* Official Comm. of Unsecured Creditors of Verestar, Inc. v. Am. Tower Corp. (*In re* Verestar, Inc.), 343 B.R. 444, 474 (Bankr. S.D.N.Y. 2006) (stating that "[a]ny situation where a wholly-owned and controlled subsidiary enters the zone of insolvency obviously requires all responsible parties to act with the utmost care and responsibility").

[88] *In re* Brentwood-Lexford Partners, LLC, 292 B.R. at 272 (stating that duty of care and loyalty shift from corporation and shareholders to creditors when the company operates in the zone of insolvency). *See* Gulfmark Offshore, Inc. v. Bender Shipbuilding & Repair Co., 2009 U.S. Dist. LEXIS 67926 (S.D. Ala. Aug. 3, 2009).

[89] Mukamal v. Bakes, 383 B.R. at 819; Mirant Corp. v. Southern Co., 337 B.R. 107 (N.D. Tex. 2006); Milbank v. Holmes (*In re* TOCFHBI, Inc.), 413 B.R. 523, 539 (Bankr. N.D. Tex. 2009); Gray v. Barnett (*In re* Dehon, Inc.), 334 B.R. 55 (Bankr. D. Mass. 2005).

[90] In RSL Communs. PLC v. Bildirici, 649 F. Supp. 2d 184, 206 (S.D.N.Y. 2009), a New York court held that directors and officers do not owe a duty of care to the corporation's creditors when the corporation is operating in the zone of insolvency for a period of between 30 to 60 days during which the plaintiff and its parent company were having difficulty raising financing capital to address their liquidity needs. The court stated that no fiduciary duties were owned under the definition of the zone of insolvency defined by the plaintiff. This decision signifies that the company is not within the zone of insolvency because it is unable to find financing to improve its cash flow during a one to two month period. However, the court did not outright overrule or ban the zone of insolvency theory. Rather, the court focused on plaintiff's argument and its failure to demonstrate the existence of zone of insolvency during the thirty to sixty day period when parties had problems raising capital to address their liquidity concerns.

[91] *Gheewalla*, 930 A.2d at 94.

[92] *Id.* at 101.

[93] *Berg*, 178 Cal. App. 4th at 1041.

[94] *Id*. at 1041.

[95] *Id*. at 1041 (stating that the scope of any extra-contractual duty owed by corporate directors to insolvent corporation's creditors is limited in California, consistent with the trust fund doctrine to the avoidance of actions that divert, dissipate, or unduly risk corporate assets that might otherwise be used to pay creditor claims). *See* CarrAmerica Realty Corp. v. nVIDIA Corp., 2006 U.S. Dist. LEXIS 75399 (N.D. Cal. Sept. 29, 2006).
[96] *Torch Liquidating Trust*, 2008 U.S. Dist. LEXIS 19535, at *15.
[97] *Id*. at *15.
[98] *Id*.
[99] *Id.* ("*Gheewalla* did not create a cause of action or a new claim that the creditors are owed fiduciary duties at any point by the corporation; rather *Gheewalla* provided only that once the corporation is insolvent the right or standing to bring breach of fiduciary duty claims on behalf of the corporation transfer to creditors").
[100] Flaum & Lari, *supra* note 53 (the scope of fiduciary obligations, particularly their extensions to corporate creditors, "once the company is in the so-called 'zone of insolvency' . . . is less well-defined, despite the Delaware Supreme Court's seminal 2007" *Gheewalla* decision). *See* Chon, *supra* note 70, at 1098 (stating that most circuit courts have not ruled on enough cases to establish a definite trend).
[101] Dionne, *supra* note 40, at 201. *See Gheewalla*, 930 A.2d at 101-02. *See also* Detweiler & Selzer, *supra* note 38, at 55 (stating that while *Gheewalla* decision provides guidance, "the decision is likely to lead to increased litigation. . . over when a corporation becomes or is 'insolvent' an who should control the derivative claim and related litigation"); J. Travis Laster & Nathan Cook, *The Delaware Supreme Court Weighs in on Fiduciary Duties of Creditors*, INSIGHTS, Jun. 2007, at 33 (noting that consequence of *Gheewalla* holding includes consideration of whether "derivative actions by creditors should be treated in the same manner as derivative actions by stockholders").
[102] Dennis J. White, *Protecting Directors from Lawsuits in Tough Times*, BUYOUTS, Jan. 19, 2009, *available at* http://www.mwe.com/info/pubs/buyouts0109.pdf.
[103] *California Appellate Court Reaffirms Limits on Directors' Fiduciary Duties to Creditors and Rejects Duties in Zone of Insolvency*, Gibson Dunn Publications, Dec. 7, 2009, *available at* http://www.gibsondunn.com/publications/pages/CaliforniaAppellateCtLimitsDirectorsFiduciaryDuties.aspx.
[104] Jetpay Merchant Services, LLC v. Miller, 2007 WL 2701636, *7 (N.D. Tex. Sept. 17, 2007) (Colorado law); Technic Engineering, Ltd. v. Basic Envirotech, Inc., 53 F. Supp.2d 1007, 1010-12 (N.D. Ill. 1999) (Illinois law); Lopez v. TDI Services, Inc., 631 So.2d 679, 688 (La. App. 3d Cir. 1994); Miller v. McCown De Leeuw & Co., Inc. (*In re* The Brown Schools), 368 B.R. 394 (Bankr. D. Del. 2007) (denying motion to dismiss deepening insolvency claim). *See* Barbara R. Parlin & Sandra E. Mayerson, *The Zone of Insolvency: A Trap for the Unwary*, MEALEY'S EMERGING INS. DISP., Dec. 5, 2007, at 28.
[105] Kandestin, *supra* note 7, at 1238 (stating that in considering fiduciary duties of directors and officers of near-insolvent firms, "[a]t one end of the spectrum, courts allow for the possibility of an affirmative duty to creditors. At the other extreme, courts hold that no real 'duty' is owed to creditors of near-insolvent firms"). *See* FDIC v. Sea Pines Co., 692 F.2d 973, 977 (4th Cir. S.C. 1982) ("when a corporation becomes insolvent, or in a failing condition, the officers and directors no longer represent the stockholders, but by the fact of insolvency, become trustees for the creditors"); Hallinan v. Republic Bank & Trust Co., 519 F. Supp. 2d at 350.
[106] *Id.* at 1271 (stating that "ever since the 1991 Credit Lyonnais decision, courts have disagreed about the scope of what obligations, if any, are owed to creditors of a near-insolvent firms"). *See* Campbell & Frost, *supra* note 4, at 506 (stating that "courts are likely to apply *Credit Lyonnais* at face value and thus are likely to apply the rule as articulated").
[107] Torch Liquidating Trust v. Stockstill, 561 F.3d 377 (5th Cir. La. 2009) (the Fifth Circuit Court of Appeals affirmed district court's decision on the procedural grounds without comprehensively addressing the issue whether *Gheewalla* prohibits derivative claims by creditors while company is operating in the zone of insolvency).
[108] 122261 Fondren, LLC v. Riverbank Realty GP, LLC, 2010 U.S. Dist. LEXIS 41928 (S.D. Tex. Apr. 29, 2010) (stating that the plaintiff in *Torch Liquidating Trust* amended its compliant following the Delaware Supreme Court's decision in *Gheewalla*, replacing its references to creditors with new references to creditors and shareholders and couching the recovery for damages to be on behalf of creditors and shareholders).
[109] Mims v. Fail (*In re* Vartec Telecom, Inc.), 2007 Bankr. LEXIS 3240 (Bankr. N.D. Tex. Sept. 18, 2007) (stating that creditors of a corporation that is either insolvent or in the zone of insolvency have a right to bring a derivative action on behalf of the corporation for breach of fiduciary duty against its directors). *See* Hill v. Gibson Dunn & Crutcher, LLP (*In re* MS55, Inc.), 2008 U.S. Dist. LEXIS 45587 (D. Colo. June 6, 2008) (stating that "creditors have standing to invoke that [fiduciary] duty and bring a derivative claim against directors on behalf of the debtor corporation in the zone of insolvency to remedy the injuries the creditor suffered as a result of the injuries to the debtor"); 122261 Fondren, LLC v. Riverbank Realty GP, LLC, 2010 U.S. Dist. LEXIS at 41928 (denying defendant's motion to dismiss the derivative cause of action while the company was insolvent and stating that *Gheewalla* allows for derivative claims of actions for breaches of fiduciary duties).
[110] Miller v. McCown De Leeuw & Co. (*In re* Brown Sch.), 368 B.R. 394, 414 (Bankr. D. Del. 2007) (interpreting that *Gheewalla* held that "creditors of corporation in zone of insolvency do not have direct, as opposed to derivative, claims for

breach of fiduciary duty against corporation's directors;" and stating "it is likely that this litigation will be protracted and further elucidation on this issue by the Delaware Supreme Court may be forthcoming in the interim").

[111] Flaum & Lari, *supra* note 53. *See* Parlin & Mayerson, *supra* note 104, at 28-29 (stating the collapse of financial markets displayed how quickly liquidity can disappear, asset values plummet, and company become insolvent almost in an instant).

[112] Dionne, *supra* note 40, at 189.

[113] Baker, Butler & McDermott, *supra* note 73 (stating that although "the legal standards are not particularly clear, directors and officers of a distressed company generally would be prudent to consider their company to be in the zone of insolvency if the company's circumstances cause them to consider seriously the possibility in the first place. Thus, for example, a company with a positive book net worth that does not expect to have liquidity issues until a bond payment is due in six months arguably may be solvent under the two traditional tests but nonetheless may be in the 'zone' or 'vicinity' of insolvency").

[114] *Gheewalla*, 930 A.2d at 101 (noting that "it is well settled that directors owe fiduciary duties to the corporation. When a corporation is solvent, those duties may be enforced by its shareholders, who have standing to bring derivative actions on behalf of the corporation because they are the ultimate beneficiaries of the corporation's growth and increased value. When a corporation is insolvent, however, its creditors take the place of the shareholders as the residual beneficiaries of any increase in value"); *Id*. at 103 ("The creditors of a Delaware corporation that is either insolvent or in the zone of insolvency have no right, as a matter of law, to assert direct claims for breach of fiduciary duty against its directors). *But see In re* STN Enterprises, 779 F.2d 901, 904 (2d Cir. 1985) ("although in most states directors of a solvent corporation do not owe a fiduciary duty to creditors, quite the reverse is true when the corporation becomes insolvent"); Hallinan v. Republic Bank & Trust Co., 519 F.Supp.2d at 349 *quoting In re* Adelphia Communs. Corp., 323 B.R. 345, 386 n.140 (Bankr. S.D.N.Y. 2005) ("when a corporation becomes insolvent or enters into the zone of insolvency, the fiduciary duties of a corporation expand from its stockholders to its creditors"); Prod. Res. Group, L.L.C. v. NCT Group, Inc., 863 A.2d at 798 ("when a firm is insolvent, the directors take on a fiduciary relationship to the company's creditors"); Automatic Canteen Co. v. Wharton, 358 F.2d 587, 590 (2d Cir. N.Y. 1966) ("directors of an insolvent corporation occupy a fiduciary position toward the creditors, just as they do toward the corporation when it is solvent"); Guaranty Trust & Savings Bank v. United States Trust Co., 89 Fla. 324, 103 So. 620, 622 (Fla. 1925) ("The directors . . . of an insolvent corporation occupy toward the creditors of the corporation a fiduciary relation…"); Federal Deposit Ins. Corp. v. Sea Pines Co., 692 F.2d 973, 976-77 (4th Cir. 1982) (when a corporation becomes insolvent "the fiduciary duty of the directors shifts from the stockholders to creditors"); Citicorp Venture Capital, Ltd. v. Committee of Creditors Holding Unsecured Claims (*In re* Papercraft Corp.), 211 B.R. 813, 824 (W.D. Pa. 1997) (in insolvency fiduciary duty of insider extended to creditors); *In re* Healthco Int'l, Inc., 208 B.R. at 300 ("When a transaction renders a corporation insolvent, or brings it to the brink of insolvency, the rights of creditors become paramount"). *See also* Jonathan Friedland et al., *Shades of Gray: Recent Developments that Impact Advising Directors and Officers in the Twilight Zone of Insolvency*, ANN. SURV. OF BANKR. L. Part I §11 (2006) ("Where the corporation is clearly insolvent . . . corporate action taken for the intended benefit of shareholders may adversely affect or prejudice creditors, since creditor recoveries are now at risk").

[115] Asarco LLC v. Ams. Mining Corp., 396 B.R. 278, 395, 415 (S.D. Tex. 2008) (stating that directors always owe fiduciary duties to the corporation). *See* Pullins v. Klimley, 2008 U.S. Dist. LEXIS 3467 (S.D. Ohio Jan. 7, 2008) (stating that "the officers and directors of a corporation that is insolvent or is on the brink of insolvency owe a fiduciary duty to the corporation itself and to its creditors not to waste corporate assets which otherwise could be used to pay corporate debts").

[116] Arnold v. Knapp, 75 W. Va. 804, 811 (W. Va. 1915) ("when a corporation becomes insolvent, or in a failing condition, the officers and directors no longer represent the stockholders, but by the fact of insolvency, become trustees for the creditors").

[117] Committee of Creditors of Xonics Medical Sys., Inc. v. Haverty (*In re* Xonics, Inc.), 99 B.R. 870, 872 (Bankr. N.D. Ill. 1989) (stating that "when corporation is insolvent its officers and directors stand in a position of trust not only to the corporation and its shareholders, but also to its creditors"). *See* Bank Leumi-Le-Israel, B.M. v. Sunbelt Indus., Inc., 485 F. Supp. 556, 559 (S.D. Ga. 1980).

[118] Hedback v. Tenney (*In re* Sec. Asset Capital Corp.), 396 B.R. 35, 42 (Bankr. D. Minn. 2008).

[119] James F. Hart, *Solvency Determination*, ASS'N OF INSOLVENCY AND RESTRUCTURING ADVISORS J., Jun./Jul. 2007, *available at* http://www.lightfootgroup.com/articles/AIRA_Journal_article.pdf (stating that generally there are three tests to determine if a company is solvent and that courts employ the balance sheet, cash flow, or thin capital tests to determine company's solvency).

[120] Prod. Res. Group v. NCT Group, Inc., 863 A.2d at 782. *See* Kipperman v. Onex Corp., 411 B.R. at 836 ("'Equitable insolvency,' or whether a debtor is able to pay its debts as they become due, is a forward-looking standard. It is unclear whether a plaintiff must show that the debtor subjectively intended to become incapable of paying its debts or whether a plaintiff must merely show that a debtor should have foreseen such an outcome to prove the debtor 'intended to incur, or believed that it would incur debts beyond its ability to pay as such debts matured'").

[121] *In re* Healthco Int'l, Inc., 208 B.R. at 302.

[122] *Id.*

[123] Stephen M. Packman, *Directors and Officers in the Zone of Insolvency: Take action with caution to avoid personal exposure*, 193 N.J. L. J. 450 (2008).
[124] Blackmore Ptnrs., L.P. v. Link Energy LLC, 2005 Del. Ch. LEXIS 155, at *22 (Del. Ch. Oct. 14, 2005).
[125] Flaum & Lari, *supra* note 53.
[126] Baker, Butler & McDermott, *supra* note 73 (stating that debts are defined broadly to include contingent, unliquidated, and disputed debts that may not be reflected on the balance sheet prepared in accordance with GAAP). *See* 11 U.S.C. § 101(32). *See also In re* Taxman Clothing Co., Inc., 905 F.2d 166, 170 (7th Cir. 1990).
[127] Five insolvency tests add additional uncertainty to the zone of insolvency. For instance, by applying two different insolvency tests a company may be not insolvent, but in zone of insolvency under one test, while insolvent under the other. *See* Stephen R. McDonnell, *Geyer v. Ingersoll Publications Co.: Insolvency Shifts Directors' Burden From Shareholders to Creditors*, 19 DEL. J. CORP. L. 177, 196 (1994) (stating that "Different jurisdictions often have varying definitions of insolvency. . . . [and] there are several methods which can be used to value corporation's assets. This makes it very difficult, if not impossible, to confidently predict the methodology a court would use in deciding whether a corporation's directors had breached their fiduciary duties to creditors").
[128] Harvey R. Miller, *Corporate Goveranance in Chapter 11: The Fiduciary Relationship Between Directors and Stockholders of Solvent and Insolvent Corporations*, 23 SETON HALL L. REV. 1467, 1484 (1993).
[129] Automatic Canteen Co. v. Wharton (*In re* Continental Vending Mach. Corp.), 358 F.2d 587, 590 (2d Cir. 1966); Bank Leumi-Le-Israel, B.M. v. Sunbelt Indus., Inc., 485 F. Supp. at 559 ("In the case of an insolvent corporation, the directors and officers stand as trustees of corporate properties for the benefit of creditors first and stockholders second").
[130] Bloom, Holland, Laupheimer & Sonnenfield, *supra* note 37, at 20.
[131] *Id*. at 20.
[132] *In re* Sec. Asset Capital Corp., 396 B.R. at 40 (stating that "the nature and extent of the performance of fiduciary duties by directors and officers of insolvent corporations do not change"). *See Gheewalla*, 930 A.2d at 101; Trenwick Am. Litig. Trust v. Ernst & Young, L.L.P, 906 A.2d 168, 195 n.75 (Del. Ch. 2006), *aff'd* 931 A.2d 438 (Del. 2007); Fogel v. U.S. Energy Sys., Inc., 2008 WL 151857 (Del. Ch. Jan. 15, 2008); Manville Corp. v. Equity Sec. Holders Comm. (*In re* Johns-Manville Corp.), 801 F.2d 60 (2d Cir. 1986); Official Bondholders Comm. v. Chase Manhattan Bank (*In re* Marvel Entm't Group, Inc.), 209 B.R. 832 (D. Del. 1997).
[133] Ass'n of Mill & Elevator Mutual Ins. Co. v. Barzen Int'l, Inc., 553 N.W.2d 446, 451 (Minn. Ct. App. 1996). *See In re* Sec. Asset Capital Corp., 396 B.R. at 40 ("Breach of fiduciary duty through self-dealing is intensely fact driven").
[134] Decker v. Mitchell (*In re* JTS Corp.), 305 B.R. 529, 538 (Bankr. N.D. Cal. 2003).
[135] Helm Fin. Corp. v. MNVA R.R., 212 F.3d at 1081.
[136] New York Credit Men's Adjustment Bureau, Inc. v. Weiss, 305 N.Y. 1 (N.Y. 1953); Steinberg v. Kendig (*In re* Ben Franklin Retail Stores), 225 B.R. 646 (Bankr. N.D. Ill. 1998).
[137] *Credit Lyonnais*, 1991 Del. Ch. LEXIS 215, at *109.
[138] *Berg*, 178 Cal. App. 4th at 1041.
[139] Trenwick Am. Litig. Trust v. Ernst & Young, L.L.P., 906 A.2d at 205.
[140] *In re* Sec. Asset Capital Corp., 396 B.R. at 42-43 ("The driving force behind the plaintiff's breach of fiduciary duty action seems to be the premise that the defendants owed a fiduciary duty exclusively to the insolvent debtor's unsecured creditors; and that the duty could only have been fulfilled through a Chapter 7 liquidation. That is not the law. The duty remained owing to. . . . the corporation, with unsecured creditors protected as included beneficiaries of the duty due to insolvency. But, no particular form of liquidation, or indeed any liquidation at all, was required as a matter of law (unless there be no reasonable future prospect), even if there was no reasonable prospect for a return to shareholders").
[141] *Id.* at 40 *citing* Official Committee of Unsecured Creditors of RSL Com Primecall, Inc. v. Beckoff (*In re* RSL Com Primecall, Inc.), 2003 Bankr. LEXIS 1635 (Bankr. S.D.N.Y. 2003); *In re* Ben Franklin Retail Stores, Inc. 225 B.R. 646, 655 (Bankr. N.D. Ill 1998).
[142] Trenwick Am. Litig. Trust v. Ernst & Young, L.L.P., 906 A.2d at 205.
[143] Tooley v. Donaldson, Lufkin & Jenrette, Inc., 845 A.2d 1031, 1036 (Del. 2004) (holding that "because a derivative suit is being brought on behalf of the corporation, the recovery, if any, must go to the corporation"). *See* Spiegel v. Buntrock, 571 A.2d 767 (Del. 1990) (stating that prior asserting a derivative corporation, creditors must exhaust intra-corporate remedies by making a demand to directors or plead with particularity why demand is excused and that a lawsuit filed without a demand to directors must allege with particularity why demand would have been futile); Zupnick v. Goizueta, 698 A.2d 384, 386 (Del. Ch. 1997) (stating that the plaintiff has the burden of proof alleging with particularity why demand should be excused as futile). *See also* Detweiler & Selzer, *supra* note 38, at 55 *citing* Aronson v. Lewis, 473 A.2d at 815-16 (stating that demand is futile where plaintiffs plead facts sufficient to demonstrate that "(1) a majority of board of directors is interested in or lacks independence as to the challenged transaction or (2) there exists reasonable doubt that the challenged transaction was a valid exercise of business judgment").
[144] *Gheewalla*, 930 A.2d at 102 *citing* Agostino v. Hicks, 845 A.2d 1110, 1117 (Del. Ch. 2004). *See* Torch Liquidating Trust v. Stockstill, 561 F.3d at 385 (stating that if "a corporation becomes insolvent, however, its creditors become the appropriate

parties to bring a derivative suit on behalf of the corporation where those in control of it refuse to assert a viable claim belonging to it because the creditors are the beneficiaries of any increase in value"). Creditors do not have standing to bring direct claims against directors and officers for breach of their fiduciary duties. *See also* Big Lots Stores, Inc. v. Bain Capital Fund VII, LLC, 922 A.2d 1169, 1172 (Del. Ch. 2006).

[145] *Id.* at 102 *citing* Prod. Res. Group, L.L.C. v. NCT Group, Inc., 863 A.2d at 794 n.67.

[146] *Id.* at 102.

[147] *Id.* at 101-02.

[148] Baker, Butler & McDermott, *supra* note 73. *See* Tooley v. Donaldson, Lufkin & Jenrette, Inc., 845 A.2d 1031, 1033 (Del. 2004).

[149] *Berg*, 178 Cal. App. 4th at 1039. *See* Prod. Res. Group v. NCT Group, Inc., 863 A.2d at 790-93; Hechinger Inv. Co. of Del. v. Fleet Retail Fin. Group, 274 B.R. 71, 89 (D. Del. 2002).

[150] Elina Chechelnitsky, *D&O Insurance in Bankruptcy: Just Another Business Contract*, 14 FORDHAM J. CORP. & FIN. L. 825, 832-33 (2009).

[151] *Id.* at 832-33.

[152] Packman, *supra* note 123 (stating that the deepening insolvency theory has been recognized as an independent cause of action in several jurisdictions). *See* Ronald R. Sussman & Benjamin H. Kleine, *What is Deepening Insolvency?*, 15 NORTON J. OF BANKR. L. & PRAC. 793 (2006) (discussing in which jurisdictions deepening insolvency is a viable claim of action); Friedman, Scheinbaum & Johnson, *supra* note 12, at 286 (stating that "as an independent tort, the concept of deepening insolvency raises a myriad of important issues to all parties transacting with the insolvent or nearly insolvent corporation"); Chon, *supra* note 70, at 1087 (stating that zone of insolvency is also to be distinguished from deepening insolvency, a situation when directors make business decisions prior to bankruptcy that worsen company's financials, thus leading the company further into debt). *See also* Dixon v. Am. Cmty. Bank & Trust (*In re* Gluth Bros. Constr.), 2009 Bankr. LEXIS 3857 (Bankr. N.D. Ill. Nov. 25, 2009); Forman v. Salzano (*In re* Norvergence, Inc.), 405 B.R. 709 (Bankr. D.N.J. 2009).

[153] Tracy Bateman Farrell, *"Deepening Insolvency" as Cause of Action in Tort*, 23 A.L.R.6th 457 (2008). *See* Peter Kimani, *Deepening Insolvency is Only Damages Deep*, COLUMBUS B. ASS'N., *available at* http://www.cbalaw.org/ (stating that "deepening insolvency in its most basic form arises from conduct that is alleged to either fraudulently or negligently prolong the life of a company, it follows that parties who are believed to have fiduciary obligations or perceived fiduciary duties of care are likely to end up as defendants in these cases. At the top of this list of potential defendants are company directors and officers. Others are professionals paid to advise the company, including auditors, investment brokers and attorneys and secured lenders who extend new financing during insolvency while simultaneously acquiring additional security for their loans").

[154] Official Comm. of Unsecured Creditors v. R.F. Lafferty & Co., 267 F.3d 340, 347 (3d Cir. 2001).

[155] Packman, *supra* note 123.

[156] *In re* Monahan Ford Corp. of Flushing, 340 B.R. 1 (Bankr. E.D. N.Y. 2006); *In re* Latin Inv. Corp., 168 B.R. 1 (Bankr. D. D.C. 1993); *In re* Student Finance Corp., 335 B.R. 539 (D. Del. 2005).

[157] Official Committee of Unsecured Creditors v. R.F. Lafferty & Co., Inc., 267 F.3d at 340.

[158] Hannover Corp. of Am. v. Beckner, 211 B.R. 849 (M.D. La. 1997).

[159] Corcoran v. Frank B. Hall & Co., Inc., 149 A.D.2d 165, 545 N.Y.S.2d 278 (1st Dep't 1989).

[160] Official Comm. of Unsecured Creditors v. R.F. Lafferty & Co., 267 F.3d at 340.

[161] Official Comm. of Unsecured Creditors v. Credit Suisse First Boston (*In re* Exide Techs., Inc.), 299 B.R. 732 (Bankr. D. Del. 2003).

[162] Allard v. Arthur Andersen & Co. (U.S.A.), 924 F. Supp. 488 (S.D.N.Y. 1996).

[163] Tabas v. Greenleaf Ventures, Inc. (*In re* Flagship Healthcare, Inc.), 269 B.R. 721 (Bankr. S.D. Fla. 2001).

[164] RDM Holdings v. Equitex (*In re* Rdm Sports Group), 277 B.R. 415 (Bankr. N.D. Ga. 2002).

[165] Friedman, Scheinbaum & Johnson, *supra* note 12, at 296.

[166] *Id.*

[167] Commodity Futures Trading Comm'n v. Weintraub, 471 U.S. at 355. *See In re* Xonics, Inc., 99 B.R. at 872. *See also* Martin J. Bienenstock, *Conflicts Between Management and the Debtor in Possession's Fiduciary Duties*, 61 CINCINNATI L. REV. 543 (1992) (noting that DIP must act on behalf of creditors, which include but are not limited to creditors holding secured claims, senior unsecured claims, and junior claims, who all have different interests).

[168] Midland Cogeneration Venture L.P. v. Enron Corp. (*In re* Enron Corp.), 419 F.3d 115 (2d Cir. N.Y. 2005); Citicorp Venture Capital v. Committee of Creditors Holding Unsecured Claims, 160 F.3d 982 (3d Cir. Pa. 1998); *In re* Dana Corp., 2007 Bankr. LEXIS 1934 (Bankr. S.D.N.Y. May 30, 2007).

[169] 11 U.S.C. §§ 1107, 1108.

[170] 11 U.S.C. § 1107.

[171] United States Trustee v. Bloom (*In re* Palm Coast, Matanza Shores Ltd. Pshp.), 101 F.3d 253, 258 (2d Cir. N.Y. 1996).

[172] Miller, *supra* note 128, at 1487-88 (stating that "the courts have recognized that a DIP owes the duty of loyalty to its creditors and stockholders"). *See* Wolf v. Weinstein, 372 U.S. 633, 647 (1963); Fulton State Bank v. Schipper (*In re* Schipper), 112 B.R. 917, 919 (N.D. Ill. 1990), *aff'd*, 933 F.2d 513 (7th Cir. 1991).
[173] Ford Motor Credit Co. v. Weaver, 680 F.2d 451, 461 (6th Cir. 1982); Lustig v. Sweden Broadcasting Co., 77 B.R. 404 (Bankr. W.D.N.Y. 1987).
[174] *In re* Rigden, 795 F.2d 727, 730 (9th Cir. Ariz. 1986).
[175] United States use of Julien P. Benjamin Equipment Co. v. Sapp, 641 F.2d 182, 184-85 (4th Cir. 1981). *See In re* Haugen Constr. Serv., Inc., 104 B.R. 233 (Bankr. D.N.D. 1989); *In re* Adelphia Communications Corp., 342 B.R. 122, 129 (S.D.N.Y. 2006); *In re* Chrysler LLC, 405 B.R. 84 (Bankr. S.D.N.Y. 2009), *aff'd*, Indiana State Police Pension Trust v. Chrysler LLC (*In re* Chrysler LLC), 2009 U.S. App. LEXIS 17441 (2d Cir. Aug. 5, 2009), *cert. dismissed*, 2009 U.S. LEXIS 5101 (Aug. 28, 2009).
[176] United States v. Aldrich (*In re* Rigden), 795 F.2d 727, 730 (9th Cir. 1986); Southwestern Media, Inc. v. Rau, 708 F.2d 419, 425 (9th Cir. 1983); *In re* Rollins, 175 B.R. 69, 75 (Bankr. E.D. Cal. 1994). *See* Reich v. Burke (*In re* Reich), 54 B.R. 995 (Bankr. E.D. Mich. 1985); Johnson v. Clark (*In re* Johnson), 518 F.2d 246, 251 (10th Cir.), *cert. denied*, 423 U.S. 893 (1975); Dana Commercial Credit Corp. v. Nisselson (*In re* Center Teleproductions, Inc.), 112 B.R. 567 (Bankr. S.D.N.Y. 1990); *In re* Lowry Graphics, Inc., 86 B.R. 74 (Bankr. S.D. Tex. 1988).
[177] Catherine Steege & Landon S. Raiford, *Fiduciary Duties – During The Chapter 11 Case*, AM. BANKR. INST., at 14, *available at* http://www.abiworld.org/committees/newsletters/young/vol7num2/The_Importance_of_Understanding_Fiduciary_Duties.pdf *citing* W. Marion Wilson, *Trust Me, I'm a Lawyer: Restoring Faith in Fiduciaries by Dumping "Due Diligence" and Tolling the Statute of Limitations for Postpetition Breach of Fiduciary Duty in Chapter 11*, 22 BANK. DEV. L. J. 637, 641-42 (2006). *See* Myron M Sheinfeld & Judy Harris Pippitt, *Fiduciary Duties of Directors of a Corporation in the Vicinity of Insolvency and After Initiation of a Bankruptcy Case*, BUS. LAW., 79-107 (2004) (stating that DIP "may not embezzle, waste assets, sell assets for far less than fair market value, fail to diligently prosecute claims, or settle claims too cheaply," intentionally misappropriate assets of the estate, failing to prosecute clearly meritorious claims, and misrepresent the value of claims).
[178] Sheinfeld & Pippitt, *supra* note 177 (noting that in Chapter 11 proceedings under Section 1106 of the Bankruptcy Code, the directors have additional statutory duties which include fair reporting and investigation of debtor's conduct and financial condition).
[179] Lopez-Stubbe v. Rodriquez-Estrada (*In re* San Juan Hotel Corp.), 847 F.2d 931, 950 (1st Cir. 1988); *In re* Coram Healthcare Corp., 271 B.R. 228 (Bankr. D. Del. 2001).
[180] *In re* San Juan Hotel Corp., 847 F.2d at 931; *In re* Hampton Hotel Investors, 270 B.R. 346 (Bankr. S.D.N.Y. 2001); Bennit v. Gemmill (*In re* Combined Metals Reduction Co.), 557 F.2d 179, 196-97 (9th Cir. 1977).
[181] Sherr v. Winkler, 552 F.2d 1367, 1374 (10th Cir. 1977); Moulded Prods., Inc. v. Barry (*In re* Moulded Prods. Inc.), 474 F.2d 220, 224 (8th Cir.), *cert. denied* 412 U.S. 940 (1973); *In re* Spielfogel, 211 B.R. 133, 145-46 (Bankr. E.D.N.Y. 1997).
[182] The corporation is present in all of the financial phases because directors and officers are considered its fiduciaries.
[183] William Lenhart & Jack Williams, *Director and Officer Liability in the Zone of Insolvency*, CORP. GOVERNANCE ADVISOR, May/Jun. 2006, at 28 (stating that the duty to creditors, as opposed to shareholders, ripens as corporation begins operating in the zone of insolvency).
[184] In insolvency, additional duties include not allowing preferential transfer of assets, minimizing the loss to creditors, maximizing company's long-term wealth creating capacity, avoiding actions that divert, dissipate, or unduly risk corporate assets that otherwise may be used to pay creditor claims, and being aware of deepening insolvency. In bankruptcy, directors and officers additional duty is the same of a trustee in bankruptcy and debtor in possession.
[185] *See* Moody's KMV model *available at* http://www.moodyskmv.com/ (Moody's KMV model is utilized to predict possibility of default among private companies. Moody's KMV model enables greater precision and accuracy in evaluating private firm credit risk by combining financial statement and equity market-based information. Morningstar's Financial Health Grade allows individuals to accurately identify companies in distress and their potential for default). *See also* Warren Miller, James P. Harrington & Magdalena Mroczek, *A More Powerful Bankruptcy Prediction Model*, MORNINGSTAR ADVISOR, Jan. 12, 2010, *available at* http://advisor.morningstar.com/articles/article.asp?docId=17915.
[186] *See* Springate Formula *available at* http://www.bankruptcyaction.com/bankpred2.htm (permitting a user to enter information pertaining to current assets, total assets, current liabilities, sales, interest expense, and profit (loss) before taxes to calculate the score that allows to determine if the company is in danger of becoming insolvent). *See* Charley Kyd, *An Excel Tutorial: Predict Business Bankruptcy Using Z Scores with Excel*, EXCELUSER, Aug. 2008, *available at* http://www.exceluser.com/tools/zscore.htm (provides for simple analytical method to predict whether a business is headed for bankruptcy by using Excel).
[187] Additional models exist to measure company's solvency: the Morning Start Solvency Score ("MSS") and Distance to Default Score. *See* Warren Miller, *Introducing the Morningstar Solvency Score, A Bankruptcy Prediction Metric*, MORNINGSTAR. INC., Dec. 2009, *available at* http://ssrn.com/abstract=1516762. MSS is an accounting-ratio based metric composed four ratios that measure company's credit-relevant characteristics such as capital structure leverage, interest

coverage, short term liquidity, and profitability. MSS has superior bankruptcy prediction power within one year time scope. MSS incorporates unique information to be useful in a combination with other models. Instead of using ratios, which can be problematic when developing an equation through regression analysis, the ratios are transformed into ratios into percentiles based on breakpoints that are distributed uniformly through entire multi-year dataset.

The MSS formula is $MSS = (5 * \sqrt{TLTA_p} * EBIE_p) + (4 * QR_p) + (1.5 * ROIC_p)$, where is $TLTA_p$ percentile of scores of Total Liabilities divided by Total Assets, where $EBIE_p$ is 101 minus the percentile of Earnings Before Interest Taxes Depreciation and Amortization divided by Interest Expense, where QR_p is 101 minus the Percentile of Quick Ratio, and where $ROIC_p$ is 101 minus the Percentile Score of Returns on Invested Capital.

Distance to Default ("DD") score is statistically significant model in explaining the default events of firms with poor credit quality and high credit risk (Ming-Yuan Li & Peter Miu, *A Hybrid Bankruptcy Prediction Model with Dynamic Loadings on Accounting-Ratio-Based and Market-Based Information: A Binary Quartile Regression Approach*, *available at* http://ssrn.com/abstract=1506656). The DD measures the distance between the current value of assets and the debt in terms of volatility, which is the asset's standard deviation of the growth rate (Ming Xu & Chu Zhang, *Bankruptcy Prediction: the Case of Japanese Listed Companies*, REV. OF ACCT. STUD., Dec. 2009, at 539). The DD model assumes that company's equity can be considered an option with a strike price equal to the book the value of its liabilities and a market price equal to the market value of its assets (Warren Miller, *Comparing Models of Corporate Bankruptcy Prediction: Distance to Default vs. Z-Score*, MORNINGSTAR. INC., July 2009, *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1461704). Unlike the Z-Score or MSS, the DD does not address the cash accounting values that are examined in a default or bankruptcy scenario. Further, DD does not examine the financial covenants, which may be true determinants of whether a distressed company defaults on its obligations.

Company's DD can be computed using volatility of its current level and market equity value. The probability of company's default is $Pr(E_1 \leq 0) = \Phi[(-A_0 - D) / \sigma_A] = \Phi(-E_0/\sigma_A)$, where equity value is E_1, the current value of debt is E_0, the constant value of debt is D, the cumulative normal probably function is $\Phi(\bullet)$, company's asset value at the end of the year is A_1, current asset value is A_0, and standard deviation is σ_A.

[187] The formula shows that higher the level of the current equity value (the volatility of asset value), the larger the value of DD, and thus the lower is the probability to a default. *See* Ming-Yuan Li & Peter Miu, *A Hybrid Bankruptcy Prediction Model with Dynamic Loadings on Accounting-Ratio-Based and Market-Based Information: A Binary Quintile Regression Approach*, *available at* http://ssrn.com/abstract=1506656.

[188] Mukesh Bajaj, David J. Dennis, Stephen P. Ferris & Atulya Sarin, *Firm Value and Marketability Discounts*, 27 J. Corp. L. 89, 110 (2001). *See* Lord Narayanan, *How to Calculate Altman Z Score of Customers and Suppliers*, IOMA'S REP. ON MANAGING CREDIT, RECEIVABLES & COLLECTIONS, Mar. 2010, at 12 (stating that the Z-Score measures corporate financial stress). *See also* D. Venkat Janardhan Rao & M. Durga Prasad, *Z-Score Analysis - A Tool to Predict Financial Health*, MGMT. ACCT., Aug. 2010, at 605-09 (stating that Altman has developed a statistical model and found the statistical ratios best predicting bankruptcy).

[189] This analysis was developed by Edward Altman, a professor at New York University's Stern School of Business in 1968. The original Z-Score model was modified to create the Z'-Score model, the Z"-Score Model, and the ZETA model.

[190] Joseph Calandro, Jr., *Considering the utility of Altman's Z-Score as a strategic assessment and performance management tool*, STRATEGY & LEADERSHIP (2007), at 37-38 (stating that Altman's Z-Score has been immensely influential in areas such as credit risk analysis, distressed investing, M&A target analysis, turnaround management, and strategy and performance measurement).

[191] Bajaj, Dennis, Ferris & Sarin, *supra* note 188, at 110. *See* Kyd, *supra* note 186.

[192] Gregory J. Eidleman, *Z Scores – A Guide to Failure Prediction*, CPA J., Feb. 1995, at 53.

[193] Nat'l Wildlife Fed'n v. EPA, 286 F.3d 554, 565 (D.C. Cir. 2002).

[194] Warren Miller, *Introducing the Morningstar Solvency Score, A Bankruptcy Prediction Metric*, Morningstar. Inc., Dec. 2009, *available at* http://ssrn.com/abstract=1516762.

[195] Eidleman, *supra* note 192, at 52.

[196] Jae K. Shim, *Forecasting Corporate Bankruptcy Do It Yourself*, J. OF BUS. FORECASTING METHODS & SYS., Spring 1992, at 21. *See also* Bajaj, Dennis, Ferris & Sarin, *supra* note 188, at 110 (stating that "the higher the Z-Score of a company, the stronger its financial position").

[197] *Id.* at 23.

[198] Edward I. Altman, *Predicting Financial Distress of Companies: Revisiting the Z-Score and ZETA Models*, N.Y. Univ., Working Paper, Jul. 2000, at 20 *available at* http://pages.stern.nyu.edu/~ealtman/Zscores.pdf.

[199] Bajaj, Dennis, Ferris & Sarin, *supra* note 188, at 110.

[200] Eidleman, *supra* note 192, at 52.

[201] Altman, *supra* note 198, at 41 (noting that the ZETA model, which is the variation of the Z-Score model, has displayed accuracy of 96 percent when predicting possibility of bankruptcy in one year, and 70 percent when predicting the possibility of the company's bankruptcy in five years). ZETA model calculations are performed by Zeta Services Inc., *available at* http://zetascore.com/. Z-Score's low accuracy when utilized to determine bankruptcy five years in the future should not

affect its implementation among the boards of directors and management because the Z-Score permits to determine if the company is in the zone of insolvency today.

[202] Eidleman, *supra* note 192, at 52. Additionally, for privately held firms where X_4 cannot be calculated, the Z-Score formula should not be modified. The modified Z-Score formula for private companies is $0.717X_1 + 0.847X_2 + 3.107X_3 + 0.420X_4 + 0.998X_5$, where if the company's Z-Score is below 1.23 it is considered likely file for bankruptcy, company with the Z-Score between 1.23 and 2.90 is in the zone of indifference, and a company with the Z-Score of above 2.90 is considered to be non-bankrupt.

For nonmanufacturing firms, where X_5 greatly varies by industry, must also be modified. The modified Z-Score formula for nonmanufacturing companies is $6.56X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4$. The company with the Z-Score below 1.1 is considered likely to file for bankruptcy. The company with the Z-Score between 1.1 and 2.6 is in the zone of ignorance. The company with the Z-Score above 2.6 is considered to non-bankrupt.

[203] Narayanan, *supra* note 188.

[204] *Id.* (stating that bankruptcies caused by accounting fraud practices such as WorldCom will not be determined by the Z-Score).

[205] *Id.*

[206] *In re* Fleming Packaging Corp., 370 B.R. at 784.

[207] ZAMORE, SOTERA & SMITH, *supra* note 25. *See* Cuker v. Mikalauskas, 692 A.2d 1042, 1045 (Pa. 1997) ("The business judgment rule insulates an officer or director of a corporation from liability for a business decision made in good faith if he is not interested in the subject of the business judgment, is informed with respect to the subject of the business judgment to the extent he reasonably believes to be appropriate under the circumstances, and rationally believes that the business judgment is in the best interests of the corporation").

[208] Aronson v. Lewis, 473 A.2d at 811. *See* Baldwin v. Bader, 585 F.3d 18, 22 (1st Cir. Me. 2009) (stating that "there is a presumption that the directors have acted properly and the 'business judgment' rule provides substantial latitude for the directors' judgment").

[209] Mobil Corp. v. Marathon Oil Co., 1981 U.S. Dist. LEXIS 10020 (S.D. Ohio Dec. 7, 1981) (stating that "the initial burden of proving the director's interest or bad faith. . . always rests with the plaintiff"). *See* Treadway Companies, Inc. v. Care Corporation , 638 F. 2d 357, 382 (2d Cir. 1980). *See* LeMenestrel v. Warden, 2008 PA Super 295, P20 (Pa. Super. Ct. 2008) (stating that "the burden is on the party challenging the decision to establish facts rebutting that presumption").

[210] Aronson v. Lewis, 473 A.2d at 811.

[211] *In re* Fleming Packaging Corp., 370 B.R. at 784.

[212] Revlon, Inc. v. MacAndrews & Forbes Holdings, Inc., 506 A.2d at 173.

[213] *In re* Fleming Packaging Corp., 370 B.R. at 784.

[214] Lenhart & Williams, *supra* note 183, at 32.

[215] Baldwin v. Bader, 585 F.3d 18, 22 (1st Cir. Me. 2009).

[216] Bennett Restructuring Fund, L.P. v. Hamburg, 2003 Conn. Super. LEXIS 61 (Conn. Super. Ct. Jan. 2, 2003) (stating that directors and officers actions did not qualify as a breach of fiduciary duty). *See* Luis Salazar, *Is the Tide Turning on D&O Claims?*, 24-3 AM. BANKR. INST. J. 1 (2005) (stating that *Credit Lyonnais* holding "emphasized that the business-judgment rule protects directors if they, in good faith, pursued a less-risky business strategy because they fear that a more risky strategy might render the firm unable to meet its legal obligations to creditors and other constituencies"). *See* Jo Ann J. Brighton, *The Trenwick Decision – The Death Knell for Deepening Insolvency?*, 25-8 AM. BANKR. INST. J. 32 (2006) (stating that business judgment rule applies even during the zone of insolvency).

[217] Friedman, Scheinbaum & Johnson, *supra* note 12, at 286.

[218] R. Paul Yetter, *Entering the Sixth Dimension: An Area Called "The Insolvency Zone",* 55TH ANN. ROCKY MNT. MIN. L. INST., Jul. 2009, at 24 *available at* http://www.yetterwarden.com/news/insolvency_zone.pdf (stating that "a company experiencing deepening liquidity could insulate itself from potential liability and bolster application of the business judgment rule by creating a record of corporate decision making that demonstrates that it considered creditor interests in the process").

[219] Ryan, *supra* note 40, at 36 (stating that in the zone of insolvency, it is difficult for the directors and officers to benefit shareholders and creditors equally due to differences in their demands and competing interests. For instance, because shareholders have a strong incentive to avoid bankruptcy, they are willing to dissipate the company's assets to stave off a bankruptcy filing). Conversely, creditors desire to preserve the company's assets for possible future liquidation and payment of their claims. *See* Maaren A. Choksi, Sing or Swim? *A Case For Salvaging Deepening Insolvency Theory*, 7 J. BUS. & SEC. L. 163, 211 n.125 (2006); A. Mechele Dickerson, *Privatizing Ethics in Corporate Reorganizations*, 93 MINN. L. REV. 875, 880 (2009) (stating that "the differing interests of creditors and shareholders can create significant agency conflicts for managers, since the managers theoretically run the company for the benefit of both groups").

[220] Adam M. Slavens, *Directors and Creditors in the "Zone of Insolvency"*, 22 N.C.D. REV. 37, 41 (2007) (stating that the corporate governance best practices suggest and encourage the directors and officers maintain heightened level of sensitivity when dealing with creditors when corporation is in the zone of insolvency). *See* Barrett Howell and Phillip Lamberson, *Corporate Duties Rise When Companies Enter the Zone of Insolvency*, TEX. LAW., Mar. 30, 2009, *available at*

http://www.law.com/jsp/cc/PubArticleCC.jsp?id=1202429482885 (stating that understanding creditors' interests in the zone of insolvency may be achieved by soliciting creditors to input on significant business decisions).

[221] Richard De Rose, *Fiduciary Duties in Turbulent Times*, DIRECTORSHIP.COM, Feb. 15, 2010, *available at* http://www.directorship.com/fiduciary-duties-turbulent/.

[222] The directors and officers of the corporation should not increase shareholder return or be given preference at the cost of impairment of creditors' claims. Similarly, the directors and officers should not engage in significant transactions that only benefit the creditors, as current case law shows creditors' interests in the zone of insolvency do not supersede shareholders' interests.

[223] JOHN A. PEARCE II & R. B. ROBINSON, JR., STRATEGIC MANAGEMENT: STRATEGY FORMULATION, IMPLEMENTATION, AND CONTROL 3 (12th ed. 2011).

[224] *Id*. at 4-6.