

“Ask and You Shall Receive”

How the U.S. Legal System Encourages Positive Settlements of Negative Expected Value Suits in Securities Litigation

by

Christina Osmun

An essay submitted to the Department of Economics

in partial fulfillment of the requirements for

the degree of Master of Arts

Queen’s University

Kingston, Ontario, Canada

June 2010

copyright © Christina Osmun 2010

Acknowledgments

I would like to take a moment to thank the many people who made my achievements during the Queen's Economics Masters program and this paper possible. Firstly, I would like to thank Professor Roger Ware who shared his extensive knowledge and insightful feedback throughout my work on this paper. I would especially like to thank him for his motivating enthusiasm about the topic of this essay and continual encouragement. Professor Ware fostered my interest in law and its related incentives which redirected the focus of this paper to a topic with more meaning and importance. Professor Ware went out of his way to make sure that he was available for assistance every week to aid in the smooth progression and timely completion of my work.

I would also like to thank my colleagues who, not only encouraged and taught me throughout the school term, but gave me an outlet to relax and really enjoy my time at Queen's. I would especially like to thank Michelle Boodhoo, Kaetlynd Mcrae, Alexa Gendron-Odonnell and Shiny (Hanyue) Zhang for their continual support.

I would also like to thank the Economics Department's staff, particularly Rachel Ferreira, who answered countless emails and provided me with resources along the way.

Lastly, I would like to thank my parents, Anita and Ted Osmun; my sister, Anneka Osmun and Kyle Feasey for their encouragement throughout the year.

Contents

Acknowledgments..... 2

1. Introduction: 4

2. Litigation in the United States 5

3. Tort Law and Social Optimality 7

4. NEV Suits 15

 4.1 NEV Suits and Social Optimality..... 15

 4.2 Literature Review on NEV Suits 18

5. The Effects of D&O Insurance 22

 5.1 D&O Insurance Laws in the U.S..... 22

 5.3 Defendants’ Incentives 24

6. Attorneys and Diversification..... 28

 6.1 Literature on Contingency Fees 28

 6.2 Attorneys’ Incentives 32

7. Milberg Weiss: A Real World Example..... 37

8. Settlement Externalities..... 40

9. Conclusion..... 41

References 42

1. Introduction:

Negative expected value (NEV) suits, if taken to judgment, have higher costs for the plaintiff than the expected reward. They are an enigma for economists since such suits are often able to extract a positive settlement. Logically, defendants faced with this type of suit would not be expected to offer settlement and the suit would be dropped since the cost to pursue is greater than the gain. Securities litigation occurs more frequently in the United States (U.S.) than any other country and authors such as Rosenberg and Shavell (1985), Bebchuk (1988), Romano (1991) and Alexander (1991) have argued that it consists of a disturbing number of NEV suits. All these papers superseded and influenced the Private Securities Litigation Reform Act (PSLRA) of 1995 which was a legal reform attempting to decrease the number of non-meritous suits. However, since the PSLRA, the number of lawsuits dismissed has increased but it has not been shown that the dismissed lawsuits are NEV. The fact remains that NEV suits continue to congest the securities litigation system and there remains a conundrum as to why they exist and continue to receive positive settlements.

This paper will formally develop two theories that explain the excessive number of NEV suits in the U.S. First is the theory that Directors and Officers Liability (D&O) Insurance externalizes risks for directors and officers making them careless and is structured to encourage settlement regardless of the merits of a lawsuit. Furthermore, D&O insurance laws are formulated such that that the insurer, the only stakeholder with an incentive to curb settlements, is powerless to stop them.

Secondly it will be shown that, in a risky market with contingent fees, a strategy of low quality- high quantity law suits by the plaintiffs' lawyer can dominate. In essence, plaintiffs' attorneys may choose to diversify to protect themselves from the potential failure of any case. Furthermore, since this strategy involves putting little work into individual cases, this strategy would likely encourage a suboptimal level of work from the plaintiffs's perspective. This paper demonstrates that the incentives created by D&O

Insurance and contingent fees in U.S. securities litigation allows and encourages NEV suits.

Section 2 of this paper will explain relevant U.S. laws and other background information that will be used throughout the paper. Section 3 will explain the purpose and social objectives of tort law. Section 4 will discuss NEV suits and when they can be socially optimal. This section will also discuss the previous literature explaining the existence of NEV suits. Section 5 will discuss D&O insurance laws, the situation faced by the insurer and the insured. It will also develop a mathematical model to demonstrate D&O insurance's effect on the defendant's incentives. Section 6 will explain the previous literature surrounding contingent fees and will then use a mathematical model to demonstrate how contingent fees can encourage many of the things that economists previously believed contingent fees hindered. Section 7 discusses Milberg Weiss, an example of how the incentives of this system led them to create large profits fraudulently. Section 8 discusses the macroeconomic effects of excessive securities litigation in the U.S. and, lastly, section 9 will provide concluding remarks.

2. Litigation in the United States

The U.S. experiences substantially more shareholder class action and derivatives suits than any other securities market in the world. As a result, the focus of this paper is to uncover the incentives in the U.S. legal system that encourage litigation. The mathematical models in this paper reflect the situation faced by shareholders in the U.S. thus, a description of critical rules and laws in the U.S. is required.

In the U.S. they use what is referred to as the American rule which means that the plaintiff and defendant pay their own court fees regardless of the outcome of the trial. The mathematics in this paper will reflect that rule, however, it could easily be extended to the European Rule where the loser

must pay the legal fees for both sides.¹ This extension should make little difference to the results of this paper as it focuses on settlements where no ruling occurs.

It is common in the U.S. for plaintiffs to compensate their lawyers contingently. This means the lawyer will receive a fixed percentage, commonly 33%, of what is awarded in the event that the trial ends in favour of the plaintiff.²

Directors and Officers are subject to personal liability under U.S. law. Their fiduciary duty includes a duty of care and duty of loyalty. Duty of care invokes a level of care that is required by law. If someone's actions do not satisfy this standard, they are considered negligent and may be subject to litigation. Duty of loyalty for directors and officers is their legal responsibility to, when faced with a conflict of interest, choose what is best for the company and the shareholders over themselves. If directors breach this duty they may be sued by the shareholders for damages. Shareholders may also sue for material misstatements and omissions, and manipulative and deceptive practices.³

Shareholders can either file a derivative suit or a direct suit which includes class actions. Derivative suits are suits which a shareholder files in the name and on behalf of the company in which they hold shares because they believe the director or officer is causing harm to the company. Direct suits are undertaken by a shareholder or a class of shareholders on behalf of themselves for the harm they have incurred as a result of a director or officer.⁴ For the purposes of this paper, the type of suit being brought forward will not be considered. The mathematics and laws considered apply to both.⁵ The different suits only affect

¹ See Cooter and Ulen (2007) for a demonstration of the model under European rule.

² Rubinfeld and Scotchmere (1993)

³ Romano (1991)

⁴ Sclafane (2010)

⁵ Romano (1991)

the complexity of proving guilt, with derivative suits providing higher levels of difficulty for the plaintiff. Therefore, any suit described in this text could be considered derivative or direct. Furthermore, when this text refers to the plaintiff, it could easily be replaced with the plaintiffs, to represent a class action and the results would be identical.

Indemnification describes when a company agrees to pay for the financial losses that a director or officer incurs as a result of fulfilling the duties associated with their position. Most companies have agreements to indemnify their directors and officers; however, the amount of indemnity coverage depends on each specific company and the wording of contracts. As a result, most companies also purchase D & O insurance to instill further confidence in their directors and officers and also to help cover any large losses that the company would not be able to finance. If a director or officer is not covered under indemnification or insurance they are personally liable to pay court fees and any damages awarded to the plaintiff.

The mathematics in this paper will reflect the aforementioned rules and laws to accurately represent U.S. securities litigation.

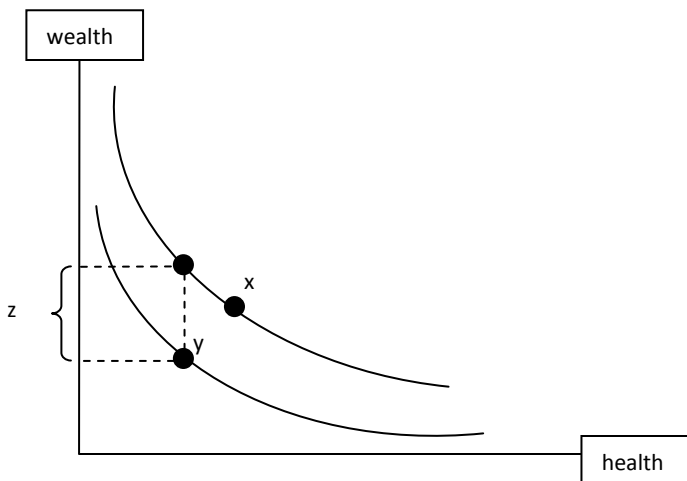
3. Tort Law and Social Optimality

Tort law allows people to sue when they have been harmed but there has been no breach of contract, no property damage and no continuing damage.⁶ Under the traditional theory of torts there must be three things in order for the victim to be awarded damages in a court of law. Firstly, they must have suffered harm; secondly, the harm must have resulted from action or inaction of the defendant; and thirdly, the defendant's actions or failure to act must constitute a breach of duty owed to the plaintiff by the defendant.

⁶ Cooter and Ulen (2007)

It can be difficult to judge if a plaintiff has been harmed. If the defendant was acting dangerously the plaintiff will not win the case if no harm occurred. For example, if driver A is driving on the wrong side of the road and driver B drives along that same road hours later, driver B may be horrified to find out that someone was behaving recklessly on the same road they used but, since no harm befell them, they cannot sue. When someone is harmed it is described in economics as a downward shift in their utility curve. In economics, a utility curve describes a person's level of happiness. The higher the utility curve, the happier a person is considered to be. At all points along the same utility curve, a person is equally happy. Therefore, a utility curve describes how much of one good a person would be willing to give up for another good and remain at the same level of happiness. In the utility curve graphs below, a tradeoff between health and wealth is described. It demonstrates the situation where driver A did in fact collide with driver B, causing driver B permanent injury and car expenses. This is shown on a graph below as the plaintiff moving from point x to point y.

At point y driver B has lower levels of health and wealth and, as a result, they are on a lower utility curve.



If the judicial system determines that driver A is legally responsible for the harm caused to driver B, driver A would have to pay the amount z to move driver A back to their original level of utility.

Unfortunately, in the court room there are no utility graphs to help a judge determine the level of damage that a plaintiff has incurred or how much they should be awarded. However, as this paper focuses on securities litigation, the amount of damages is often clearer. Damages to shareholders arise from things such as decreases in share prices or the amount of expropriated funds. These types of damages have a clear monetary value and can make the judges responsibility for awarding damages simpler. For example, if a director's actions cost a shareholder 10 dollars of profit, the shareholder will require 10 dollars to move back to their original utility curve.

Traditionally, to be awarded damages the plaintiff must also prove that the defendant caused the harm. If the harm did not occur as a result of the defendants actions they will not be awarded damages. For example, if a company's financial analysts inflate the expected profits of a project so that share prices jump, shareholders who buy when the stock price is high may suffer damages when the truth about the project is revealed. However if, as a result of a good year, the project has equal or greater profits than the inflated profits, shareholders cannot sue even if the price of the shares drop because the inaccurate statements were not the cause.

If the legal system operates using strict liability the presence of damages and proof of cause is enough to receive damages for the plaintiff. Strict liability describes a legal system that blames defendants for any harm their actions cause, regardless of the level of caution observed. It is often used when people undertake abnormally dangerous activities such as disposing of radioactive waste. However, in the U.S. for most types of damages a negligence rule is used. A negligence rule states that people cannot be deemed responsible for damages if they satisfied all legal standards of care. If a firm does not take care up to the legally required standard there is a breach of duty and they will have to pay for any damages

incurred. Consider a firm that can choose its level of care, x , which is continuous. Suppose there is a minimum level of care acceptable by law, \tilde{x} . A firm will be considered at fault if $x < \tilde{x}$. Therefore, as long as $x \geq \tilde{x}$, they cannot be found liable for damages.

The negligence rule is used to develop the following model.⁷ The purpose of tort law is to minimize the cost of accidents for society. If the law minimizes social costs it is considered efficient. This discussion assumes that injurers alone can reduce risk by adjusting their level of care but it could easily be extended to the scenario where the harmed party also contributes to the level of care.⁸ Consider the situation where a firm can spend time and money achieving a level of care, x . The firm can be careful to ensure that its financial statements are not untruthful or misleading which has a cost of w per unit of x . The more truthful their statements are, the greater the level of x and the greater their cost, wx . Whether or not the firm is careful with their statements there is still the possibility that their shareholders will incur harm, h , caused by a large price drop in shares. The probability of this harm is decreasing and convex in x and is described as $q(x)$.

Any harm incurred by shareholders has a cost to society, thus the expected social cost of harm is⁹:

$$E(SC)_{of\ harm} = q(x) * h$$

However, society also incurs the expected cost of precaution:

$$E(SC)_{of\ precaution} = wx$$

Combining the two costs can give us total expected social costs:

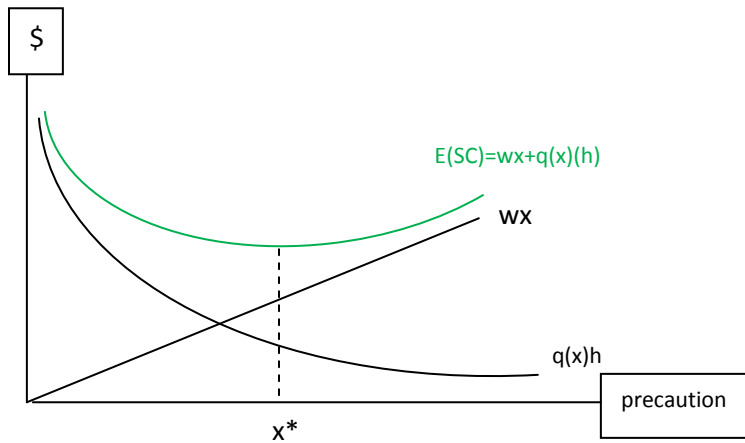
$$E(SC) = q(x)h + wx$$

⁷The mathematics in the section was obtained from Cooter and Ulen (2007)

⁸ See Cooter and Ulen (2007) for a model where the harmed party also contributes to the level of care.

⁹ In some cases the cost of harm may be pecuniary or re-distributional but here, I assume h is a real social cost

The costs associated with this precaution and potential harm can be graphed as follows:



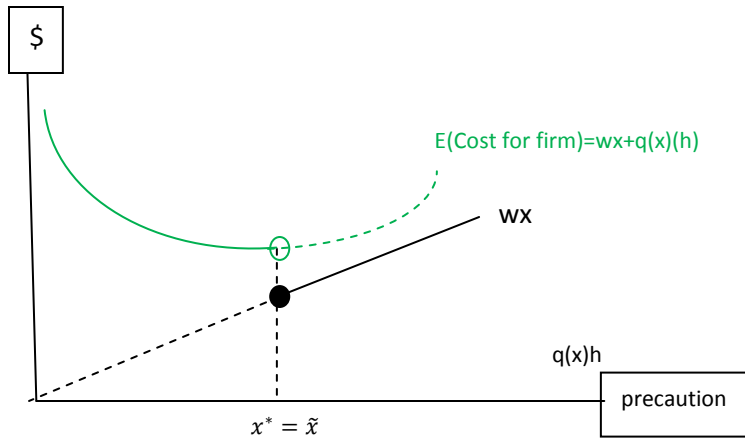
The expected social cost is the vertical addition of the wx and $q(x)h$ lines. Since the expected social cost is convex, there is a minimum social cost that is achievable. This minimum can be found by taking the derivative of the expected social cost with respect to x and setting it equal to 0. Which gives:

$$w = -q'(x^*)h$$

Where w describes the marginal cost of increasing x and $-q'(x^*)h$ describes the marginal benefit of increasing x . The minimum cost is achieved where this marginal cost equals the marginal benefit.

Therefore the goal of tort law is to give people the incentive to take precaution at level x^* .

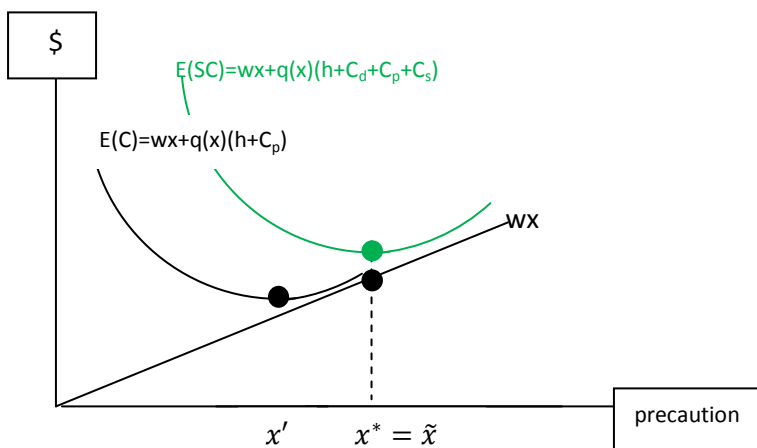
When the court uses a negligence rule, as they do in the U.S., it affects the level of care that firms provide. If the judicial system could observe x^* , and they set the minimum level of acceptable care, \tilde{x} , such that $\tilde{x} = x^*$ it can be shown that firms will choose to provide the efficient level of care. In this situation a firm will not be held liable as long as their level of precaution is greater than or equal to the efficient level of precaution: $x^* \leq x$. This gives the firm an expected cost function that looks like the solid lines in the graph below.



When $x \geq x^*$ the firm only has to pay the cost of x^* . This is shown as the solid black line on the right hand side of the graph. If however, the firm chooses x such that $x < x^*$, they have to pay the cost of their precaution and the cost of the victims harm as shown by the solid green line on the left hand side of the graph. As a result, the cost function has a kinked appearance with an obvious minimum at the kink where $x = x^* = \tilde{x}$. Therefore, the firm would choose to minimize its costs by choosing the socially optimal level of precaution.

In order for the efficient level of x to be achieved people must be willing to litigate when they have been harmed as a result of insufficient care. It is this threat of litigation that pushes the firm to choose an optimal level of x . Interestingly, if there is no asymmetric information, litigation would never occur since everyone would know that the firm chooses $x = x^* = \tilde{x}$ and, therefore, will not be held accountable. However, litigation is common in the U.S. judicial system. Realistically, there is likely to be asymmetric information between shareholders and directors and officers. Consider a shareholder that has been harmed as a result of the actions of a director or officer. It may not be obvious whether the harm occurred because directors and officers were not doing their due diligence or if the harm occurred despite an appropriate level of diligence. Furthermore, it may not always be obvious to the courts which depend on the opinions of judges or juries to decide if the level of care was sufficient.

In view of a world where litigation happens regularly, the associated costs must be considered. Suppose that shareholders will litigate to receive damages if they are harmed as a result of, what they believe to be, insufficient care from directors and officers. When a shareholder sues he incurs costs of C_p and the defendant will incur costs of C_d . Furthermore, society must provide a court room, a bailiff and a judge, among other costs, in order for the trial to take place. This cost is extensive; there are a number of estimates that predict this number may be a dollar or more for every dollar that a victim receives in court.¹⁰ This cost to society is described by C_s . However, in the model described above the injurer was only forced to internalize the cost of care, x , and the costs of the harm, h . When considering the new costs C_p , C_s and C_d the injurer will only internalize the cost C_d since, under the American rule, the injurer does not have to pay the plaintiffs costs if they lose the case. Furthermore, in either American or European rule, the defendant never has to pay the social costs associated with providing a legal system described as C_s . With this in mind, suppose that, even if the court is able to observe the socially optimal level of care, x^* , which includes the costs h , C_s , C_p , and C_d , they would not be able to induce the injurer to provide it. Consider the following graph where $E(SC)$ describes the total expected social cost and $E(C)$ describes the cost expected by the injurer:



¹⁰ Tillinghast-Towers Perrin (2000)

The E(C) line represents the costs that the injurer has internalized. Because he experiences fewer costs than society in the face of litigation, the level of x required for the injurer to minimize his costs is lower than that desired by society and, unless society can impose its costs on the harmful party, there will never be an optimal level of care, x , provided.

Society takes the derivative of E(SC) with respect to x and find an optimal x^* :

$$w = -q'(x^*)(h + C_d + C_p + C_s)$$

However, the injurer takes a derivative of E(C) with respect to x to minimize his costs:

$$w = -q'(x')(h + C_p)$$

However, one can see that the level of care that the injurer chooses with the threat of litigation is preferable to the level of care they would have chosen without the threat, since it is closer to the socially optimal level. This potential hiccup in the justice system means that the outcome may not be the first best scenario but it may still improve social welfare.

To determine whether litigation is an improvement in the efficiency of the market we must consider the costs society faces with and without litigation.¹¹ Recall that the expected cost to society without considering C_p, C_d or C_s was :

$$E(SC) = wx + q(x)h$$

Assume that when shareholders are harmed, they sue. If one takes into consideration the costs of litigation; the expected social cost becomes:

$$E(SC) = q(x)(h + C_p + C_d + C_s) + wx$$

¹¹ The mathematics is adapted using the models of Brown (1973) and Shavell (2007)

The objective of society is to minimize total expected costs. If litigating has no external effects the cost to society is higher with litigation than without:

$$q(x)(h + C_p + C_d + C_s) + wx > q(x)(h) + wx$$

However, the hope is that litigation will induce firms to undertake a more socially optimal level of care as described above. Assume that the threat of litigation induces firms to provide a level of care, x' , such that $x^* - x' < x^* - x$, where x^* is the socially optimal level of care. In other words, litigation decreases the difference between the level of care provided and the socially optimal level of care and decreases the probability of someone being harmed from $q(x)$ to $q(x')$.

In this scenario, litigation is socially optimal if:

$$wx + q(x)h > q(x')(h + C_p + C_d + C_s) + wx'$$

4. NEV Suits

4.1 NEV Suits and Social Optimality

Since securities litigation is widely believed to consist substantially of NEV suits, this paper must consider whether NEV suits are socially beneficial.¹² If the negligence rule used in the securities litigation section of the judicial system were perfect there would be no litigation since everyone would provide the efficient level of care and all parties would be fully informed. However, litigation is common in the U.S. and, furthermore, the suits are often considered to be NEV. This section considers three different types of NEV suits which will be labeled Type A, Type B and Type C and evaluates their benefit to society.

A Type A NEV suit is one where the harm to the shareholder has been fabricated. In other words, they are pretending to be harmed in hopes of receiving damages or a positive settlement. In this scenario

¹² Shavell (1985), Bebchuk (1988), Romano (1991) and Alexander (1991)

$h=0$. In which case the following inequality would have to hold in order for litigation to be socially optimal:

$$wx > q * (C_p + C_d + C_s) + wx'$$

Since $x < x'$ this inequality cannot hold and it would never benefit society to litigate. If the injurer is unaware that there has been no harm they may, as a result of the threat of litigation increase x to x' . Notice, however, that q does not depend on x since the level of care does not affect the probability of this type of suit. One can also consider the situation where the injurer knows there has been no harm and therefore, makes no attempt to increase their level of care in which case the following inequality would have to hold in order for litigation to be efficient.

$$wx > q * (C_p + C_d + C_s) + wx$$

Clearly this equality will also never hold and therefore, even when the firm is aware that the harm is faked, this type of NEV suit will never benefit society.

A Type B NEV is one in which the shareholder incurred a significant level of harm, h . However, this harm could not have been prevented by any reasonable level of care that the directors and officers could have undertaken. Legally, this would either be because the loss was not proximately caused or the firm's level of care, x , complies with legal requirements. An accident can be said not to be proximately caused if the harm was caused by something that could not have been foreseen such as a freak accident. Another reason for harm not to be considered proximately caused is if the accident was a strange coincidence. There was a famous case where a speeding bus was crushed by a falling tree. Had the bus been going the speed limit the tree would have fallen before the bus was underneath; however, the bus company was not held liable because of the coincidental nature of the accident.¹³ Thus, assuming the justice

¹³ Shavell (2007)

system functions properly, if a case of this type were to proceed to judgment, the plaintiff would lose. This would make the plaintiff's case NEV.

A Type B NEV suit would be beneficial to society when:

$$wx + qh > q(h + C_p + C_d + C_s) + wx$$

Notice that, again, q no longer depends on x since the probability of this type of harm is not affected by x . Also note that the level of care, x , is the same on both sides of the equation since the firm has no incentive to increase x since it will not decrease the probability of another court case. Obviously, the above inequality can never hold, therefore, it is never socially optimal for this type of litigation to occur.

The third type of NEV suit, hereafter called Type C, is one where the plaintiff is likely or surely, going to win. Harm was incurred but the costs of pursuing the case exceed the expected judgment making the case NEV. Assume that the plaintiff will be awarded h , the level of harm that he has incurred, at the end of this trial.

$$C_p \gg h$$

Therefore, this type of case will cost the plaintiff more than they will gain. In this scenario the suit would be optimal for society when

$$wx + q(x)h > q(x')(h + C_p + C_d + C_s) + wx'$$

It is possible that the above inequality holds, therefore, it is possible that this type of litigation is optimal for society. However, it is unlikely that this inequality would hold regularly given that C_p , C_d and C_s are not likely to be small and we know h is small relative to C_p . However, if it does hold the suit would benefit society and should be encouraged.

Thus, one cannot say that NEV suits are always detrimental to society but Type A and B are always social welfare decreasing whereas as Type C is ambiguous. The conundrum with NEV suits is why the plaintiff ever files them. Clearly NEV suits, if pursued all the way to judgment, would be a suboptimal choice for the plaintiff yet NEV suits are common in shareholder litigation.¹⁴ However, the suits are NEV because they consider the costs and benefits when the case proceeds until judgment. The next section of this paper will explain how NEV suits can be used by plaintiffs to extract positive settlements thereby giving the plaintiff an expected monetary gain.

4.2 Literature Review on NEV Suits

Negative expected value suits exist because plaintiffs or their attorneys believe that they can extract a positive settlement. This may seem unlikely since the threat to file a NEV suit should not be credible given that the plaintiff is worse off if the case proceeds to judgment. However, there do appear to be a number of NEV suits in the system and economists have cited asymmetric information, upfront costs to the defendant, divisibility of litigation costs, new information available as the trial progresses, reputation and special contingency fees as explanations.

When theories surrounding settlement first began, economists ignored the subject of NEV suits. Landes (1971), Gould(1973), Posner(1973) and Bebchuk (1984) treated litigation as an investment analyzing the costs and benefits. However, this raised questions about why NEV suits existed since, under a cost benefit analysis, they appear to be irrational.

Bebchuk (1988) built on his model from 1984 to demonstrate how asymmetric information in NEV suits can lead to a positive settlement. Since a defendant cannot always tell whether a suit is NEV, they are forced to make settlement offers based on expected values of the suit. This can lead to a positive settlement offers despite the suits actual value. Katz (1990) examined the effects of asymmetric

¹⁴ Romano (1991)

information more closely, demonstrating that the proportion of NEV suits in the system is directly related to trial costs and the potential size of the judgment.

The idea of upfront costs for the defendant affecting settlement outcomes was first approached by Rosenberg and Shavell (1985). They demonstrated that if a defendant has to pay a large amount upfront to defend their case, they will always be willing to offer a settlement up to that amount so as to avoid paying the upfront cost. If the plaintiff's upfront costs are low enough, they have an incentive to litigate and receive the positive settlement even if their suit is NEV. Rosenberg and Shavell (2006) show that, if defendants can ask the court not to enforce early settlements, NEV suits can be deterred since plaintiffs know that the court system will prevent these types of settlements from occurring.

In the 1990's economists improved the models of NEV and settlement decisions by allowing for the division of costs. Bebchuk(1996) recognized that costs do not occur at one point and that, if the plaintiff's costs are sufficiently divided and bargaining can occur throughout the process, the plaintiff may have a credible threat to sue despite the suit being NEV. Consider, for example a one stage court case where the defendant and the plaintiff must each pay C . Assume judgment is anticipated to be in favour of the plaintiff for amount J . If $J < C$ it is clear that the plaintiff will drop the case if the defendant refuses to settle because the plaintiff will be worse off if he takes the case to court. Now imagine the trial is in two stages and the plaintiff and the defendant must pay c in both stages, where $c + c = C$ and $c < J$. Now it can be seen that if the plaintiff pays c to take the case through the first round of the trial they will have a credible threat to continue until judgment since the amount they must pay for the second stage is c , and $c < J$ therefore, they would be better off to pursue. The defendant should be able to see this outcome and therefore, would have an incentive to settle in the first round instead of paying c upfront just to be forced to settle in the second round. Bebchuk (1997) further examines this theory by writing necessary and sufficient conditions for the plaintiff's threat to sue to be credible. Klement

(2003) challenges Bebchuk's (1996, 1997) ideas by demonstrating that they are limited to situations that have little asymmetric information. He shows that if the defendant has private information he can deter small or NEV suits by consistently refusing to settle, even when the plaintiff's costs are divided extensively. Schwartz and Wickelgren (2009) examine Bebchuk's (1996, 1997) and show that the results of Bebchuk's papers depend on the type of bargaining game used and that if an alternating bargaining game is played no positive settlement will be reached. However, there are other game models that lead to positive settlement outcomes. Specifically they show that if parties have the option to postpone court decisions indefinitely divisibility of costs is not enough to afford credibility to the plaintiff's threat.

Also in the 1990s, models were developed where information was revealed during the trial allowing plaintiffs to reevaluate the suit's worth. Cornell (1990) suggests that filing suit is analogous to buying an option. As the trial goes forward, new information becomes available and the plaintiff can decide if he would like to continue with the case. He shows that this option to continue or quit has value and therefore, a case which looks NEV with traditional measurements, can have a positive expected value (PEV). Landes (1993) also discusses the effects of sequential trials; a trial where there is more than one issue to be resolved. Due to the different stages and the information that becomes apparent over the course of the trial, it is possible for a NEV suit to become a PEV suit and, therefore, plaintiffs with NEV suits may choose to sue in hopes that the suit will become PEV. Grundfest and Huang (2006) combine some of these models allowing for bargaining between stages in a divisible cost scenario where information may be revealed over time to show how filing NEV suits may be an optimal choice for the plaintiff.

Another explanation of the success of NEV suits is the use of reputation in repeated games. Farmer and Pecorino (1998) suggest that plaintiffs or their lawyers who have a reputation of going to trial with NEV suits may have a credible threat to sue even when the defendant knows their suit is NEV. Defendants

may, therefore, be willing to pay a positive settlement to avoid the fees that would be associated with a trial. Miceli (1993) considers the other side of this repeat game scenario, however, and shows that a defendant with a reputation for not settling can have the reverse effect and prevent NEV suits from arising.

Special fee arrangements with attorneys can also explain the prominence of NEV suits. Croson and Mnookin (1996) show that paying a non-refundable retainer fee to one's attorney can make someone's threat to sue credible if the fee makes it such that the incremental cost of pursuing the suit is less than the expected judgment. Since the plaintiff has more to gain than to lose by continuing with the trial after they have already paid the retainer, their threat to sue is credible and the defendant will likely offer a settlement. Chen (2006) shows that a suit which is NEV under an hourly fee arrangement with an attorney can become PEV if the attorney is paid contingently. Under a contingent fee basis the attorney receives a percentage of the settlement or damages awarded. Therefore, if the plaintiff loses the case they are not faced with attorney fees. As a result, a plaintiff's threat to sue may become credible since their costs are dependent on the award they receive. However, changing the cost structure for the plaintiff so that a suit no longer has an expected value of less than zero is simply analyzing a different fee structure and does not explain the presence of NEV suits. As Chen says, the contingent fees are such that the suit is no longer NEV. Therefore, Chen's paper does not shed much light on NEV suits. However, the interesting implications of his paper surrounding the effects on the number of suits under contingent versus hourly fee arrangements will be discussed in section 6.1: Literature on Contingency Fees.

This paper will add two new explanations for the prominence of NEV securities suits in the U.S. and describe why they often end in positive settlements. Firstly, section 5: The Effects of D&O insurance, discusses the incentives for defendants in the U.S. arising from Directors and Officers Liability Insurance

and Section 6: Attorneys and Diversification, will describe the incentives for lawyers created by the contingent fee system that is frequently used in the U.S.

5. The Effects of D&O Insurance

5.1 D&O Insurance Laws in the U.S.

In the U.S., D&O Insurance is widely used; a 2006 study showed that 91% of publicly tradable companies held D&O insurance.¹⁵ The laws regarding the insurance policies vary between states and contracts. It is common for insurance contracts to contain clauses exempting coverage if the director is found by the courts to have been dishonest but, if the case settles, the courts will not allow insurance companies to take the insured to court to try to prove his guilt and they have to cover the value of the settlement and the court fees.¹⁶ Evidently this creates an enormous incentive to settle out of court for the defendant. Furthermore, in settlement D&O insurance covers both sides' expenses in settlement. Therefore, both the plaintiff and the defendant would have a high incentive to settle to avoid expensive legal fees.¹⁷ This creates a serious moral hazard issue where the insured, knowing that he can settle and avoid any fees, will no longer take adequate precaution to avoid lawsuits and easily give in to settlement demands. Insurance companies attempted to manage this problem by writing contracts that allow insurance companies to veto any settlement agreement. This would seem a sufficient legal mechanism to curtail settlements however; researchers have shown that the majority of cases continue to settle.¹⁸ One commonly cited reason for this arose from the famous case of *Crisci v. Security Insurance Co. of New Haven* in 1969. Crisci, a landlord, had a tenant who fell through the stairs of the house she was renting and sued for the physical and mental trauma she incurred. Originally Crisci offered \$9,000 to the

¹⁵ Tillinghast-Towers Perrin (2006)

¹⁶ Romano (1991)

¹⁷ Romano (1991)

¹⁸ Baker and Griffith (2009)

plaintiff but Security Insurance Co., Crisci's insurance provider, disallowed the settlement. As a result, the case went to trial and the tenant was awarded \$101,000. Unfortunately, Crisci's insurance only covered up to \$10,000 in damages and thus, the landlord was left with extraordinary bills. Crisci sued Security Insurance Co. for the suffering they caused and the court imposed an obligation on insurers to negotiate settlement in good faith for the benefit of the insured as well as the insurance company.¹⁹ This has had long-term effects for D&O insurance companies as they risk facing a bad-faith suit if they refuse to settle. If they are found to have refused settlement in bad-faith they will be forced to pay all the defendant's fees even if it exceeds the agreed upon coverage.²⁰ It has also been suggested that defendants purposefully offer settlements that are within policy limits to recreate situations like the Crisci case to increase pressure on the insurer. To deal with the decreased level of precaution this system has created; all contracts contain clauses that exempt the insurance company from responsibility if the director is found to have purposefully caused harm. It is also common to have clauses that free the insurance company of duty when the director has directly profited from the harm of others. These clauses decrease the incentives for directors to expropriate from their shareholders since they will be held liable if caught. However, plaintiffs have a strong incentive to encourage settlement, especially if their suits are NEV. As a result, plaintiffs often do not claim fraud as their reason for suing; instead they will plead "reckless conduct" so that the insurance company knows they cannot avoid payment even if the plaintiff wins the case.²¹

Another explanation for why insurance companies agree to settle is competition. In order for a company to attract adequate directors and officers, those directors and officers must feel that their finances are protected by their company and their insurance contracts. If directors and officers feel that their insurer will refuse to settle, thereby putting their personal assets at risk, they may decide to

¹⁹ Meurer (1992)

²⁰ Baker and Griffith (2009)

²¹ Baker and Griffith (2009)

change companies or retire from their work as director or officer. Therefore, companies have an incentive to switch insurance providers if they feel that they are losing superior directors and officers with their current provider. If all insurance companies agreed never to settle weak suits, they would all benefit since NEV suits would be deterred. However, it would be an optimal strategy for any one of these insurance companies to deviate from the agreement and offer directors and officers some settlements since this would encourage all companies to sign with this insurance provider. This incentive to deviate faced by all firms would cause a breakdown in any agreement not to settle by insurance firms and could explain the willingness of insurers to settle NEV suits.

The following discussion will mathematically model the incentives that the defendant faces as a result of D&O insurance. It makes the assumption that insurance companies are forced to comply with any settlement choices the defendants make as suggested by the high number of settlements in the litigation system.

5.3 Defendants' Incentives

The following discussion describes the incentives faced by the defendant as a result of D&O insurance.²²

The model used includes asymmetric information to show why an NEV suit may result in a positive settlement offer from the defendant. Assume that a shareholder decides to sue the company for damages. The plaintiff incurs a cost of C_p for undertaking the trial. The plaintiff expects a judgment of J .

Therefore, the expected value of the case for the plaintiff is:

$$V = J - C_p$$

The defendant does not know V . They only know that it is distributed with a density function $f(\cdot)$ and cumulative distribution function $F(\cdot)$. The probability that the plaintiff has a NEV suit is denoted by α which is the same as $\alpha = F(0)$. Lastly, $g(\cdot)$ and $G(\cdot)$ define the density and cumulative distribution

²² The following discussion is adapted from the model put forth by Bebchuck (1988)

functions respectively for V conditional on $V \geq 0$. With these we can write for any $x \geq 0$ the density function as:

$$f(x) = (1-\alpha)g(x) \quad (1a)$$

And the cumulative distribution function as:

$$F(x) = \alpha + (1-\alpha)G(x) \quad (1b)$$

The defendant incurs a cost of C_d if litigated against.

The defendant can offer a settlement to prevent the case from going to court. The plaintiff will accept the settlement offer as long as:

$$S \geq V \quad (2)$$

The expected position for the defendant if the settlement offer is not accepted is:

$$E(J|V > S) = E(V + C_p|V > S) = \int_S^{K_2} (x + C_p)f(x)dx \quad (3)$$

The defendant's position who offers settlement amount S is:

$$A(S) = -F(S)S - (1 - F(S))[C_d + \int_S^{K_2} (x + C_p)\left(\frac{f(x)}{1 - F(S)}\right)dx] \quad (4)$$

The first term on the right hand side describes the possibility of the offer being accepted. The second term describes the situation where the offer would be rejected and both parties would proceed to trial.

To maximize their welfare the defendant would choose S to solve

$$\max_S A(S)$$

Taking the derivative with respect to S gives:

$$A'(S) = -F(S) + (C_p + C_d)f(S)$$

However, with D&O insurance the marginal cost of settlement is not born by the defendant. This is akin to removing the $-F(S)S$ from equation (4) before taking the derivative. Therefore, with insurance the defendant would take the derivative of the following equation to find the optimal level of S:

$$A(S) = -(1 - F(S))\left[C_d + \int_S^{K_2} (x + C_p)\left(\frac{f(x)}{1 - F(S)}\right)dx\right] \quad (4.1)$$

The resulting derivative is:

$$A'(S) = (C_p + C_d + S)f(S) > 0$$

The derivative is always positive which means that it is always increasing. Consequently, there is no cost to increasing the settlement offer and a firm would increase its settlement offers infinitely to guarantee that their offer is accepted.

However, in reality we do not observe settlement offers of infinity, therefore, there must be a cost incurred by the plaintiff of offering a settlement. One possible solution is insurance premium increases as a result of settling. If an insured firm has settled in the past, the insurance company will increase the cost of coverage since the insured firm is considered higher risk. This would be similar to what is described as a grim trigger strategy where a firm offers a low premium P_0 for eternity unless they are forced to pay for a settlement in which case they increase the insurance premium to P_1 . Thereafter, the insurance premium will remain at P_1 forever unless further settlement payouts are required, in which case it will increase again.

If the firm chooses not to settle they would pay P_0 forever:

$$P_0 + P_0\delta + P_0\delta^2 + P_0\delta^3 + \dots + P_0\delta^\infty$$

The symbol δ represents a discount factor that the plaintiff assigns to future payments. This discount factor describes how a firm's value of a dollar increases the sooner it is spent. For example, a firm cares more about spending \$100 tomorrow than it does about spending \$100 a million years from now.

If the firm chooses to settle the insurance company will increase the premium and the firm will pay P_1 forever:

$$P_1 + P_1\delta + P_1\delta^2 + P_1\delta^3 + \dots + P_1\delta^\infty$$

What they lose by choosing to settle instead of going to court is the difference between P_0 and P_1

$$(P_1 - P_0) + (P_1 - P_0)\delta + (P_1 - P_0)\delta^2 + (P_1 - P_0)\delta^3 + \dots + (P_1 - P_0)\delta^\infty$$

Which can also be written as:

$$\frac{P_1 - P_0}{1 - \delta}$$

Therefore, their optimal settlement choice is described by:

$$A'(S) = (C_p + C_d + S)f(S) - f(S)\frac{P_1 - P_0}{1 - \delta}$$

Where the marginal cost of settling is described by $-f(S)\frac{P_1 - P_0}{1 - \delta}$; the permanent increase in insurance premiums. Since the second term is negative, it is possible that there is a finite solution for S . However, judging by the number of settlements that occur in the U.S. securities market, 78.3% of all suits over the past 20 years, the increase in insurance premiums does not seem to be deterring insured

firms.²³ One potential explanation for this may be the short term outlook of managers and board members. Managers of companies may encourage settlement despite a lifetime increase in premiums because the incremental increase in insurance premiums has a less obvious and drastic affect on the financial statement of a company relative to what it would cost to pay large damages today. Even if the costs are equal or worse in the long-run the company's shareholders may benefit from a more hidden and spread out cost such as an insurance premium increase.

6. Attorneys and Diversification

6.1 Literature on Contingency Fees

Economists have been arguing over the efficiencies of contingency fees for many years. In some countries they are still illegal. Traditionally, contingency fees were thought to make lawyers into businessmen when they were supposed to be professionals who served their clients and the courts. Since then, economists have been considering contingency fees in terms of efficiencies and they have argued over how contingency fees affect: the level of work attorneys do, the incentive alignment between client and attorney, the number of NEV suits, access to justice, the extent of legal fees, the asymmetry of information, and number of settlements.

There has been a long-standing debate as to whether contingent fees induce an efficient level of work from the attorney. Schwartz and Mitchell (1970) believed that they discouraged an efficient level of attorney work since the attorney is only awarded a percentage of the gain, but suffers all the costs of effort. Therefore, the attorneys' cost benefit analysis would be biased downwards since they do not internalize the benefits of their client. This argument was reiterated and strengthened by Miller (1987) who argued that lawyers would be too eager for a settlement and want to avoid trials because the level

²³ Choi (2007)

of work required would be less. However, Kreindler (1978) showed that contingent fees may be better than their alternative; hourly fees. He argued that hourly fees lead to waste since an attorney sees the same benefit for each hour worked whereas he considers the increase in judgment of each hour of labour when he is paid contingently which serves to align the incentives of the client and attorney. Emons (2000) argues that contingent fees may provide for inefficient effort by the attorney in a world where there are developed and less developed cases. A lawyer paid contingently may not have the incentive to develop the undeveloped case because the hours he needs to work are greater. This conflicts with the desires of a fully informed client who would like their case to be developed.

This theory of aligning attorney and client incentives was debated by many authors. Clermont and Currivan (1978) argued that contingent fees were not in the clients best interest and they proposed a new fee structure where the lawyer would be paid contingent on winning the case but the amount they were paid would be based on the hours they had worked during the case. Clermont and Currivan argued against theorists like Kreindler by suggesting that the incentives of lawyer and client were only partially aligned. Both parties desire victory but, while the plaintiff would like the lawyer to work continuously to ensure a higher payoff, the lawyer will only work on the case if the value of the work at least equals the opportunity cost of work forgone.

Danzon (1983) took a stance against the paper written by Clermont and Currivan (1978) by creating a model that showed contingent fees induced a level of attorney effort the client would choose. Danzon argues that while the client knows the merits of his case, he cannot observe the effort level of his attorney. Tying the payment of the attorney to the outcome of the case, improves the lawyers incentives to work an efficient level of hours. Dana and Spier (1993) also contradicted Clermont and Currivan when they created a model that showed that contingent fees give the lawyer the incentive to

work the exact number of hours that an informed client would choose, therefore, removing any conflict of interest. Dana and Spier's paper differed from others before it because it assumed that lawyers knew the merits of the case, whereas the plaintiff did not.

Another common theme in the contingency fee literature is the effect of contingency fees on the number of NEV suits. Clermont and Currivan (1978) argued that contingency fees would decrease the number of NEV or groundless suits since a lawyer, who is only paid when the case wins, would have no incentive to take such a case to court. That contingency fees reduce the number of NEV suits is supported by Dana and Spier (1993) who argued that the incentive structure created by contingent fees will prevent NEV suits since the lawyer's expected payoffs would be negative with an NEV suit. Miceli (1994), however, argued that when an attorney accepts a case under contingent fees he signals that the case is meritorious. This signal may be enough to induce settlement; therefore, non-meritorious cases may be accepted under a contingent fee structure to induce settlement leading to excessive litigation. Chen (2006) argued that changing from hourly to contingent fees can make a plaintiff's threat to sue credible since he will incur no costs if he loses the trial. He considers this ability of the plaintiff to push the risk of failure onto the lawyer as evidence that contingency fees would increase the number of non-meritorious or low probability suits. However, Chen never questions why a lawyer, who would receive no payment if the case is lost, would take on NEV suits with low probabilities of winning.

Kreindler (1978) defended the use of contingent fees based on the moral grounds that they provide access to justice since anyone, regardless of wealth, can afford to pay a lawyer contingently since the payment is a portion of the reward received. Additionally, this means that every person has access to the country's best lawyers. Later, Rickman (1994) and Schneyer (1998) would argue that this increased

access to justice also leads to an increased incentive for those who partake in injurious behaviour to take more efficient levels of precaution to avoid the litigation that would arise if someone was harmed.

Rhein (1982) believed that contingent fees should be illegal unless a client could prove that they were sufficiently financially constrained. Rhein's arguments against contingent fees were more moral in nature. He stated that they were created for financially strained individuals and, therefore, that is what they should be used for. He also argued that the general public felt lawyers were overpaid and that, since contingency fees were percentages of the recovered amount, it often led to excessive lawyers' fees that bore no relation to the level of effort. Kritzer (1990) disagreed with this when he found that the effective hourly rates of contingency fees were very reasonable when compared with the market hourly rates of attorneys. He furthered his argument by considering the additional benefits of contingent fees such as the attorney's incentive to win or get a good settlement. More recently, Ritov and Zamir (2010) suggested that clients may prefer to pay more for contingent fees because it increases their welfare. They argue that choosing between fixed fees and contingent fees is analogous to choosing between two types of gambles. Fixed fees represent a mixed gamble where the client may win or lose money, whereas, contingent fees represent a positive gamble where the client will either remain the same or win money. They argue that people's risk preferences are such that they prefer positive gambles and, therefore, are content to spend more for a contingently paid lawyer.

Rubinfeld and Scotchmer (1993), showed that contingent fees allowed clients and lawyers to deal with asymmetric information issues. They suggested that, while the attorney knows more about their abilities, the client knows more about the merits of their case. The type of fee structure that the client and lawyer desired would signal to the other what type they were. A client with a high-quality case will offer to pay a high fixed fee and a low contingency and a client with a low quality case would desire the inverse. In contrast, a high-quality attorney will signal his ability by working for a high contingency

percentage and no fixed fee.

In the 2000s researchers began to consider more intently the effect of contingent fees on the number of settlements. Leshmen (2009) created a model to show that, when a plaintiff possesses private information about his case and delegates settlement to an attorney under a contingent fee contract, the probability of settlement and the expected payoff to the plaintiff increases. An attorney is reluctant to go to trial under a contingent fee structure since more hours worked does not necessarily mean more income, as a result, the attorney can more effectively signal the cases worth , thereby providing the defendant with valuable information about how much to offer in settlements.

With so many papers arguing both sides of every point it can be difficult to determine where economists stand. Although, there are people on both sides of the argument the generally accepted literature finds that contingent fees provide liquidity to financially constrained individuals, aid in overcoming issues of moral hazard and asymmetric information, and provide for better risk sharing between client and attorney.

The next section of this paper will demonstrate that, when contingent fees are applied to risk averse attorneys, the moral hazard problem still remains since lawyers have an incentive to work less and take on more cases. Furthermore, the risk sharing between client and attorney is not efficient since the attorney has the ability to diversify whereas the client does not, therefore, they do not share the same risks.

6.2 Attorneys' Incentives

The following discussion describes the incentives faced by the plaintiff's attorney as a result of the contingent fee structure and risks faced when going to trial. Consider the following situation. A plaintiff

and his attorney have a probability of winning the trial described by p . If they win, the plaintiff will receive an award of A . Of this amount, A , the lawyer will receive a commission of z where $0 < z < 1$. The plaintiff has a cost of going to trial described as C_p and their lawyer has a cost of going to trial C_l .

Assume we have a trial that has a negative expected value from the view of the plaintiff and the lawyer if they take the trial to judgment.

Expected value to the plaintiff

$$EV_p = pA(1 - z) - C_p < 0$$

Expected value to the lawyer

$$EV_l = p(Az) - C_l < 0$$

Now assume there is a possibility of receiving a positive settlement: p_s . The costs for the lawyer and the plaintiff are less if they settle because it requires less effort and time. Therefore we have a new cost to the plaintiff, $C_{ps} < C_p$ and to the lawyer, $C_{ls} < C_l$. If they receive a settlement offer it is expected to be S . The plaintiff's attorney will still receive z percentage of this S .

In this scenario, we know the lawyer and the defendant will not choose to take the case to court but they may try to extract a positive settlement amount if their expected values are positive.

The expected value to the plaintiff of trying to extract a positive settlement is:

$$EV_{ps} = p_s(S(1 - z)) - C_{ps}$$

The expected value of lawyer trying to extract a positive settlement is:

$$EV_{ls} = p_s(Sz) - C_{ls}$$

If the value of S and p_s are sufficiently high while C_{ps} and C_{ls} are sufficiently low, these equations could have a positive expected value.

Consider this situation from the lawyer's perspective. If the lawyer is risk neutral he will take on any case that has an EV_{ls} of 0 or higher. However, most people are not risk neutral therefore, even if the EV_{ls} is positive, the lawyer may turn down the case if p_s is too small to satisfy his risk averse preferences.

However, if a lawyer could take on many cases of the same structure, he would know that on average he would earn a positive income. Therefore, there is an incentive for a lawyer to take on many of these settlement cases and diversify.

However, taking on many cases will decrease the lawyer's ability to prepare for each specific case. This may not concern the lawyer since he has no intention of pursuing the case until judgment and, therefore, has little need to prepare. The consequence of decreasing preparation is a decrease in the probability of receiving a positive settlement p_s , however, an advantage is that it will also decrease the level of work, leading to a decrease in C_{ls} which embodies the lawyer's work efforts. Depending on the structure of their preferences this may be preferable to the lawyer as it may enhance his ability to diversify and, on average, extract a positive income.

Assume $\overline{C_{ls}}$ is the cost to a lawyer when working hard and is associated with $\overline{p_s}$, the probability of extracting a positive settlement. $\underline{C_{ls}}$ is the cost to the lawyer when working little and is associated with the probability $\underline{p_s}$.

Assume the costs embody the opportunity cost of forgoing other cases as well as time costs and other expenses.

$$\overline{C_{ls}} > \underline{C_{ls}}$$

$$\overline{p_s} > \underline{p_s}$$

Suppose the lawyer has a risk averse utility function $U(\cdot)$ in which case one would need to calculate his expected utility, not the expected value of the case to compare options.

The lawyer has two options:

1. Work hard, which has the following expected utility per case:

$$\overline{EU} = \overline{p_s} * U(Sz - \overline{C_{ls}}) - (1 - \overline{p_s}) * U(\overline{C_{ls}})$$

2. Work little, which has the following expected utility per case:

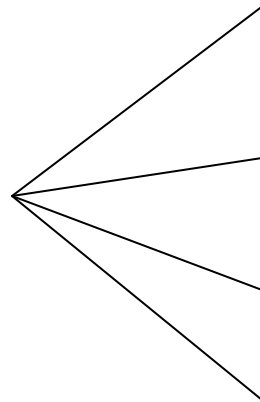
$$\underline{EU} = \underline{p_s} * U(Sz - \underline{C_{ls}}) - (1 - \underline{p_s}) * U(\underline{C_{ls}})$$

If $\overline{EU} < \underline{EU}$, a lawyer would choose option 2 even if only offered one case. If this equality does not hold the lawyer will choose to use option 1 if only offered one case. However, the lawyer's choices become more complicated when considering a world with many cases. Option 2 allows the lawyer to take on more cases and it is possible that it allows him to take enough cases to diversify and have a stable income. That is, the lawyer will almost always receive the expected value per case multiplied by the number of cases he undertakes as his income per year. As a result the lawyer may choose option 2 even if option 2 has a lower expected utility on a case by case basis.

To see this, consider the utility the lawyer will receive by undertaking each strategy for an entire year. Let us assume that if the lawyer undertakes option 1 they can only take on 2 cases per year due to the extra work required. Also imagine that if the lawyer undertakes option 2 he can take on N cases per year. As the number of cases a lawyer can take on per year approaches infinity the more the income per year tends towards a constant number, $EV * N =$ expected value times the number of cases undertaken. Since the lawyer can diversify sufficiently his income per year does not fluctuate. Assume N is

sufficiently large that the lawyer earns $EV * N$ per year. Therefore there is no risk under option 2. Now consider how a risk averse lawyer would value these two options.

Option 1 has four possible outcomes:



Win both cases: <i>probability = $p_s p_s$</i>	<i>value = $2 * (Sz - \overline{C}_{ls})$</i>
Win one lose one: <i>probability = $p_s(1 - p_s)$</i>	<i>value = $(Sz - \overline{C}_{ls} - \overline{C}_{ls})$</i>
Lose one win one: <i>probability = $(1 - p_s)p_s$</i>	<i>value = $(Sz - \overline{C}_{ls} - \overline{C}_{ls})$</i>
Lose both cases: <i>probability = $(1 - p_s)(1 - p_s)$</i>	<i>value = $(-\overline{C}_{ls} - \overline{C}_{ls})$</i>

Since the sample size under option 1 is so small the income per year can vary. If the attorney is unlucky they receive fewer settlements than average and he will have a lower wage than average.

This results in an expected utility of :

$$EU_{1 \text{ per year}} = p_s p_s * U(2 * [Sz - \overline{C}_{ls}]) - p_s(1 - p_s) * U(Sz - \overline{C}_{ls} - \overline{C}_{ls}) - (1 - p_s)(1 - p_s) * U(-\overline{C}_{ls} - \overline{C}_{ls})$$

Option 2 has a constant income equal to $EV * N$ per year, therefore, the expected utility is:

$$EU_{2 \text{ per year}} = U(EV * N)$$

Therefore, even though per case a risk averse lawyer may choose option 1; if $EU_{2 \text{ per year}} >$

$EU_{1 \text{ per year}}$ the lawyer's optimal strategy is to work less and take on more cases by taking option 2.

For the plaintiff, whose payoffs are not affected by C_{is} or the ability to diversify, this strategy is not in their best interests. They would want as high a p_s as possible which would mean a higher C_{is} for the lawyer. Furthermore, since contingency fees are commonly thought to prevent the conflict of interest between client and attorney, the plaintiff may mistakenly believe their lawyer's incentives are aligned with their own. Additionally, clients typically know less about the law than their attorneys and rely on them for advice. Thus, the attorney may be able to coerce the plaintiff into taking on a case that, with full information, the plaintiff would not have undertaken.

7. Milberg Weiss: A Real World Example

The theoretical results of this paper have had practical and drastic consequences in the U.S. judicial system. The incentives created by the securities litigation system can be seen, not only in the number of lawsuits, but also in the way the lawsuits develop. An infamous and perfectly aligned example of the aforementioned models is given by Milberg Weiss.

Milberg Weiss was a prominent law firm founded in 1969 that specialized in securities class actions and worked predominantly on a contingency fee basis.²⁴ They were known for pushing cases further than other firms, sometimes going into debt to drag a case on for years until they were able to extract a settlement. In 1976 Bill Lerach joined the firm and transformed the business approach to one of quantity over quality. He recommended that the firm increase the number of cases it put forward and decrease the amount of effort exerted per case. The approach worked and Lerach and Weiss's personal profits ballooned from 3.4 million in 1990 to 16 million in 1995.²⁵ The law firm became experts at

²⁴ Elkind (2006)

²⁵ Elkind (2006)

handling vast quantities of lawsuits; they were averaging one new case a week in 2005.²⁶ As described in the model in the previous section, the increase in cases led to an increase in average profits.

Nine out of ten cases settled as a result of the high pressure tactics used including direct threats on the personal finances of the directors' who were being sued.²⁷ Lerach was known for screaming at the defense that he would take all their personal assets if they were to take the case to court, thus further exacerbating the defendant's desire to settle in order to use insurance funds instead of risking his own personal wealth.

These cases could also be described as negative expected value suits. In order to increase the number of cases and further diversify Milberg Weiss began paying plaintiffs kickbacks to convince shareholders to be the lead plaintiff. As much as \$11.4 million in illegal kickbacks in approximately 180 cases occurred over 25 years.²⁸ They also began planting potential witnesses, the most infamous being Doctor Cooperman who admitted to serving as lead plaintiff for Milberg Weiss, along with friends and relatives, in approximately 70 cases over 10 years.²⁹ By the request of Milberg and Weiss he bought small amounts of stock in many different companies, waited for the stocks to fall and filed suit immediately after. In some cases it was even reported that Milberg Weiss would have reason to believe the stock would fall and, therefore, would have papers written up in advance so that they could walk into court the moment the stock price fell. Speed was a crucial aspect of diversification at the time since class actions were given to the first security holder to file suit. Therefore, if Milberg Weiss had a planted plaintiff ready to file suit but another firm beat them to the court house they would lose their right to represent the claim. These suits are prime examples of NEV suits since plaintiffs were not seeking damages voluntarily signaling that they did not feel that they had been sufficiently harmed by

²⁶ Elkind (2006)

²⁷ Elkind (2006)

²⁸ Coffee(2006)

²⁹ Elkind (2006)

the directors or officers. Assuming the justice system works efficiently, if these cases were taken to judgment, the plaintiffs would lose these cases since they are without merit. This is an example of a Type A NEV suit as described in section 4.1 of this paper. In a Type A suit the plaintiff incurred no actual harm and it is never socially beneficial to pursue these cases.

According to companies in the Silicon Valley, Milberg Weiss was not the only law firm using this scheme. Silicon Valley companies were targeted by this type of litigation due to the volatile nature of their stocks. Between 1990 and 1994 nineteen of the top thirty companies were sued in the Silicon Valley alone.³⁰ As a result, the companies began lobbying for changes in 1994 and were rewarded with the Private Securities Litigation Reform Act (PSLRA) of 1995 passed on December 22nd.³¹

The PSLRA was designed to decrease the number of NEV suits filed, decrease the risk to technological firms and reduce the incentive to race to the court house by allowing the court to decide who best represents the class instead of giving cases to the first person to file suit. However, since the PSLRA was passed, the number of securities class action law suits has increased. In an empirical investigation by Michael A. Perino (2002), even after accounting for other factors that affected the level of securities litigation, there was a 24% increase in issuers sued per year when comparing the five years prior to the PSLRA to the ten years after the PSLRA. Perino uses the theory of diversification to explain the increase in litigation suggesting that even further diversification is required since 1995 since the PSLRA effectively decreased the fixed cost per case since the Act stays discovery while the motion of dismiss is pending and since suing many firms will diversify the law firm against different interpretations of the new pleading standards. Therefore, although the American judicial system has attempted to address the concerns of targeted companies it seems the problem has worsened.

³⁰ Sweeny (1994)

³¹ Johnson et al. (2001)

8. Settlement Externalities

As described in section 3: Tort Law and Social Optimality, NEV suits have a tendency to drain judicial resources without providing adequate return to society. Section 6.2: Attorneys' Incentives, demonstrated attorneys' incentives to persuade uninformed investors to litigate when it is not in their best interest, thereby wasting the securities holder's time and money. However, there may be macroeconomic issues affecting the U.S. economy resulting from the inefficiencies in the litigation system including difficulty finding and keeping qualified directors and the emigration of businesses.

A lawsuit presents high costs for the directors involved. There is the opportunity costs associated with the time they spend in court and the potential liability to pay all legal fees and damages at the end. Even with D&O insurance directors may feel that the time cost, reputation costs, stress and risk associated with their position outweigh the benefits. As a result, it is commonly believed that there is an inadequate supply of qualified directors in the U.S.. For example, in the 1980's there was an upsurge in lawsuits against directors causing risk averse directors to reconsider their position.³² During this time Continental Steel lost eight of twelve directors between 1985 and 1988.³³ Securities litigation continues to be an enormous liability for firms today. Many firms consider it their largest risk exposure.³⁴ If the number of lawsuits continues to climb it is reasonable to assume that the supply of directors will continue to diminish. Directors make many decisions on behalf of the company and are crucial to its efficiency, therefore, when directors are unavailable or under qualified the quality of decision making by the firm is likely to decrease. This could serve to further exacerbate the situation as securities holders would have more opportunities to litigate when directors are ill-equipped for their roles.

Aside from the cost of having unqualified directors, a firm faces direct costs of continual litigation. As

³² Bennett (1986)

³³ Brook and Rao (1994)

³⁴ Baker and Griffith (2009)

described in section 5.3: Defendants' Incentives, when a firm is faced with lawsuits its insurance premiums increase. The firm also experiences an opportunity cost by having their directors in court instead of working towards improving the company, and a cost to their reputation which could affect share prices and the willingness of consumers to buy their products. These costs may push firms to emigrate to countries that have less litigation. If firms do emigrate there will be fewer jobs for American citizens, fewer exports and higher imports for the U.S. This could have strong consequences for the American economy which is already a net borrowing nation with troublesome levels of debt. A mass emigration of American firms will only exacerbate the current financial crisis in the U.S.

9. Conclusion

This paper has shown how incentives on the defendant's and the plaintiff's side of securities litigation encourage settlement, thereby creating a system of excessive lawsuits plagued with NEV suits. D&O insurance leads to settlement of NEV suits by removing any incentive of the defendant to try any case, regardless of merit. As all settlements are covered under insurance policies, a defendant would be reluctant to take a case to court as they would run the risk that they would be found guilty of any of the exemptions in their insurance contract. This would make them personally financially responsible for the damages to the plaintiff. No defendant, no matter how small the probability, would rationally take this risk. Additionally, in an attempt to protect defendants from the conflict of interest between insured and insurer, the courts have imposed a duty of good faith on insurance companies to allow settlement when it is in the best interest of the insured. This consequently nullifies any clauses that give the insurer the right to veto settlements. Therefore, the insurance companies, the only stakeholders with an incentive to try NEV cases, are legally bound to adhere to the desires of the defendant.

This situation provides plaintiffs and their attorneys the opportunity to try meritless cases in an attempt to extract positive settlement. If this were not enough to create a breeding ground for NEV suits paying

lawyers contingently, a commonly used practice in tort litigation, provides lawyers with an incentive to decrease the number of hours worked so that they may increase the number of cases tried. This strategy allows the attorney to diversify since his income depends on the success of many poorly developed cases instead of few well developed cases. These cases are poorly developed but, because there is little to no incentive for the defendant to refuse settlement, a positive settlement almost always arises. As a result, a relationship that appears to follow a motto of “ask and you shall receive” has developed between law firms and security issuers where lawyers demand a settlement and insurance companies comply. This relationship is a drain on the judicial system as the courts are congested with securities litigation trials, many of which are NEV. Furthermore, this relationship may result in the deterioration of the U.S. firm management and the emigration of U.S. firms.

References

- Alexander, C., Arlen, J., and Cohen, M. (1999). “Regulating Corporate Criminal Sanctions: Federal Guidelines and the Sentencing of Public Firms”. *Journal of Law & Economics* 42. 393–422.
- Alexander, C. (1991) “Do the Merits Matter? A Study of Settlements in Securities Class Actions”. *Stanford Law Review* 43. 497-596.
- Baker, T., Griffith, S. (2009) “How the Merits Matter: Directors’ and Officers’ Insurance and Securities Settlements”. *3 University of Pennsylvania Law Review* 157. 755-832.
- Baker, T., Griffith, S. (2007) “Predicting Corporate Governance Risk: Evidence from the Directors’ and Officers’ Liability Insurance Market”. *2 The University of Chicago Law Review* 74. 487-544.
- Bebchuk, Lucian A. (1997) “On Divisibility and Credibility: The Effects of the Distribution of Litigation Costs Over Time on the Credibility of Threats to Sue”. Working paper, Harvard Law School. Cambridge. MA.
- Bebchuk, Lucian A. (1996) “A New Theory Concerning the Credibility and Success of Threats to Sue”. *Journal of Legal Studies* 25. 1-25.
- Bebchuk, Lucian A. (1988) “Suing Solely to get a Settlement Offer”. *The Journal of Legal Studies* 17. 437-450.
- Bebchuk, Lucian A. (1984) “Litigation and Settlement Under Imperfect Information”. *3 RAND Journal of Economics* 15. 404-415.
- Bebchuk, Lucian A., Guzman, A. (2000) “The Impact of Fee Arrangements on the Credibility of Threats to Sue”. Unpublished Manuscript, Harvard Law School, Cambridge, MA.

- Bebchuk, Lucian A., Klement, A. (2009) "Negative-Expected-Value Suits". The Harvard John M. Olin Discussion Paper Series 656.
- Bennett, A. (1986) "Hot Seats: Board Members Draw Fire and Some Think Twice about Serving". Wall Street Journal, February 5.
- Brook, Y., Rao, R. (1994) "Shareholder Wealth Effects of Directors' Liability Limitation Provisions". 3 The Journal of Financial and Quantitative Analysis 29. 481-497.
- Brown, J. P. (1973) "Toward an Economic Theory of Liability". 2 The Journal of Legal Studies 2. 323-349.
- Chen, Zhiqi. (2006) "Nuisance Suits and Contingent Attorney Fees". 2 Review of Law and Economics 2. 363-370.
- Choi, A. (2003) "Allocating Settlement Authority under a Contingent-Fee arrangement". 2 The Journal of Legal Studies 32. 585-610.
- Choi, S. (2007) "Do the Merits Matter Less After the Private Securities Litigation Reform Act?". 3 The Journal of Law, Economics, & Organization 23. 598-626.
- Clermont, K., Currivan, J. (1978) "Improving on the Contingent Fee". 4 Cornell Law Review 36. 529-641.
- Coffee, J. (2006) "Milberg Weiss Indictment". National Law Journal, 19 June.
- Cooter, R., Ulen, T. (2008) "Law & Economics". Pearson Education Inc., Boston, MA.
- Cornell, B. (1990) "The Incentive to Sue: An Option Pricing Approach". Journal of Legal Studies 19. 173-187.
- Croson, D. and Mnookin, R. (1996) "Scaling the Stonewall: Retaining Lawyers to Bolster Credibility". 1 Harvard Negotiation Law Review 1. 65-83.
- Dana, J., Spier, K. (1993) "Expertise and contingent fees: The role of asymmetric information in attorney compensation". The Journal of Law, Economics, & Organization 9. 349-367.
- Danzon, P. (1985) "Medical Malpractice: Theory, Evidence, and Public Policy". Harvard University Press, Cambridge, MA.
- Danzon, P. (1983) "Contingent fees for personal injury litigation". Bell Journal of Economics 14. 213-223.
- Elkind, P. (2006) "The Fall of America's Meanest Law Firm". Fortune, November 3.
- Emons, W. (2007) "Conditional Versus Contingent Fees". 1 Oxford Economic Papers 59. 89-101.
- Emons, W. (2000) "Expertise, Contingent Fees, and Insufficient Attorney Effort." International Review of Law and Economics 20. 21-33.
- Emons, W., Garoupa, N. (2006) "US-Style Contingent Fees and UK-Style Conditional Fees: Agency Problems and the Supply of Legal Services". 5 Managerial and Decision Economics 27. 379-85.
- Farmer, A., Pecorino, P. (1998) "A reputation for being a Nuisance: Frivolous Lawsuits and Fee Shifting in a Repeated Play Game". International Review of Law and Economics 18. 147-157.
- Gould, J. (1973). "The Economics of Legal Conflicts". Journal of Legal Studies 2. 279-300.

- Grundfest, J., Huang, P. (2006) "The Unexpected Value of Litigation: A Real Options Perspective". *Stanford Law Review* 58. 1267-1336.
- Hay, B. (1997) "Optimal Contingent Fees in a World of Settlement". *The Journal of Legal Studies* 26. 259-278.
- Hyde, C. (2006) "Conditional Versus Contingent Fees: Litigation Expenditure Incentives". *International Review of Law and Economics* 26. 180-194.
- Johnson, M., Kasznik, R., Nelson, K. (2001) "The Impact of Securities Litigation Reform on the Disclosure of Forward-Looking Information by High Technology Firms". *Journal of Accounting Research* 39. 297-327.
- Johnson, M., Nelson, K., Pritchard, A. (2007) "Do the Merits Matter More? The Impact of the Private Securities Litigation Reform Act". *Journal of Law and Economics and Organization* 23.627-652.
- Jones, A. (2008) "Breaking News: Bill Lerach Gets Two Years in Prison". *The Wall Street Journal: Law Blog*, February 11.
- Katz, A. (1990) "The Effect of Frivolous Lawsuits on the Settlement of Litigation". *International Review of Law and Economics* 10. 3-27.
- Klement, A. (2003) "Threats to Sue and Cost Divisibility under Asymmetric Information". *International Review of Law and Economics* 23. 261-272.
- Kreindler, L. (1978) "The Contingent Fee: Whose Interests are Actually Being Served?". *Tort Trial & Insurance Practice Law Journal* 14. 406-415.
- Kritzer, H. (1990) *The Justice Broker: Lawyers and Ordinary Litigation*. New York: Oxford University Press.
- Kritzer, H. (1984) "Fee Arrangements and Fee Shifting: Lessons From the Experience in Ontario". *Law and Contemporary Problems* 47. 125-130.
- Landes, W. (1993) "Sequential versus Unitary Trials: An Economic Analysis". *Journal of Legal Studies* 22. 99-134.
- Landes, W. (1971) "An Economic Analysis of the Courts". *Journal of Law and Economics* 14. 61-107.
- Leshmen, S. (2009) "Contingent Fees, Signaling and Settlement Authority". *Review of Law & Economics* 5. 1274-1300.
- Mackinnon, F. (1964) "Contingent Fees for Legal Services: A Study of Professional Economics and Responsibilities". AB Foundation. Aldine Publishing Co.
- Miceli, T. (1994). "Do Contingency Fees Promote Excessive Litigation?". *Journal of Legal Studies* 23. 211-224.
- Miceli T. (1993). "Optimal Deterrence of Nuisance Suits by Repeat Defendants". *Journal of Legal Studies* 22. 99-134.
- Meurer, M. (1992) "The Gains from faith in an Unfaithful Agent : Settlement Conflict between Defendants and Liability Insurers Source".*Journal of Law Economics & Organization* 8. 502-523.
- Miller, G. (1987). "Some Agency Problems in Settlement." *Journal of Legal Studies* 16. 189-215.
- O'Leary, M. (2007) "Directors and Officers Liability Insurance Deskbook". American Bar Association Publishing. 2nd Ed. Chicago.

- Perino, Michael A. (2002) "Did the Private Securities Litigation Reform Act Work?". Columbia Law and Economics Working Paper No. 211; St. John's Legal Studies Research Paper. Available at SSRN: <http://ssrn.com/abstract=346840> or doi:10.2139/ssrn.346840
- Posner, R. (1973) "An economic approach to legal procedure and judicial administration". *Journal of Legal Studies* 2. 399-458.
- Rhein, E. (1982) "Judicial Regulation of Contingent Fee Contracts". *Journal of Air Law and Commerce* 48, 151—78.
- Rickman, N. (1999) "Contingent Fees and Litigation Settlement". *3 International Review of Law and Economics* 19. 295-317.
- Rickman, N. (1994) "The Economics of Contingency Fees in Personal Injury Litigation". *Oxford Review of Economic Policy* 10:34–50.
- Ritov, I., Zamir, E. (2010) "Revisiting the Debate Over Attorneys' Fees: A Behavioral Analysis". *1 The Journal of Legal Studies* 39. 245-288.
- Romano, R. (1991) "The Shareholder Suit: Litigation without Foundation?". *The Journal of Law, Economics & Organization* 7. 55-87.
- Rosenberg, D., Shavell, S. (2006) "A solution to the Problem of Nuisance Suits: Option to have the Court Bar Settlement". *International Review of Law and Economics* 26. 42-51.
- Rosenberg, D., Shavell, S. (1985) "A Model in which Suits are Brought for their Nuisance Value". *International Review of Law and Economics* 5. 3-13.
- Rubinfeld, D., Scotchmer, S. (1993) "Contingent fees for attorneys: An Economic Analysis." *RAND Journal of Economics* 24. 343-356.
- Rubinfeld, D., Scotchmer, S. (1998) "Contingent fees". In: Newman, P. (Ed.), *The New Palgrave Dictionary of Economics and the Law*, vol. 1. Macmillan Reference Limited, London. 415–425.
- Schwartz, M., Mitchell, D. (1970) "An economic analysis of the contingent fee and personal injury litigation". *Stanford Law Review* 22. 1125–1162.
- Schwartz, W., Wickelgren, A. (2009) "Advantage defendant :Why Sinking Litigation Costs Makes Negative-Expected-Value Defenses but not Negative-Expected-Value Suits Credible". *Journal of Legal Studies* 38. 235-253.
- Sclafane, S. (2010) "Plaintiffs Choosy About Derivative Suit Filings, Lawyer Tells D&O Writers". *7 National Underwriter* 144. 20-24.
- Shavell, S. (2007) "Liability for Accidents". *Handbook of Law and Economics* 1. 139-182.
- Shrager, D. (1985) "The Hammer for the Public Interest,". *American Bar Association Journal* 71. 38-40.
- Scheneyer, T. (1998) "Legal-Process Constraints on the Regulation of Lawyers' Contingent Fee Contracts". *DePaul Law Review* 47. 371-412.
- Spier, K. (2007) "Litigation". *Handbook of Law and Economics* 1. 259-342.
- Sweeny, J. (1994) "Busy Plaintiffs Keep Silicon Valley on Edge: Spotlight on shareholder lawsuits." *Computer Reseller News*[Manhasset], November 8.

Tillinghast-Towers Perrin (2006) "Directors and Officers Liability Survey 21". Tillinghast-Towers Perrin, Chicago.

Tillinghast-Towers Perrin (2000). "U.S. Tort Cases, 2000: Trends and Findings on the Costs of the U.S. Tort System".
Tillinghast-Towers Perrin, Chicago.