Mandatory Equity Issuances as a First-Best Solution to Punishing Corporate Misconduct

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Abstract

Fines imposed for corporate misconduct may lead to insolvency. Prosecutors who are concerned with job losses following insolvency may reduce liability in order to limit collateral consequences. In this article I analyze firms' choices of financing and misconduct when prosecutors take collateral consequences into account when setting fines. I show that in equilibrium, firms will borrow excessively and engage in welfare-decreasing misconduct, and prosecutors will impose insufficient liability to deter corporations. I show that the first-best can be achieved by mandating the firms pay liability through equity issuances. (*JEL:* K13, K20, K42, G32)

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1 Introduction

The fundamental insight of deterrence theory is that fines should be set so that potential wrong-doers internalize their expected externalities (Bentham, 1789; Becker, 1968). That is, the optimal fine equals harm divided by probability of detection, $f^* = \frac{h}{p}$. When defendants are corporations protected by limited liability, f^* may be beyond the value of the firm, leading to excessive risk-taking and misconduct (Shavell, 1986). In this paper I explore deterrence of corporate misconduct for firms that are not inherently judgement proof, but where fines increase the risk of judgment proofness.

This paper is based on the observation that imposing fines on corporations may increase the risk of financial distress and insolvency and thereby lead to undesirable collateral consequences for third parties, such as job losses. That is, if the fine itself leads to additional externalities, the harm caused is a function of the fine imposed, $h(f)$. The optimal fine, f^*, is then the fine that solves the implicit function $f^* - \frac{h(f^*)}{p} = 0$, where $h(\cdot)$ is weakly increasing in f. Note that there is no guarantee that there exists any fixed point f^* that satisfies this equation. Indeed, if $h(\cdot)$ is strictly increasing in f, then no fixed point exists. That is once harm is endogenous with respect to the fine, optimal deterrence may not be possible, even when the probability of detection is certain.

To simplify, I consider the case where corporate misconduct is inefficient and detected with certainty. Because misconduct is inefficient, the first best liability regime is one of total deterrence. If officials could credibly commit to a fine schedule, then any fine greater than the firm's private benefit from misconduct will ensure total deterrence. However, officials lack the power to credibly commit. Indeed, precisely the opposite is true, and officials are often legally required to take into account collateral consequences when imposing corporate liability. In fact, almost all fines imposed at the federal level are governed by explicit policies to reduce fines when they may lead to collateral consequences to third parties—including employees, customers, and the general public—and officials regularly reduce fines in line with these policies (Atkinson, 2023).

This article is concerned with prosecutorial concerns about collateral consequences, and how that behavior shapes fines, corporate misconduct, and corporate financing. Specifically, I consider a firm making both capital structure and corporate misconduct decisions, and a prosecutor who observes misconduct and imposes a fine. When imposing fines, the prosecutor takes collateral consequences—as captured through an endogenous probability of default—into account. If a fine is imposed, the firm then needs to recapitalize in order to pay. Asset returns are then realized, and collateral consequences arise if the firm is insolvent.

I begin by showing that when faced with a capital shortfall following a fine, the firm generally prefers to borrow to pay fines, consistent with a large literature on preferences for debt (Myers, 2001). This in turn means that large fines increase the probability of insolvency and associated collateral consequences. Anticipating this, prosecutors concerned with collateral consequences may ex post reduce fines below their ex ante optimal level. Anticipating this, firms strategically increase their leverage in order to induce prosecutorial reticence, and engage in welfare-decreasing misconduct.

This perverse outcome could be avoided if prosecutors could credibly commit to a fine

schedule, which would lead to optimal deterrence. However, such commitment is unrealistic, and often goes against laws and regulations. Moreover, even if a prosecutor could commit, it would still lead to collateral consequences if misconduct occurs off the equilibrium path.

I then consider a prosecutor who is unable to commit to a fine schedule, but who can require that the firm pay liability through an equity issuance, rather than allowing the firm itself to choose its means of financing. I show how this policy leads to the first best. An equity issuance recapitalizes the firm, thereby imposing the entire incidence of liability on shareholders. That is, a fine imposed through an equity issuance does not increase the firm's leverage or the associated probability of insolvency. Because the fine does not lead to collateral consequences, prosecutors need not exhibit the same reticence when imposing fines, and can impose a fine that leads to optimal deterrence. Anticipating the prosecutor's actions, the firm does not borrow excessively and does not engage in misconduct.

This paper relates closely to the judgment-proof problem, first rigorously analyzed by Shavell (1986), who showed how limited liability can lead to excessive risk taking and misconduct. Many papers have studied potential remedies including piercing the corporate veil (Hansmann and Kraakman, 1990), mandatory liability insurance (Shavell, 1986; Shavell et al., 2005), and imposing liability on creditors (Pitchford, 1995). Che and Spier (2008) consider a firm that can strategically alter its capital structure in order to judgment proof itself, and show the effect of various bankruptcy regimes on choice of capital structure and misconduct. This article differs from other research on the judgment-proof problem by considering a firm that is not inherently judgment proof. Instead, I consider a firm that can, in principle, pay a fine, but where the fine could contribute to future insolvency.

While there is no systematic empirical evidence relating fines to job losses, a considerable body of research exists on the employment consequences of financial difficulties at firms. Job numbers decline markedly following a bankruptcy declaration (Hotchkiss, 1995), and continue to be notably reduced for years after both Chapter 11 restructuring and Chapter 7 dissolution (Bernstein et al., 2019). Debt defaults and covenant breaches both lead to companies reducing their work forces (Agrawal and Matsa, 2013; Falato and Liang, 2016). Additionally, even though some workers keep their positions at restructured or liquidated enterprises, these individuals experience notable reductions in earnings (Graham et al., 2023). Moreover, employment levels drop significantly in nearby firms when establishments are liquidated (Bernstein et al., 2018). Such potential collateral consequences can weigh heavily on the minds of authorities considering imposing fines on corporations.

In this paper I take seriously the idea that prosecutors are worried about imposing fines that could lead to insolvency and associated collateral consequences. That is, the prosecutor is a player in the game rather than an automaton. Concerns about collateral consequences are regular in cases of corporate misconduct. The United States Sentencing Guidelines for Organizational Defendants (which govern prosecutions against corporations) explicitly instruct prosecutors to consider collateral consequences, providing mechanisms to adjust fines downward to "avoid substantially jeopardizing the continued viability of the organization,"[1] the Environmental Protection Agency gives reductions when liability would "result in plant closings, bankruptcy, or other extreme financial burden, and there is

[1]U.S. Sentencing Guidelines Manual §8C3.3 (U.S. Sentencing Commission 2021).

an important public interest in allowing the firm to continue in business,"[2] and the Federal Trade Commission takes into account factors including a corporation's "ability to pay [and the penalty's] effect on [the corporation's] ability to continue to do business."[3] Dozens of other agencies have similar policies, and many firms have explicitly been granted reductions in fines because of concerns about inability to pay (Atkinson, 2023).

2 Model

Initial Financing: A firm is financed entirely through equity and has two assets, $x = x_1 + x_2$, each of which takes on a value of 1 with independent probability p and 0 with probability $1-p$, for $p \in (0,1)$. The firm can adjust it's initial capital structure by issuing debt $D < 2$, and returning any funds raised to shareholders.[4] The debt contract limits any subsequent debt to be junior to existing debt. If the firm is indifferent between debt levels, it chooses the lower value of debt. If the firm defaults, the firm is liquidated and the liquidation value is paid to creditors. Liquidation creates collateral consequences for the public $\gamma > 0$.

Misconduct and Fines: The firm can choose a non-contractible harm $h > 0$. The harm provides a private benefit for the firm of $b = \theta h$, for $\theta \in (0,1)$. The prosecutor observes h and imposes a fine f on the firm. This fine leads to a endogenous probability of default, π, based on expected asset returns. The prosecutor's utility is a function of the amount of reticence and the expected collateral consequences and is given by $u = r(h-f) - \gamma\pi$. The term $r(h-f)$ represents the cost the prosecutor incurs for choosing a fine less than harm, with $r'(h-f) < 0$ for all $(h-f) > 0$, and $r(0) = 0$. If the prosecutor is indifferent between two different fines, she chooses the lower fine.

Refinancing: The firm pays the fine by refinancing. At the time of refinancing, the manager receives a private, unverifiable signal about the value of one of the assets, where $Pr(\sigma = S | x = S) = q \in (\frac{1}{2}, 1)$ for $S \in \{0,1\}$. The firm can refinance through a junior debt issuance of d or an equity issuance equal to a proportion s of the firm's total outstanding equity. If the firm cannot pay the fine, it is liquidated to pay the fine.

Overall, the sequence of actions is as follows:

1. *Financing.* Shareholders may retire equity and issue debt with face value D.
2. *Misconduct.* The firm chooses harm $h \geq 0$, and gains benefit $b = \theta h$.
3. *Fine.* The prosecutor observes harm h and imposes a fine f on the firm.
4. *Information.* The manager observes a signal σ about the value of assets.

[2] U.S. Environmental Protection Agency, Policy on Civil Penalties, in EPA General Enforcement Policy # GM-21, at 3 (1984).

[3] 15 U.S.C. §45(m)(1)(C).

[4] The requirement that $D < 2$ ensures the firm is not financed entirely through debt.

5. *Refinancing.* The firm pays the fine through issuing equity or issuing debt.

6. *Asset returns.* Asset returns are distributed, with the priority ranking (i) initial creditors; (ii) new creditors; (iii) shareholders.

All securities and assets are traded in perfect Walrasian markets. The risk-free interest rate is normalized to zero. The equilibrium concept is subgame-perfect Nash.

3 Analysis

3.1 Fines with Commitment

First consider the social optimum. Because misconduct is always social welfare decreasing, $\theta \in (0, 1)$, no misconduct should occur. Moreover, because insolvency imposes costs on the public yet provides no benefits, debt levels should be kept low enough so that there is no insolvency. The social optimum is therefore described by $\{h = 0, D = 0\}$.

If prosecutors can commit to a fine schedule, then the first best can be achieved using the standard Becker solution:

Proposition 1. *If the prosecutor can commit to $f = h$, the social optimum will be achieved.*

Proof. Initially the firm value is $E[x]$, which is fully captured by shareholders absent debt and misconduct. Suppose $h = 0$ and $D > 0$. Let $E[T^D]$ be the expected transfer to creditors. Creditors break even, so shareholders gain $E[T^D]$. Thus with debt but no misconduct, shareholder value remains $E[x]$. Now suppose $h > 0$. Let f^{max} be the maximum feasible fine that leaves the firm solvent. If $f \geq f^{max}$, shareholder value drops to 0 under insolvency, so they prefer $h = 0$. If $f < f^{max}$, letting $E[T^N]$ be the expected transfer to new investors, then $E[T^N] = f$ because new investors must break even. Shareholder value becomes $E[x + T^D - T^D - T^N] + b = E[x - T^N] + b$. Since $E[T^N] = f = h > b$, this represents a loss versus no misconduct. Therefore shareholders never gain by issuing debt or engaging in misconduct when prosecutors can commit to $f = h$. Optimality requires $D = 0$ and $h = 0$. □

When prosecutors commit to $f = h$, shareholders have no incentive to issue debt or engage in misconduct. Intuitively, the fine exceeds the benefit from misconduct, $f > b$. And because new investors demand to break even, they receive expected transfer $E[T^N] = f$. As residual claimants, shareholders bear the fine's cost through reduced earnings. Further, misconduct transfers wealth from shareholders to senior creditors. Specifically, absent misconduct creditors receive nothing when assets pay zero. With misconduct, creditors now receive $\min\{b, D\}$ in the low state, funded by shareholders. Therefore, optimal shareholder decisions satisfy $D = 0$ and $h = 0$ given prosecutorial commitment and inefficient misconduct.

3.2 Fines Without Commitment

Prosecutors, however, lack the ability to commit. Instead, prosecutors and other officials are explicitly tasked with taking into account and avoiding prospective collateral consequences. The ex post costs of imposing a fine may be such that prosecutors prefer to reduce the fine below the level that is ex ante optimal. Anticipating this, firms may choose a capital structure that allows them to credibly commit to paying liability in a manner that leads to collateral consequences, leading in turn to excessive misconduct and prosecutorial reticence. In this section, I show the following result:

Proposition 2. *If prosecutors impose monetary fines and are unable to commit to a fine schedule:*

(a) The firm will borrow excessively ($D > 0$).

(b) The firm will engage in welfare-decreasing misconduct ($h > 0$).

(c) The fine imposed will be less than the harm caused ($f < h$).

To see this, first consider the firm's recapitalization method after misconduct. Consistent with pecking order theory, the firm issues debt. This arises because lower-type managers pool with higher types when issuing securities. As residual claimants, higher types minimize transfers to new investors by selecting debt over equity.

Lemma 1. *The firm always issues debt for $D < 1+b$. The firm is indifferent between debt and equity for $D \geq 1+b$.*

Proof. Suppose that the firm has debt $D \geq 1+b$. In this case, shareholder returns are positive if and only if $x = 2$. Because new investors are only paid in the high state, debt and equity claims are equivalent, so shareholders are indifferent between issuing debt and equity. Therefore assume that $D < 1+b$.

Let $\hat{p}$ denote the manager's updated belief about p, calculated using using Bayes Theorem following the observation of σ. This implies that $\hat{p} > p$ if and only if the manager receives a high signal, $\sigma = 1$.

First assume a pooling equilibrium where the firm issues the same security for both $\sigma \in \{0,1\}$. Let T_x^i indicate the transfer to investor $i \in \{E,d\}$ for returns $x \in \{1,2\}$. The break even condition for new investors is $2p(1-p)T_1^x + p^2T_2^x = f$. The maximum that the firm can raise is therefore $f^{max} = 2p(1-p)(1+b-D) + p^2(2+b-D)$.

Now observe that the low type, $\sigma = 0$, will always mimic the high type, $\sigma = 1$. The low type's expected payment to new investors from pooling on $x \in \{d,E\}$ is $(\hat{p}(1-p) + p(1-\hat{p}))T_1^x + p\hat{p}T_2^x$, wheres the expected transfer from separating is $(\hat{p}(1-\hat{p}) + \hat{p}(1-\hat{p}))T_1^x + \hat{p}^2T_2^x = f$. And because $\hat{p} < p$ for a low type, the low type minimizes the expected transfer by pooling with the high type. Therefore the high type selects whether the firm will pool on debt or equity.

The high type's expected payment to new investors from pooling on $x \in \{d,E\}$ is $(\hat{p}(1-p) + p(1-\hat{p}))T_1^x + p\hat{p}T_2^x$. Observe that debt has less variance, that is: $T_1^d > T_1^E$ for $f < f^{max}$ so $T_2^d < T_2^E$. Therefore when $\hat{p} > p$, the firm minimizes the transfer by issuing debt instead of equity. □

The firm's leverage determines its default probability $\pi(f)$ following the fine f. Absent misconduct, the firm remains solvent for all feasible f. However, with prior debt issuance, the firm now defaults with positive probability when f exceeds the debt capacity $b - D$. Critically, $\pi(f)$ is increasing in f:

$$\pi(f) = \begin{cases} 0 & if\ f \in [0, b-D] \\ (1-p)^2 & if\ f \in (b-D, 1+b-D] \\ 1-p^2 & if\ f \in (1+b-D, 2+b-D] \\ 1 & if\ f \in (2+b-D, \infty). \end{cases}$$

The standard judgment proof problem considers the case where $\pi(f) = 1$, however a prosecutor concerned about collateral consequences more generally is concerned about any increase in π. The above probabilities indicate two distinct ways that prosecutorial reticence may materialize. The first is where the firm is judgement proof, $\pi(h) = 1$, but where the prosecutor may reduce the fine in order to keep the firm solvent in the short run. The second is where the firm is not judgment proof, $\pi(h) < 1$, but where the fine is expected to increase the probability of insolvency. A prosecutor will weigh the increased likelihood of a insolvency against the disutility of reticence.

Lemma 2. *For any parameter values, there exists a combination of leverage and misconduct, $(D > 0, h > 0)$, that induces prosecutorial reticence, $f < h$.*

Proof. Suppose that $D < b$. The firm will remain solvent if $f \leq b - D$, because the firm can costlessly issue $d = f$, leaving $\pi = 0$. If $f > b - D$ then the firm must issue debt $d > f$, meaning that the firm will be insolvent if $x = 0$. Now consider a firm that chooses D and h such that $\theta h - D = 0$. This implies that $h = \frac{D}{\theta}$. Suppose that $r(\frac{D}{\theta}) = -\gamma\pi$, in which case $f^* = 0$. By the strict monotonicity of $r(\cdot)$, there exists a unique $y^* > 0$, such that $r(y^*) = -\gamma\pi$. □

A prosecutor will trade off their desire to see justice in terms of an adequate fine against their concerns about collateral consequences to innocent third parties. In some cases prosecutors may prefer to reduce the fine rather than face collateral consequences.

With discrete asset returns, even a minor fine may discontinuously increase the probability insolvency. This starkly illustrates the prosecutor's dilemma. However, the core tension remains with continuous asset returns. Consider a more general asset, with CDF of returns given by $G(x)$. Absent a fine, the insolvency probability following misconduct is $G(D - b)$. If the firm issues debt to pay a fine f, the probability of insolvency is $G(D - b + d(f))$. The prosecutor thus exhibits reticence if there is some $f < h$ that satisfies $r(h - f) \geq -\gamma[G(D - b + d(f)) - G(D - b + d(h))]$, where the left hand side captures disutility from reticence, while the right hand side represents the incremental reduction in social harm from a decreased insolvency risk.

And now we can put the pieces together to see that standard fines without commitment lead to welfare-decreasing misconduct, prosecutorial reticence, and excessive leverage:

Proof of proposition 2. Consider the case where a firm sets $h = \frac{D}{\theta}$, and chooses D to solve $r(\frac{D}{\theta}) = -\gamma\pi$. This implies that $f^* = 0$, so the benefit to shareholders from engaging in misconduct is $\theta h > 0$. The firm therefore issues debt and engages in misconduct. □

This analysis reveals an unintended consequence of considering collateral consequences in prosecutorial decision-making. When prosecutors place greater weight on avoiding collateral harm (higher γ), they become more reluctant to impose adequate fines. Firms anticipate this reticence and respond by increasing leverage and misconduct, thereby benefiting from reduced fines. Thus policies intended to limit societal harm perversely incentivize the very behavior they aim to deter.

In some cases, norms and regulations governing prosecutorial conduct may constrain reticence. Suppose prosecutors face an alternative deterrence function $\tilde{r}(h - f)$ that penalizes reticence more than $r(h - f)$. Anticipating less willingness to reduce fines, firms will limit their leverage and misconduct. Yet if misconduct occurs off of the equilibrium path, the function $\tilde{r}(\cdot)$ may lead to more collateral consequences than $r(\cdot)$. Hence, conventional monetary fines cannot reconcile ex ante deterrence with ex post efficiency. The next section shows how to resolve this time inconsistency, providing optimal deterrence and reducing reticence and collateral consequences off the equilibrium path.

3.3 Mandatory Equity Issuances without Commitment

Standard monetary fines create a tradeoff between deterrence and collateral consequences for prosecutors. Large fines better deter corporate misconduct but also increase the risk of insolvency and associated consequences. Absent commitment, firms can exploit prosecutors' time inconsistency to avoid liability. This section explores mandatory equity issuances as an alternative enforcement tool proposed in prior legal scholarship by Coffee (1980). I demonstrate this can induce first-best deterrence without commitment.

The key insight is that how fines are financed impacts insolvency risk. Debt-financed fines weakly raise default likelihood by increasing leverage. In contrast, recapitalizing through equity issuances weakly reduces insolvency risk. Left to their own devices, shareholders prefer debt financing to maximize their residual claim, which in turn increases default risk, and may lead to prosecutorial reticence. Mandatory equity issuances force shareholders to fully internalize fines through dilution, even with no commitment, achieving the first-best.

Proposition 3. *Mandatory equity issuances result in:*

(a) The firm will not borrow excessively ($D = 0$).

(b) The firm will not engage in misconduct ($h = 0$).

(c) The prosecutor will set $f = h$ for $h \leq f^{max}$.

Proof. Suppose that a firm has to pay a fine of $f \leq f^{max}$ through an equity issuance. New shareholders demand to break even in expectation, so new shareholders demand a share of the firm $s = f/(2p(1-p)T_1^E + p^2T_2^E)$, for an expected transfer of $E[T^E] = f$. This

has no effect on existing creditors, so existing shareholders bear the full incidence of the fine. Imposing liability has no effect on the firm's prospective solvency, $\pi(f_E = h) = \pi(0)$ for $f \leq f^{max}$. Conditional on D, shareholders maximize their returns at $h = 0$, because $b < f$. Creditors will only issue debt if they can expect to break even, so shareholders are indifferent between feasible debt levels and choose $D = 0$.

□

Mandatory equity issuances incentivize first-best deterrence by placing the full incidence of fines on shareholders up to the firm's market capitalization. Specifically, new shares are issued to raise the fine amount, diluting existing shareholders. This leaves creditor claims unchanged so leverage does not increase—indeed because the firm captures the benefit b and then recapitalizes through an equity issuance, the probability of default is weakly lower than before misconduct occurred. Consequently, prosecutors can impose fines exceeding those feasible with standard fines in a dynamic setting without commitment. Shareholders cannot gain from misconduct below market capitalization since they fully internalize fines through dilution. If harm exceeds the firm's market capitalization, the prosecutor faces the choice between a mandatory equity issuance $f < h$ that fully dilutes existing shareholders, yet leaves the firm solvent, or a fine $f = h$ that leads to insolvency and collateral consequences. In either case, shareholders do not capture any benefits, and therefore do not borrow or engage in misconduct.

While standard fines with commitment achieve perfect deterrence, a key advantage of mandatory equity issuances is behavior off of the equilibrium path. In a case where misconduct does occur, standard fines may cause insolvency and collateral harms due to the increase in the insolvency risk. In contrast, equity issuances isolate existing shareholders from the incidence of fines, preventing spillovers to creditors that increase insolvency risk.

4 Conclusion

This paper explores how collateral consequences from insolvency shape corporate criminal enforcement. Fines that increase the risk of default impose societal costs beyond shareholders and management. Anticipating this, prosecutors may rationally reduce fines below harm. Specifically, the analysis reveals how limited commitment power constrains deterrence versus first-best fines. Firms can raise leverage strategically, engage in misconduct, and then credibly threaten insolvency to limit fines. Taken together, concerns about collateral consequences can lead to excessive debt and wrongdoing.

However, mandatory equity issuances to pay fines can restore first-best deterrence. Equity issuances impose the incidence of fines directly on shareholders through dilution up to the firm's market capitalization. This avoids raising leverage or default risk. Consequently, prosecutors can implement fines equal to harm where possible without fear of insolvency.

While other reforms exist, equity issuances have key advantages. Piercing the corporate veil is impractical for most corporations (Hansmann and Kraakman, 1990). Imposing liability directly on the lender increases the interest rate and can increase incentives for risk taking and thereby lead to more misconduct (Pitchford, 1995; Che and Spier, 2008). Delayed liability payments or capital structure regulations would be complex to implement. In

contrast, equity issuances could be implemented through the standard system of equitable relief (Dobbs, 1993; Bray, 2016).

While this paper has shown how firms can exploit concerns about collateral consequences—and how mandatory equity issuances can overcome this problem—the most practical results relate to the decision of the prosecutor rather than the decision of the firm. While firms could choose leverage and misconduct in order to exploit prosecutorial reticence, leverage and misconduct decisions are driven by many other factors. As such, the most important implication may therefore not be deterrence of corporate misconduct, but rather the behavior of the prosecutor when misconduct does occur. In these cases, standard fines may lead prosecutors to reduce penalties to avoid insolvency. Mandatory equity issuances enable prosecutors to impose fines without the same risk of collateral consequences.

Several model extensions and generalizations could be considered. This paper employs a pecking order theory of capital structure, but alternate models could be analyzed. The key requirement is that firms may sometimes prefer debt financing, enabling the reticence result. Introducing more nuanced asset returns would make the mechanisms less stark but leave prosecutorial incentives unchanged. If the prosecutor has imperfect information about asset returns and collateral consequences, calibrating standard monetary fines would be much more difficult than mandating equity issuances. Beyond refinancing through debt or equity, firms could tap internal funds through asset sales. However, like debt, asset sales increase leverage and similarly raise default risk.

While interesting, these extensions would not fundamentally change the analysis. The core intuition remains: firms often prefer borrowing; borrowing increases the probability of insolvency; insolvency creates costs for third parties; prosecutors are worried about this, and reduce fines; firms anticipate reticence and engage in excessive leverage and misconduct. Mandating equity issuances breaks this chain.

References

Agrawal, A. K. and D. A. Matsa (2013). Labor unemployment risk and corporate financing decisions. *Journal of Financial Economics 108*(2), 449–470.

Atkinson, N. (2023). Corporate liability, collateral consequences, and capital structure. *Columbia Business Law Review* (1).

Becker, G. S. (1968). Crime and punishment: an economic approach. *Journal of political economy 76*(2), 169–217.

Bentham, J. (1789). *An introduction to the principles of morals and legislation*. Clarendon Press.

Bernstein, S., E. Colonnelli, X. Giroud, and B. Iverson (2018). Bankruptcy spillovers. *Journal of Financial Economics*.

Bernstein, S., E. Colonnelli, and B. Iverson (2019). Asset allocation in bankruptcy. *The Journal of Finance 74*(1), 5–53.

Bray, S. L. (2016). The system of equitable remedies. *UCLA L. Rev. 63*, 530.

Che, Y.-K. and K. E. Spier (2008). Strategic judgment proofing. *The RAND Journal of Economics 39*(4), 926–948.

Coffee, J. C. J. (1980). Making the punishment fit the corporation: The problems of finding an optimal corporation criminal sanction. *N. Ill. UL Rev. 1*, 3.

Dobbs, D. B. (1993). *Dobbs Law of Remedies: Damages, Equity, Restitution*, Volume 2. West Publishing Company.

Falato, A. and N. Liang (2016). Do creditor rights increase employment risk? evidence from loan covenants. *The Journal of Finance 71*(6), 2545–2590.

Graham, J. R., H. Kim, S. Li, and J. Qiu (2023). Employee costs of corporate bankruptcy. *The Journal of Finance 78*(4), 2087–2137.

Hansmann, H. and R. Kraakman (1990). Toward unlimited shareholder liability for corporate torts. *Yale LJ 100*, 1879.

Hotchkiss, E. S. (1995). Postbankruptcy performance and management turnover. *The Journal of Finance 50*(1), 3–21.

Myers, S. C. (2001). Capital structure. *Journal of Economic perspectives 15*(2), 81–102.

Pitchford, R. (1995). How liable should a lender be? the case of judgment-proof firms and environmental risk. *The American Economic Review*, 1171–1186.

Shavell, S. (1986). The judgment proof problem. *International review of law and economics 6*(1), 45–58.

Shavell, S. et al. (2005). Minimum asset requirements and compulsory liability insurance as solutions to the judgment-proof problem. *RAND Journal of Economics 36*(1), 63–77.