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THE SOCIAL COSTS OF DIVIDENDS AND SHARE REPURCHASES

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ABSTRACT

A long-held view in the academy is that shareholders are "residual claimants" in the sense that shareholders are paid in full only after the corporation pays its creditors. The reality on the ground is far different. Corporations give assets away to their shareholders long before they have satisfied creditors, both voluntary contract creditors and involuntary tort creditors. In particular, existing U.S. corporate and voidable transfer laws allow corporations to pay dividends and make share repurchases up to the point where the corporation is insolvent or nearly so. Voluntary creditors can limit dividends and share repurchases by contract, but involuntary creditors like tort claimants cannot, and unsophisticated voluntary creditors rarely do so. I use a simple Black-Scholes model of a debtor firm to illustrate the incentive that shareholders have to take dividends and share repurchases before debts are repaid. I

then present data on the huge payouts of asset value by indebted U.S. publicly-traded corporations from 2010 to 2018. While good for shareholders, the permissiveness of corporate payout rules brings with it substantial social costs. Dividends and repurchases (1) dramatically increase the riskiness of corporate debt, diverting large resources into credit monitoring and speculation, (2) require a larger bankruptcy system to process large and complex corporate failures, (3) make firms more fragile and less resilient to financial crises, (4) unfairly shift costs to involuntary and unsophisticated creditors in violation of the implicit social bargain of limited liability, and (5) distort the supply of securities toward riskier debt that is publicly subsidized through tax deductibility of interest expense, simultaneously reducing the availability of safe assets that are in high demand. It would be socially beneficial to restrict dividends and share repurchases to corporations that have low debt and adequate insurance against harm to involuntary creditors, and that meet higher thresholds for wages and benefits. Such a rule would still allow corporations to operate without doing those things; they could still have high debt, be underinsured, and pay minimum wages with minimal benefits. But if they did so, they could not pay out assets to shareholders until they first met all their other obligations.

INTRODUCTION

A long-held view in the academy is that shareholders are "residual claimants" in the sense that shareholders are paid in full only after the corporation pays its creditors. As Professors Easterbrook and Fischel put it nearly thirty years ago:

> "[E]quity investors have the residual claim. They stand to gain or lose almost the whole value of modest fluctuations in the fortunes of the firm. The residual claimants therefore have incentives to invest in the amount of monitoring likely to produce these gains (or avoid the losses), net of the costs of monitoring. Debt claimants, protected by the 'equity cushion,' are more likely to be ignorant."[1]

The influential Delaware Court of Chancery, often influenced by corporate legal scholarship, has taken the term on for itself as well, stating that "[i]n a solvent corporation, the residual claimants are the stockholders"[2] and setting out its most basic rules in such terms: "[d]irectors of a Delaware corporation owe fiduciary duties to the corporation and its stockholders which require that they strive prudently and in good faith to maximize the value of the corporation for the benefit of its residual claimants."[3]

The reality on the ground is very different. Shareholders routinely get paid before creditors. In particular, corporations give significant assets to their shareholders in the form of dividends and share repurchases long before they have satisfied both their voluntary contract and involuntary tort creditors.[4] Existing law is quite permissive in allowing indebted

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[1] Frank H. Easterbrook and Daniel R. Fischel, *Limited Liability and the Corporation*, 52 U. CHI. L. REV. 89, 91 (1985). *See also* John C. Coffee, Jr., *Shareholders Versus Managers: The Strain in the Corporate Web*, 85 MICH. L. REV. 1, 66 (1986) ("As the residual claimant, the shareholders receive all the upside return, but, because they have limited liability, they can avoid downside loss, except to the extent their capital is invested in the firm.").

[2] Quadrant Structured Prods. Co. v. Vertin, 102 A.3d 155, 172 (Del. Ch. 2014).

[3] *In re* Trados Inc. S'holder Litig., 73 A.3d 17, 20 (Del. Ch. 2013).

[4] Financial economists recognize that interest payments and dividends or share repurchases are substitute methods for reducing free cash flow. *See, e.g.*,

corporations to distribute this cash to shareholders. As a result, shareholders are hardly the "last paid" capital providers of corporate law folklore but rather, *first-in, first-out, and then some* capital providers who receive their capital back and much more while the corporation has outstanding liabilities, often very large in amount. From the shareholders' perspective, this behavior is optimal. When payouts to shareholders reduce the value of corporate equity by less than the amount paid, shareholders are better off, since creditors bear some of the costs of the payout but receive nothing in return. Shareholders take the sure dollars today in dividends and share repurchases because it is rational to do so and almost never face a day in the future when they first settle up with creditors and then walk away with the "residual."

Two kinds of law purport to protect corporate creditors from excessive dividends and share repurchases. Both are weak. First is corporate law, which forbids dividends and share repurchases when a corporation is insolvent.[5] However, creditors have no direct remedy

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Sattar A. Mansi and John K. Wald, *Payout Policy with Legal Restrictions*, 40 FIN. MGMT. 701 (2011) (examining the use of dividend payments as substitutes for interest payments in reducing the costs of free cash flow).

[5] Restrictions of the payment of dividends while insolvent have long been a part of corporate law. *See, e.g.*, Jay Lawrence Westbrook, *Transparency in Corporate Groups*, 13 BROOK. J. CORP. FIN. & COM. L. 33, 41 (2018) ("Even as corporations became common and easier to create, the law imposed serious protections for creditors, including par value and paid-in capital requirements, limitations on dividends while insolvent, and the like."); SV Inv. Partners, LLC v. Thoughtworks, Inc., No. CV 2724-VCL, 2010 WL 11418154, at *1 (Del. Ch. Nov. 10, 2010) ("An unbroken line of decisional authority dating back to the late nineteenth century prohibits a corporation from redeeming shares when the payment would render the corporation insolvent."); N.Y. Bus. Corp. Law § 513(a) (McKinney) ("Notwithstanding any authority contained in the certificate of incorporation, the shares of a corporation may not be purchased by the corporation, or, if redeemable, convertible or exchangeable shares, may not be redeemed, converted or exchanged, in each case for or into cash, other property, indebtedness or other securities of the corporation (other than shares of the corporation and rights to acquire such shares) if the corporation is then insolvent or would thereby be made insolvent."); N.Y. Bus. Corp. Law § 510 (a) (McKinney) ("A corporation may declare and pay dividends or make other distributions in cash or its bonds or its property, including the shares or bonds of other corporations, on its outstanding shares, except when currently the corporation is insolvent or would thereby be made insolvent, or when the declaration, payment or distribution would be contrary to any restrictions

against recipients of dividends and share repurchases, and the corporation itself only has a remedy against those recipients who had insufficient notice of their illegality. Second is voidable transfer law, which allows creditors to recover dividends and amounts paid for shares when the corporation is insolvent, unable to pay its debts as they come due, or inadequately capitalized. However, creditors cannot easily enforce such laws outside bankruptcy because the creditor typically must enforce voidable transfer laws on behalf of all creditors and has no clear means of being paid for its efforts since funds are returned to the debtor. Both sets of laws use insolvency or near-insolvency (inadequate capitalization) to trigger creditor protections. However, by the time a corporation is insolvent or near insolvency and the law no longer allows dividends and share repurchases, it is usually too late, resulting in a corporation having paid out sometimes massive value that might otherwise have gone to satisfy creditor claims.

Our current system also calls into question some parts of the modern theory of corporate law. Corporate law scholarship identifies a key role—perhaps the only "essential" role—of corporate law as allowing for the partition or locking in of assets for use in a business.[6] However, while

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contained in the certificate of incorporation."). See also Delaware statutes cited infra at note 20.

[6] The ideas are actually rather old but were rediscovered. Henry Hansmann & Reinier Kraakman, *The Essential Role of Organizational Law*, 110 YALE L.J. 387, 390 (2000) ("The truly essential aspect of asset partitioning is, in effect, the reverse of limited liability—namely, the shielding of the assets of the entity from claims of the creditors of the entity's owners or managers. This means that organizational law is much more important as property law than as contract law."); *see also*, Margaret M. Blair, *Locking in Capital: What Corporate Law Achieved for Business Organizers in the Nineteenth Century*, 51 UCLA L. Rev. 387, 392 (2003) (stressing "the role that incorporation played in establishing a pool of assets that was not subject to being liquidated or dissolved by *any* of the individual participants who might want to recover their investment."). For discussion that such understandings are quite old, see also Bishop Carlton Hunt, *The Development of the Business Corporation in England, 1800-1867*, 3 (1936) ("[I]n the seventeenth century the commercial advantages flowing from and

scholars are surely right to assert that creditors benefit from an inability of one or a few shareholders to dissolve the corporation, it is an overstatement to claim that "they are protected by the existence of an entity that is difficult to dissolve by the current owners. It is only with this protection that the squabbles among those who manage the company will be of limited interest to the creditors" because shareholders can collectively decide to pay out assets in the form of dividends and share repurchases.[7] This is hardly a convincing "locking in" of capital from a creditor's perspective.[8]

The permissive allowance of dividends and share repurchases by corporations has severe negative social consequences.[9] First, it dramatically increases the riskiness of corporate debt by diverting resources into credit monitoring and credit speculation.[10] Voluntary creditors must charge a high price for credit ex ante to protect them from the ex post effects of the existing legal regime, and many resources are drawn into constant monitoring and trading on changing corporate likelihoods of default and less than full recovery on corporate debt.[11] Second, the existing legal regime requires a bankruptcy system that can process large and complex corporate failures when they occur.[12] Third, it leaves firms less resilient to financial crises.[13] Fourth, it unfairly shifts costs to involuntary and unsophisticated creditors in violation of the implicit social bargain of limited liability.[14] Finally, it distorts the supply

incident to incorporation were becoming clear: perpetuity or, at least, continuity of existence (and management) independent of that of members; ease of suit against third parties or against members; transferable shares; unlimited divisibility of the equities; and the distinct demarcation of liability for the debts of a corporation, as well as of that for the debts of its shareholders."). Hunt observed that "[t]he importance of non-liability for the debts of members was urged, for example, in the petition of the Silk Throwsters for incorporation in 1692: 'If such an undertaking should be carried on only by articles of partnership, the stock will be liable to the particular and private debts of the several partners, and subject to be torn to pieces by the bankruptcy of any of them.'" *Id.*

7 Edward B. Rock and Michael L. Wachter, *Waiting for the Omelet to Set: Match-Specific Assets and Minority Oppression in Close Corporations*, 24 J. CORP. L. 913, 920 (1999).

8 *Id.*

9 *Id.*

10 *Id.*

11 *Id.*

12 *Id.*

13 *Id.*

14 *Id.*

of securities toward riskier debt that is publicly subsidized through the deductibility of interest, thereby reducing the supply of safer assets.[15]

Part I of this article presents a short review of the relevant rules that allow and restrict dividends and share repurchases, in particular, contract, corporate law and voidable transfer law. Part II presents a simple model of shareholder incentives to illustrate why it is so often in shareholders' interest to remove assets from the corporation in the form of dividends and share repurchases. Part III presents data on payouts of large U.S. public corporations from 2010 to 2018. The data shows that large U.S. public corporations take considerable advantage of existing rules by paying out a large percentage of their existing long-term debt in the form of dividends and share repurchases. Part IV explores the social costs of the law's permissiveness of dividends and share repurchases. A short conclusion follows Part IV. There, the article proposes that both dividends and share repurchases should be allowed only for firms that meet stricter requirements, including safer debt, adequate insurance, and the payment of socially-desirable wages and benefits.

I. LEGAL RULES

A. Contract Law

Contract lenders like banks can and do limit dividend payments through covenants in loan agreements.[16] Creditors can also use other covenant violations to reduce investment and payouts to free up funds for debt repayment.[17] In recent years, however, such restrictions have become less prevalent as so-called "covenant-lite" or "cov-lite" loans, which have fewer covenant protections for lenders and have dominated corporate lending.[18] This competition for lending among creditors has likely reduced

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[15] *Id.*

[16] *See* Linda Allen, Aron Gottesman, Anthony Saunders, and Yi Tang, *The Role of Banks in Dividend Policy*, 41 FIN. MGMT. 591 (2012) (documenting how banks limit dividends while their loans are outstanding); Sudheer Chava and Michael R. Roberts, *How Does Financing Impact Investment? The Role of Debt Covenants*, 63 J. FIN. 2085 (2008) (showing that investment declines after a debt covenant violation).

[17] *See* Greg Nini, David C. Smith, and Amir Sufi, *Creditor Control Rights, Corporate Governance, and Firm Value*, 25 REV. FIN. STUD. 1713 (2012) (demonstrating that creditors actively enforce covenant violations to prohibit payouts to shareholders).

[18] *See* Mayra Rodriguez Valladares, *Rating Agencies Sound Alarm About Leveraged Loans And CLOs*, FORBES (Dec. 18, 2018)

the positive externality that previous—and more demanding lenders—generated for less sophisticated voluntary creditors and involuntary creditors alike.

B. Corporate Law

State corporate law also limits dividend payments and share repurchases. Under most corporate law, including that in Delaware,[19] the corporation's directors can declare and pay dividends and make share repurchases so long as the corporation is insolvent and certain other minor requirements are met.[20] Interestingly, a valid dividend declaration creates a debtor-creditor relationship with the shareholders entitled to the dividend, who then may sue the corporation as creditors for later failing to pay.[21] The directors are personally liable for wrongfully-declared dividends,[22] and that liability extends to creditors "in the event of [the corporation's] dissolution or insolvency[.]"[23] But that remedy is inadequate when the amount of the dividends and repurchases far exceeds

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https://www.forbes.com/sites/mayrarodriguezvalladares/2018/12/18/rating-agencies-sound-alarm-about-leveraged-loans-and-clos/#46e2b6894d6d.

[19] Delaware is the state if incorporation of about 60% of the stock-market capitalization of U.S. public companies as of December 31, 2018. Data from Bloomberg LLP.

[20] Under Delaware law, the corporation's directors can declare and pay dividends out of its surplus (the amount by which net assets exceed liabilities and the corporation's stated capital), or, if there is no such surplus, "out of its net profits for the fiscal year in which the dividend is declared and/or the preceding fiscal year." 8 Del. C. §§ 154, 170. This is true only if the capital has not been impaired, that is, fallen below the amount of the preference of any stock with preference rights. *Id.* The directors of a Delaware corporation may cause the corporation to purchase the corporation's own shares, again, so long as the corporation's capital is not impaired. 8 Del. C. § 160.

[21] *See* Anadarko Petroleum Corp. v. Panhandle E. Corp., 545 A.2d 1171, 1175 (Del. 1988) ("The general rule regarding the vesting of cash dividends is that a contractual right of the stockholder to the dividend becomes fixed upon the declaration of the dividend. Thus, upon a valid declaration of a dividend the corporation becomes indebted to the stockholder, and the stockholder may recover the declared amount in an action, *ex contractu*, against the corporation.")

[22] 8 Del. C. § 174(a) ("In case of any willful or negligent violation of § 160 or § 173 of this title, the directors under whose administration the same may happen shall be jointly and severally liable, at any time within [six] years after paying such unlawful dividend or after such unlawful stock purchase . . . .").

[23] *Id.*

the wealth of the directors as is often the case for large public companies. Delaware law allows recourse by the corporation (not creditors directly) only against shareholders "who received the dividend on, or assets for the sale or redemption of, their stock with knowledge of facts indicating that such dividend, stock purchase or redemption was unlawful."[24] Corporate law thus provides little to no protection to creditors for the payment of illegal dividends or the making of illegal share repurchases.

C. *Voidable Transfer Law*

Voidable transfer law provides stronger protections, prohibiting the payment of dividends and the making of share repurchases by an insolvent—or nearly-insolvent—corporation and providing for direct enforcement by creditors against transfer recipients. State and federal voidable transfer laws (also known as fraudulent transfer or fraudulent conveyance laws) prohibit transfers that are made without the corporation receiving "a reasonably equivalent value in exchange for the transfer or obligation" if the corporation was "insolvent at that time or . . . became insolvent as a result of the transfer."[25] The same laws prohibit transfers that leave the corporation with "assets [that are] unreasonably small in relation to the business."[26] The idea of unreasonably small assets has been interpreted as a condition just short of insolvency.[27]

Insolvent firms cannot pay dividends or make share repurchases under voidable transfer laws because the corporation receives no value in return for the payment.[28] But as with corporate law, the enforcement mechanisms are weak. A creditor may sue to avoid the transfer, requiring

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[24] 8 Del. C. § 174(c); *see*, *e.g.*, PHP Liquidating, LLC v. Robbins, 291 B.R. 603, 608–09 (D. Del. 2003), *aff'd sub nom.* In re PHP Healthcase Corp., 128 F. App'x 839 (3d Cir. 2005) ("In the instant case, Defendants sold their stock through stockbrokers and there are no allegations that Defendants were aware that PHP Corporation's capital was impaired. Thus, the Court concludes that Defendants redeemed their stock in good faith. Accordingly, the Court concludes that Section 174 of the DGCL does not provide PHP LLC with a remedy for violations of Section 160.")

[25] 6 Del. C. § 1305 (Delaware's adoption of the Uniform Fraudulent Transfer Act); *see also* Cal. Civ. Code § 3439.05 (California's adoption of the newer Uniform Voidable Transfer Act), 11 U.S.C.A. §§ 548(a)(1)(B)(i), 548(a)(1)(ii)(I) (federal version of fraudulent transfer law).

[26] 6 Del. C. § 1304; Cal. Civ. Code § 3439.04; 11 U.S.C.A. § 548(a)(1)(B)(i) and (ii)(II).

[27] For discussion of this and other solvency tests, *see* J.B. Heaton, *Solvency Tests*, 62 BUS. LAW. 983 (2007).

[28] Feinberg v. RM Acquisition, LLC, 629 F.3d 671, 674 (7th Cir. 2011) ("[A] dividend is not an exchange for reasonably equivalent value.").

the return to the corporation of the money paid for the dividends or share repurchase,[29] but has no right to the transferred assets or their proceeds unless the creditor's claim has been reduced to judgment.[30] While any individual creditor could bring an action to set aside the transfer, the statute has no mechanism for recovery of that creditor's litigation costs. Thus, that creditor bears all the costs of the litigation- likely to be fact-intensive and expensive because of the need to test for insolvency - and must share the benefits of the recovery with all creditors. Unsurprisingly, there is very little litigation under state fraudulent transfer law outside bankruptcy.

II. SHAREHOLDER INCENTIVES: A SIMPLE MODEL

The law provides only weak protections to creditors against dividends and share repurchases by even insolvent firms, but that would be of little concern if shareholders had no strong interest in receiving dividends or selling their shares to the repurchasing corporation. A simple analysis of shareholder incentives, however, shows just how strong those incentives can be.

More than forty years ago, Fischer Black and Myron Scholes[31] and separately, Robert Merton[32] pointed out that the equity of an indebted corporation is analytically equivalent to a call option on the firm's underlying assets with the amount of the debt repayment obligation at the debt's maturity as the strike price on the option. We can use this insight to understand the incentives that shareholders have to receive dividends and share repurchases. We start with the familiar Black-Scholes call option pricing formula defined in terms applicable to analysis of firm equity, assets and debt:

$$E(A_t, t) = N(d_1)A_t - N(d_2)Be^{-r(T-t)}$$

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[29] 6 Del. C. § 1307(a) ("In an action for relief against a transfer or obligation under this chapter, a creditor, subject to the limitations in § 1308 of this title, may obtain: (1) Avoidance of the transfer or obligation to the extent necessary to satisfy the creditor's claim . . . .").

[30] 6 Del. C. § 1307(b) ("If a creditor has obtained a judgment on a claim against the debtor, the creditor, if the court so orders, may levy execution on the asset transferred or its proceeds.")

[31] Fischer Black and Myron Scholes, *The Pricing of Options and Corporate Liabilities*, 81 J. POL. ECON. 637 (1973).

[32] Robert C. Merton, On the Pricing of Corporate Debt: The Risk Structure of Interest Rates, 29 J. FIN. 449 (1974).

where $d_1 = \frac{1}{\sigma\sqrt{T-t}}[\ln\left(\frac{A_t}{B}\right) + \left(r + \frac{\sigma^2}{2}\right)(T-t)]$ and $d_2 = d_1 - \sigma\sqrt{T-t}$.

In this representation, $E(A_t, t)$ denotes the market value of the firm's equity at time t, A_t denotes the market value of the firm's assets at time t, and B denotes the *face value* of the firm's (assumed zero-coupon) debt that matures at time T. As in the standard representation, r is the annual risk-free rate with continuous compounding, σ is the volatility of returns of the firm's assets, and $N(.)$ is the cumulative distribution function of the standard normal distribution.

We can assume without loss of much generality that the risk-free rate $r = 0$, which allows us to simplify the formula for the insights we most care about here. The market value of the equity is then:

$$E(A_t, t) = N(d_1)A_t - N(d_2)B$$

where $d_1 = \frac{1}{\sigma\sqrt{T-t}}[\ln\left(\frac{A_t}{B}\right) + \left(\frac{\sigma^2}{2}\right)(T-t)]$ and $d_2 = d_1 - \sigma\sqrt{T-t}$.

Delaware corporate law requires directors to manage the corporation to maximize the long-run interests of shareholders.[33] If we assume that the directors can pay out assets while the assets remaining with the firm continue evolving in the same way after the payout, this implies that the directors should pay out assets (as dividends or share repurchases) in amount P from the current asset value A_t so long as

$$E(A_t, t) + \ P_t \geq \ E(A_t, t)$$

where

$$E(A_t, t - P_t, t) = N(d_{1,P})A_t, t - P_t - N(d_{2,P})B$$

with $d_{1,P} = \frac{1}{\sigma\sqrt{T-t}}[\ln\left(\frac{A_t - P_t}{B}\right) + \left(\frac{\sigma^2}{2}\right)(T-t)]$ and $d_{2,P} = d_{1,P} - \sigma\sqrt{T-t}$.

That is, the directors maximize the long-run interests of shareholders by paying out assets, so long as the assets from the payout plus the remaining equity value is greater than the equity value without

[33] *See* TW Servs., Inc. v. SWT Acquisition Corp., No. CIV.A. 10298, 1989 WL 20290, at *7 (Del. Ch. 1989) ("Thus, broadly, directors may be said to owe a duty to shareholders as a class to manage the corporation within the law, with due care and in a way intended to maximize the long run interests of shareholders.").

payout of dividends or share repurchases. Clearly, so long as the value of the equity declines by less than $1 for every $1 paid out, the directors should continue paying out, or, put in terms of option "greeks," the firm should continue to payout so long as the option's "delta" (the change in the value of the equity for a change in the value of the assets) is less than or equal to one as it must be, because every dollar removed from the assets puts a dollar in the shareholders' pockets but reduces the value of their remaining equity by less than one dollar. This is true because the shareholders are able to benefit fully from every dollar paid out but bear only part of the decline in the value of the assets. The rest of the decline is borne by the creditors who receive no part of the payout.

If, however, the directors must also satisfy a balance-sheet solvency requirement,[34]

$$A_t - P_t \geq B$$

that is, that the assets remaining after the payout are worth more than the face value of the debt, or, if the adequate-capital test requires an additional cushion of amount c, then

$$A_t - P_t \geq B + c$$

that is, that the assets remaining after the payout are worth more than the debt plus a small "cushion," then the directors will pay out assets P until the solvency constraint binds.

We can see the expropriation of creditors that occurs if we let D be the market value of the debt (with face value B) before any payout and D_P be the market value of the debt after payout P. Then it is clear that:

$$D - D_P > 0$$

since, what the equity gains from the payout - the amount of the payout P less the difference in the post-payout stock value - is what the debt loses:

$$D - D_P = P_t + [N(d_1)A_t - N(d_2)B] - [\,N\big(d_{1,P}\big)A_t, t - P_t - N\big(d_{2,P}\big)B]$$

[34] The United States Bankruptcy Code and state voidable transfer laws define "insolvent" using a balance-sheet solvency test as the "financial condition such that the sum of such entity's debts is greater than all such entity's property, at a fair valuation[.]" 11 U.S.C.A. § 101(32)(A).

which is greater than zero.

Of course, directors cannot scale down the operations of the firm in a perfectly divisible way. Assets are generally lumpy, so payouts for many corporations will be much lower, which would drive the corporation close to insolvency. Note, however, that this is a constraint placed on the directors by characteristics of the assets of the firm and their divisibility. We would expect that where corporations segregate assets easily—such as through a sale or spinoff of a division that is not necessary for the remaining business or where the corporation's assets include a large amount of cash, whether from operations or financing—then the shareholders will have an incentive to seek the payout of assets from the directors.

III. DIVIDENDS AND SHARE REPURCHASES: SOME DATA

How extensive are dividends and share repurchases among U.S. public corporations? To explore this question, I take all Russell 3000 firms as of December 31, 2018 that have been in the Russell 3000 since December 31, 2009, inclusive. The Russell 3000 is a stock-market-capitalization-weighted index that FTSE Russell maintains to benchmark the universe of U.S. public stocks, though it omits some very small-cap stocks. This results in 1,560 listed companies and 14,040 firm years. I then eliminate firm years where the prior year-end long-term debt is zero. This eliminates 2,029 firm years and leaves 12,011 firm years. For each firm, I collect year-end stock-market capitalization, year-end long-term debt, dividends paid, and net share repurchases (repurchases net of issuances). All data is from Bloomberg.

We are interested in the payout in dividends and share repurchases in a given year, say 2012, relative to the prior year end's (say December 31, 2011) stock-market capitalization, and long-term debt. We use the prior-year long-term debt because that debt is, by definition, not due in the following year so we can be confident that most of it (barring refinancing or repayment ahead of schedule) was outstanding in the year of the payouts we measure. Long-term debt is only a lower bound on the outstanding obligations of the corporation since it will not reflect unquantified, contingent obligations and other non-debt liabilities that are not offset by assets.

Table I presents data for all firms from 2010 to 2018 (we lose the 2009 firms since we need one year of past year-end values for every year analyzed in the table). The median U.S. public firm in the Russell 3000 population is large, about the size of the smaller firms in the S&P500 in the relevant years. Median long-term debt is also substantial, exceeding $450 million in all years and rising to just over $900 million by year end 2017. Median payout (dividends plus net share repurchases) rises substantially over the period. While stock-market capitalization roughly doubles as does long-term debt, net payout rises over five times.

Table 1: Annual Stock-Market Cap, Long-Term Debt & Net Payouts

Year	Median Prior YE Stock Market Capitalization	Median Prior YE Long-Term Debt	Median Current Year Net Payout	Firms
2018	$3.7B	$912.6M	$80.0M	1,384
2017	$3.3B	$856.6M	$52.8M	1,381
2016	$2.8B	$822.3M	$65.5M	1,360
2015	$3.2B	$751.9M	$73.1M	1,343
2014	$3.1B	$675.2M	$55.2M	1,323
2013	$2.2B	$596.6M	$33.6M	1,313
2012	$2.0B	$532.6M	$28.4M	1,301
2011	$2.0B	$478.5M	$24.1M	1,296
2010	$1.5B	$456.5M	$15.0M	1,310

Table II shows that the median payout as a percentage of outstanding long-term debt also rises substantially during the period, more than doubling from 3.7% in 2010 to 9.3% in 2018. The long-term debt-to-equity ratio, a measure of how financially leveraged the firm is, decreased by 2018, but not smoothly. The median long-term-debt-to-equity ratio is 2018 is 21.9%. The correlation between payout percentage and the long-term-debt-to-equity ratio is near zero but reliably negative. The correlation is driven largely by the fact that some firms have very little debt, so their payouts are very large percentages of their long-term debt.

Table 2: Annual Payouts as Percent of Long-Term Debt, Debt-to-Equity, and Correlations

Year	Median Payout as Percentage of Prior Year Long-Term Debt	Median Prior Year Long-Term Debt as Percentage of Prior Year Equity	Correlation of Payout Percentage and Debt to Equity Percentage	Firms
2018	9.3%	21.9%	-0.015	1,384
2017	8.0%	23.5%	-0.022	1,381
2016	10.0%	24.2%	-0.021	1,360
2015	11.1%	21.4%	-0.017	1,343
2014	8.7%	19.3%	-0.024	1,323
2013	7.3%	24.8%	-0.016	1,313
2012	6.2%	26.5%	-0.013	1,301
2011	5.7%	22.7%	-0.017	1,296
2010	3.7%	27.8%	-0.023	1,310

Together, Tables I and II demonstrate that shareholders routinely get paid out before creditors are paid. Large indebted U.S. public corporations take considerable advantage of the ability to indebted corporations to distribute cash to shareholders through dividends and share repurchases.

IV. SOCIAL COSTS

A. Benefits

Before discussing the social costs of dividends and repurchases, it is important to acknowledge their potential benefit. That benefit comes from forcing the corporation to disgorge free cash flow that managers might otherwise waste.[35] This is especially true because of considerable evidence that corporate managers are too optimistic about their firms,[36] and optimistic managers are likely to waste free cash flow.[37] But, while

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[35] Michael C. Jensen, *Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers*, 76 AMER. ECON. REV. 323, 323 (1986) (the most widely-cited and influential work arguing that managers will waste free cash flow because of agency problems).

[36] *See* Ulrike Malmendier and Geoffrey Tate, *Behavioral CEOs: On the Role of Managerial Overconfidence*, 29 J. ECON PERSP. 37, 57 (2015) ("A large and growing body of evidence suggests that a substantial share of top corporate executives exhibit symptoms of overconfidence in their decisions.")

[37] *See* Dirk Hackbarth, *Managerial Traits and Capital Structure Decisions*, 43 J. FIN. & QUANTITATIVE ANALYSIS 843 (2008) (studying the impact of managerial optimism on capital structure choices); J.B. Heaton, *Managerial Optimism and Corporate Finance*, 31 FIN. MGMT. 33 (2002) (showing that managerial optimism predicts pecking-order capital structure preferences and problems with free cash flow); Winifred Huang-Meier, Neophytos Lambertides

dividends and share repurchases do take cash flow away from optimistic managers, evidence suggests that managers get around this problem by avoiding the greater commitment of dividends in preference for more adjustable share repurchases,[38] and that more optimistic managers avoid longer-maturity debt that ties up cash flow for longer periods of time in favor of short-term debt.[39] Thus, whatever benefits might exist in reducing cash flow in the hands of optimistic managers, it seems likely that managers are already able to loosen those constraints when they like. In any event, long-term debt is a more effective way of reducing free cash flow than dividends or share repurchases, because with debt the commitment is enforceable through contract.[40]

B. *Costs: Riskier Debt*

Our permissive allowance of dividends and share repurchases by corporations increases the riskiness, and therefore the cost of corporate debt, in turn diverting resources into credit monitoring and credit speculation. Firms can pay out assets right up to the vicinity of insolvency (the point where the firm would be considered inadequately capitalized under voidable transfer law) and, because the enforcement mechanisms for creditors in corporate law and voidable transfer law are so weak, they can actually pay dividends and make share repurchases past that point with

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and James M. Steeley, *Motives for Corporate Cash Holdings: The CEO Optimism Effect*, 47 REV. QUANTITATIVE FIN. & ACCT. 699 (2016) (finding, consistent with predictions of managerial optimism, that optimistic managers are reluctant to use external funds and hoard cash for growth opportunities, use more cash for capital expenditure and acquisitions, and save more cash in bad times).

[38] *See* Sanjay Deshmukh, Anand M. Goel & Keith M. Howe, *CEO Overconfidence and Dividend Policy*, 22 J. FIN. INTERMEDIATION 440 (2013) (finding that the level of dividend payout is about one-sixth lower in firms managed by CEOs who are more likely to be optimistic, consistent with the preference of such managers for internal financing); Pei-Gi Shu, Yin-Hua Yeh, Tsui-Lin Chiang and Jui-Yi Hung, *Managerial Overconfidence and Share Repurchases*, 13 INT'L REV. FIN. 39 (2013) (finding that managerial overconfidence is positively correlated with the intensity of share repurchasing, which is measured by scale, execution, frequency, and the difference between the announced price and post-execution price).

[39] *See* Ronghong Huang, Kelvin Jui Keng Tan, and Robert W.Faff, *CEO Overconfidence and Corporate Debt Maturity*, 36 J. CORP. FIN. 93 (2016) (finding that firms with overconfident CEOs tend to adopt a shorter debt maturity structure by using a higher proportion of short-term debt).

[40] *See supra* notes 17–18 and accompanying text.

little worry about the consequences if they expect the firm to remain out of bankruptcy. This situation not only requires creditors to charge a higher price for credit ex ante— especially where they substitute a higher price for covenant protections—but also generates significant speculative demand for risky debt and credit derivatives,[41] and thus, for credit monitoring that would be unnecessary if the debt were owed by corporations that faced much higher hurdles to the making of gratuitous asset transfers to shareholders.

C. Costs: A Large Bankruptcy System

Our permissive allowance of dividends and share repurchases by corporations also creates the need for a much larger bankruptcy system capable of dealing with large and complex capital structures with defaulted debt and unpaid tort claimants.[42] For example, PG&E Corporation filed for bankruptcy protection on January 29, 2019 because of potential liabilities it faced in connection with California wildfires.[43] At the time of the filing, PG&E had nearly $20 billion of debt outstanding,[44] and had paid out $7.25 billion in dividends from 2009 through 2018. When General Motors Corporation filed for bankruptcy protection in 2009, it did so after a payout of more than $15 billion to shareholders from 1998 through 2008.[45]

The cost of a system for large corporate bankruptcies goes far beyond the costs of the court system, of course, to include the enormous professional fees paid to lawyers, accountants, and financial advisors.[46]

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[41] *See* Christopher L. Culp, Andria van der Merwe, and Bettina J. Stärkle, Credit Default Swaps: Mechanics and Empirical Evidence on Benefits, Costs, and Inter-Market Relations (2018).

[42] *See* KENNETH AYOTTE, DISAGREEMENT AND CAPITAL STRUCTURE COMPLEXITY (2018), *available at* https://ssrn.com/abstract=3276779 *or* http://dx.doi.org/10.2139/ssrn.3276779 (discussing fact that "many corporate bankruptcies involve complicated, fragmented capital structures characterized by many layers of debt.")

[43] Pac. Gas & Elec. Corp., Current Report (Form 8-K) (2019).

[44] *Id.*

[45] Gen. Motors Co., Annual Report (Form 10-K) (2009).

[46] Stephen J. Lubben, *The Chapter 11 Financial Advisors*, 28 EMORY BANKR. DEV. J. 11, 20 (2011) (discussing the cost of professionals associated with corporate bankruptcy proceedings).

D. Costs: More Fragile Firms

Our current system also makes firms more fragile and less resilient to financial crises. Defaults on corporate debt increase in economic recessions.[47] Because firms pay out so much asset value to shareholders when times are good, they may need expensive bailouts when times turn.[48]

Aside from being more susceptible to economy-wide crises, firms that pay out cash may miss valuable investment opportunities. The extent to which corporations suffer from financing constraints that prevent valuable investment is controversial, and we must acknowledge the possibility of waste, but the evidence is close enough to think that there are times corporations have positive net present value investments they cannot take—with all the attendant costs to shareholders and other stakeholders like employees, would-be employees, and communities that would benefit from the investments.[49] Evidence shows that firms that are financially constrained benefit from large cash holdings.[50]

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[47] *See, e.g.*, Dirk Hackbarth, Jianjun Miao, and Erwan Morellec, *Capital Structure, Credit Risk and Macroeconomic Conditions*, 82 J. FIN. ECON. 519 (2006) (finding that yields on risky debt are, in part, compensation for macroeconomic risks of recession).

[48] On the disruptions and responses required by the most recent credit crisis, *see*, *e.g.*, Charles W. Calomiris and Urooj Khan, *An Assessment of TARP Assistance to Financial Institutions*, 29 J. ECON. PERSP. 53 (2015) (analyzing the effects of the Troubled Asset Relief Program, including implications for justice and fairness); W. Scott Frame, Andreas Fuster, Joseph Tracy and James Vickery, *The Rescue of Fannie Mae and Freddie Mac*, 29 J. ECON. PERSP. 25 (2015) (analyzing the steps needed to rescue Fannie Mae and Freddie Mac during the financial crisis of 2007-2009); Robert McDonald and Anna Paulson, *AIG in Hindsight*, 29 J. ECON. PERSP. 81 (2015) (analyzing the controversial decision to rescue American International Group from insolvency); David Zaring, *Litigating the Financial Crisis*, 100 VA. L. REV. 1405 (2014) (analyzing various litigations arising from the 2007-2009 financial crisis).

[49] *See*, *e.g.*, John L. Campbell, Dan S. Dhaliwal & William C. Schwartz, Jr., *Financing Constraints and the Cost of Capital: Evidence from the Funding of Corporate Pension Plans*, 25 REV. FIN. STUDIES 868 (2012) (finding evidence that financial market frictions impact corporate investment).

[50] David J. Denis and Valeriy Sibilkov, *Financial Constraints, Investment, and the Value of Cash Holdings*, 23 REV. FIN. STUDIES 247 (2010) (demonstrating that larger cash holdings increase firm value for companies that face external financing constraints). *But see* Leigh A. Riddick & Toni M. Whited, *The Corporate Propensity to Save*, 64 J. FIN. 1729 (2009) (arguing that saving

E. Costs: Harm to Unsophisticated and Involuntary Creditors

Our permissive allowance of dividends and share repurchases by corporations also unfairly shifts costs to involuntary and unsophisticated creditors, in violation of the implicit social bargain of limited liability. Again, PG&E Corporation provides a good example. The company filed for bankruptcy on January 29, 2019, after disclosing it would do so because of potential liability for a wildfire that began near Paradise, California, on November 8, 2018.[51] The fire consumed 153,336 acres, led to 86 fatalities and destroyed 13,972 residences, 528 commercial structures and 4,293 other buildings.[52] It is alleged that the utility's equipment caused the fire as there is considerable evidence that the utility's equipment caused the fire.[53] If the corporation is unable to pay in full for the damages the fire caused, it will exit bankruptcy having paid billions of dollars in dividends in prior years that were not available to pay such claims.

F. Costs: Distortions to the Supply of Securities

Our permissive allowance of dividends and share repurchases by corporations also distorts the supply of securities available for investors. There is likely an oversupply of risky debt and equity—high debt making both debt and equity riskier—and an undersupply of safe debt equity. Economists have argued recently that the supply of safe assets has not kept up with demand, which the economists attribute to high demand from emerging economies that cannot keep up with supply from slower-growing advanced economies,[54] but which is also due to the fact that corporate debt is much riskier than it would be under less permissive rules on dividends and share repurchases. The distortion is arguably worse

propensities are dependent on too many factors to be tied reliably to external financing constraints).

[51] Pac. Gas & Elec. Corp., Current Report (Form 8-K) (2019).

[52] *Id*. at 2.

[53] *Id*.

[54] *See* Ricardo J. Caballero, Emmanuel Farhi, and Pierre-Olivier Gourinchas, *The Safe Assets Shortage Conundrum*, 31 J. ECON. PERSP. 29, 30 (2017) (arguing that "[f]or the last few decades, with minor cyclical interruptions, the supply of safe assets has not kept up with global demand. The reason is straightforward: the collective growth rate of the advanced economies that produce safe assets has been lower than the world's growth rate, which has been driven disproportionately by the high growth rate of high-saving emerging economies such as China.").

because it is subsidized by the public through the tax deductibility of interest expense,[55] riskier debt typically requiring at higher interest rates and thus more subsidy.

CONCLUSION

As a means of making money, the corporation is unrivaled. It has proven itself as the superior way of organizing business on a large scale that involves the issuance of securities designed to attract stockholders. The most important and successful aspect of a corporation's financing is that corporations are legally separate and distinct from other entities, including their shareholders. It is legal separateness that makes limited liability enforceable against all other legal persons, since the corporation contracts and injures in its own name. Legal scholars have long claimed that shareholders, as the residual claimants of this entity, have the right incentives to monitor so that assets are left over for them when all the debts are paid. But this view is naive. It ignores the fact that directors, elected by shareholders, use dividends and share repurchases to turn shareholders into *first-in, first-out, and then some* capital providers.

Our permissive allowance of dividends and share repurchases helps explain how such a successful financing mechanism as the corporate form can leave so many dissatisfied. Shareholders have a strong incentive to pull assets out of the corporation because doing so shifts risks to other stakeholders while giving shareholders all the benefits. One need not agree with all parts of the criticism of share repurchases to see that there is something quite compelling in the general argument.[56] The corporation as legal form, including the background rules governing dividends and share repurchases, is *designed* to attract shareholders and will, sometimes at least, poorly serve those who are not shareholders. Shareholders might

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[55] *See generally*, for example, Ruud A. De Mooij, *Tax Biases to Debt Finance: Assessing the Problem, Finding Solutions*, 33 FISCAL STUD. 489 (2012) (demonstrating that there are no good economic rationales for the tax deductibility of interest).

[56] *Cf.* Chuck Schumer & Bernie Sanders, *Schumer and Sanders: Limit Corporate Stock Buybacks*, N.Y. TIMES (Feb. 3, 2019), https://www.nytimes.com/2019/02/03/opinion/chuck-schumer-bernie-sanders.html (arguing that "when corporations direct resources to buy back shares on this scale, they restrain their capacity to reinvest profits more meaningfully in the company in terms of R&D, equipment, higher wages, paid medical leave, retirement benefits and worker retraining.")

face less organized resistance from creditors, employees, and government officials, if they became truly residual claimants.

One possibility that deserves further study is restricting dividends and share repurchases to corporations that have low debt and adequately insured against harm to involuntary creditors, and that meet higher thresholds for wages and benefits. Such a rule would still allow corporations to operate without doing those things—they could still have high debt, be underinsured, and pay minimum wages with minimal benefits. But, if they did so, they could not pay shareholders until they first met all their other obligations. The question is whether shareholders would be willing to invest in corporations—especially indebted corporations—that do not provide large payouts in the form of dividends and share repurchases. That question remains for further study, but since nearly all corporate wealth reflect secondary trading of shares and not capital formation for new business, a push for rules in the proposed direction would likely address the considerable social harm that our current permissive regime is causing.