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Governance and Stakeholders

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May 2017

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Abstract

Economic models routinely assume firms maximize shareholder wealth; however common law legal systems only require that officers and directors pursue the interests of the corporation, leaving this ill-defined. Economic arguments for shareholder wealth maximization derived from shareholders' status as residual claimants are vulnerable on several fronts. Share valuations fluctuate as sentiment shifts. Introductory finance casts firms as maximizing expected net present values, which are quasirents, expected earnings beyond expected costs of capital from investors, to which shareholders have no obvious claim. Other stakeholders – entrepreneurial founders or CEOs, employees, employees, customers, suppliers, communities or governments, having made firm-specific investments, may exert stronger claims than atomistic public shareholders have to shares of their firms' quasirents. Consistent with this, their contractual claims are often augmented by residual claims and liabilities. Still, shareholder value maximization constitutes something of a bright line; whereas stakeholder welfare maximization is an ill-defined charge to assign boards that gives self-interested insiders broader scope for private benefits extraction. The common law concept of "the interests of the corporation" captures this ambiguity.

Keywords: Corporate governance, stakeholders, quasi-rents, economic profit, efficient contracts, implicit contracts, contractual claimants, residual claimants

JEL Classifications: G3, L2, P1, K12, K22

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Abstract

Economic models routinely assume firms maximize shareholder wealth; however common law legal systems only require that officers and directors pursue the interests of the corporation, leaving this ill-defined. Economic arguments for shareholder wealth maximization derived from shareholders' status as residual claimants are vulnerable on several fronts. Share valuations fluctuate as sentiment shifts. Introductory finance casts firms as maximizing expected net present values, which are quasirents, expected earnings beyond expected costs of capital from investors, to which shareholders have no obvious claim. Other stakeholders – entrepreneurial founders or CEOs, employees, employees, customers, suppliers, communities or governments, having made firm-specific investments, may exert stronger claims than atomistic public shareholders have to shares of their firms' quasirents. Consistent with this, their contractual claims are often augmented by residual claims and liabilities. Still, shareholder value maximization constitutes something of a bright line; whereas stakeholder welfare maximization is an ill-defined charge to assign boards that gives self-interested insiders broader scope for private benefits extraction. The common law concept of "the interests of the corporation" captures this ambiguity.

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1. Introduction

The academic finance and economics literatures often tie "good corporate governance" to the maximization of shareholder valuations. Many countries' public policies are at odds with shareholder valuation maximization and thus with of these literatures. German and Austrian firms' supervisory boards balance the interests of all *stakeholders* (shareholders, creditors, employees, retired employees, suppliers, customers, host communities, governments, the environment, and anyone else with economic claims, actual or potential, to the firm's assets or income); Canadian boards act in the interests of the corporation, rather than its shareholders or other stakeholders; and various U.S. states mandate shareholder value maximization with varying degrees of tepidity.

What explains this divergence of practice from theory? First, normative arguments for shareholder valuation maximization rely on simplifying assumptions that may be "too simple" to guide public policy. Simply put, this argument holds that all other stakeholders must be paid first, before shareholders can receive any dividends. Maximizing the value of shareholders' claims (rational investors' expected present value of future dividends) therefore maximizes the probability that other stakeholders are paid and the efficiency of resource allocation within the firm. This arguably oversimplifies the nature of stakeholders' claims and the economic contribution of firms to the economy. Second, broader political economy considerations may overwhelm arguments based on firm-level economic efficiency. Firms' undertakings can have economically important externalities, motivating public policy that recognizes affected parties as stakeholders.

This review first outlines the intuition for focusing on shareholder valuations and for tying good governance to shareholder valuation. It then explains logical inconsistencies between this intuition and other basic concepts in modern corporate finance. The literature is too vast to allow for a complete review, so these sections highlight key theoretical and empirical papers only, and refer the reader to more specialized literature review articles where possible. The final section relates these arguments to public policy options and considers arguments that shareholder value maximization might be the worst option save all the others.

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2. The Firm as a Nexus of Contracts

The premise that corporations ought to maximize their shareholder valuations rests on two key assumptions. The first is that *all* other stakeholders hold *contractual claims* against the firm. In stark contrast, shareholders alone hold *residual claims*. The second is that shareholders valuations of stocks are well-informed. Both assumptions are contestable for a variety of reasons. We begin with a brief discussion of the two broad classes of claims.

2.1 Contractual claims

Contractual claim are the firm's obligations as specified in legal contracts. Creditors are due fixed or pre-specified interest and principal payments. Employees are due fixed or pre-specified wages and benefits, and retirees with defined benefits pension plans are due fixed or pre-specified pensions and benefits – both subject to the terms of the relevant employment contracts. Suppliers and customers are due goods and payments pre-specified in their relevant commercial contracts. Communities and governments are owed various taxes and compliance costs associated with the obeying laws and regulations. The key feature in all of these contractual claims is that they are, to a first approximation at least, fixed nominally or pre-specified by formulae, and are enforced by the police power of the state. The firm must fulfil its contractual obligations or contend with lawsuits for breach of contract, asset seizures by receivers, or summons to court. Once the firm enters into a contract, its fulfillment is legally mandatory. Contractual claims are not discretionary.[1] The firm's managers have to meet all contractual claims if this is economically possible.

2.2 Non-contractual claims

Non-contractual claims, or residual claims, are rights to the firm's residual cash flows – that is, to what remains after it has met all its contractual claims. Generally accepted accounting principles (GAAP) highlight this distinction between contractual and residual claims by treating

[1] Of course, these statements are not literally true. Debt, employment and commercial contracts are subject to renegotiation and law schools devote considerable time to how contracting parties content with defaults.

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all contractual claims as costs and allocating this remnant – the firm's *income*, *earnings*, or *accounting profits* – to shareholders.[2] The firm's officers and directors then, at their own discretion, either pay these leftover revenues to the shareholders directly as dividends or indirectly by repurchasing outstanding shares, or plough the earnings back into new projects, which could potentially increase dividends further in the future.

The key distinction here is that the firm's directors, advised by its top insiders, can pay dividends or not, at their discretion. If the firm pays dividends, the directors can increase, decrease, skip or suspend the dividend as they like. The same discretion applies to the firm's repurchasing of its shares. The board and top insiders determine which new projects the firm undertakes. This discretion is essential because the firm's earnings fluctuate, and those fluctuations must ultimately affect its payments to some class or classes of stakeholders.

Rather than legally obliging the firm's directors and top insiders to pay predetermined dividends, Common Law legal systems traditionally held them to "do their best" for the firm. Thus, a firm's officers, directors and (in some jurisdiction) controlling shareholders have a fiduciary duty to put the corporation's interests ahead of their own and avoid actions a "reasonable man" would view as detrimental to the corporation. The fiduciary nature of this duty holds individual corporate decision-makers personally liable to lawsuits from aggrieved shareholders, but permits them the benefit of the doubt in the form of a "business judgement rule" defense: judges must not second guess decisions made in the normal course of running a business. The exact nature of these duties and defenses vary across countries and US states because of legislative actions and different chains of legal precedents.

Jensen and Meckling (1976) argue that a collective action problem prevents public shareholders from monitoring and controlling a firm's insiders to ensure that its officers and directors actually do this, as opposed to spending the residual funds on themselves. Each individual shareholder, owning only a small stake in any given firm, rationally opts to leave this costly task to other shareholders. Realizing this, shareholders rationally expect a firm's insiders

[2] Other accounting entries, such as depreciation and amortization costs, also enter the calculation. These are also predetermined entries in the sense that they are fully predictable accounting consequences of past events. However, they are accounting fictions and not actual costs that reduce the residue left for residual claimants.

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to appropriate as much of its cash flow as they can without violating the law, breaking the firm's contractual obligations, or unacceptably damaging their or their firm's reputation. Shareholders discount the price to reflect these expectations. If outside investors expect the insiders to claim all the firm's cash flows, a capital market failure ensues: the firm cannot access outside financing. In countries where agents cannot credibly commit to providing a fair rate of return to outsiders, fewer new firms emerge and entrepreneurs seek their fortunes elsewhere.

If the country's laws and regulations, the firm's self-imposed legal obligations, or the value its insiders place upon their or the firms' reputation for "fairness" lead rational shareholders to expect positive stream of payments, the firm can issue shares at a price equal to the expected risk-adjusted present value of those payments. Acharya, Myers and Rajan (2011) argue that self-interested CEOs and senior managers rationally limit their private benefits to incentivize junior managers to made idiosyncratic investments of time and effort that boost the value of the claims against the firm held by the CEO and senior managers. This explains why corporate insiders, even those subject to weak corporate governance laws and regulations, do not simply steal everything.

Outside investors expectations that future payments will indeed be made can be solidified by the firm entering legally binding contracts to make fixed payments on fixed schedules. These are the contractual claims that creditors – banks and bondholders – hold against a firm. Employees, suppliers, and other parties providing goods or services to the firm for future reimbursement have similar concerns, and the legally binding contracts the firm enters with them constitute their contractual claims against the firm.

2.3 Shareholder Value Maximization

To the extent that the contractual claims are predetermined and fixed, variation in the firm's earnings can only affect the size of the residual Jensen and Meckling (1976) assign to shareholders. If earnings are higher, the residual is higher. This reasoning highlights two key justifications for assigning firms the objective function of the value of shareholders' residual claim. First, because shareholders stand in the last position in the claimants' line, maximizing their claim all but guarantees that the contractual claims are paid in full. Second, as noted by Baums and Scott (2005), the residual claim is uniquely vulnerable, in that the firm's insiders can legally opt to pay the shareholders nothing at all. Governments can encourage investors to buy

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shares by protecting them from corporate insiders' whims, misdeeds and mistakes – by charging those insiders with a legal duty to maximize the residual value.

These arguments motivate the normative view that a firm's objective function "ought to" be shareholder value maximization. If the firm is pay its shareholders, its residual claimants, anything, it must first pay its contractual claimants – its creditors, workers, suppliers, customers, and so on – what it owes them. If the firm's performance begins to falter, it must still pay all its contractual claimants in full before paying its shareholders a reduced surplus. The shareholders, understandably aggrieved at this reduction, cry out and, if the firm must be run in their interests, must be heeded by management.

Their outcry has a broader social purpose if it evokes corrective measures that restore the firm's performance and protect all its contractual claimants without their active involvement. Public policy mandating firms be run to maximize shareholder valuation thus essentially "uses" shareholders as an early warning alarm. Shareholders, like canaries in a mineshaft, are more sensitive to trouble, and all stakeholders are served if the firm rapidly remedies problems identified by their cries (or, in the case of canaries, their abrupt silence).

This reasoning motivates the objective functions – maximizing shareholder wealth, firm value, or profits – found in standard finance and economics models. A social welfare justification arises because microeconomics links profit maximization to efficient resource allocation and to Pareto optimality, and ultimately underlies the Pareto optimality (Varian 1992), and because finance theory links shareholder valuation maximization to agency cost minimization (Jensen and Meckling 1976), which has attained a similar normative assumption implicit in much work in finance that firms "should" be run to maximize shareholder valuations.

This view is succinctly summarized by Hansmann and Kraakman (2000, p.442), who describe a broad consensus that "ultimate control over the corporation should be in the hands of the shareholder class; that the managers of the corporation should be charged with the obligation to manage the corporation in the interests of its shareholders; that other corporate constituencies, such as creditors, employees, suppliers, and customers should have their interests protected by contractual and regulatory means rather than through participation in corporate governance; that non-controlling shareholders should receive strong protection from exploitation at the hands of controlling shareholders; and that the principal measure of the interests of the publicly traded

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corporation … is the market value of their shares in the firm." The Delaware Court of Chancery largely agrees, declaring that "Having chosen a for-profit corporate form, the craigslist directors are bound by the fiduciary duties and standards that accompany that form. Those standards include acting to promote the value of the corporation for the benefit of its stockholders."[3]

The Delaware court's view is not shared by all jurisdictions, and the consensus is being challenged in several ways. Each broad class of challenges is elaborated in the subsequent sections.

3. Risk Shifting between Claimants

Contractual claims are preset, but this does not make them risk-free. Firms often break contracts, and much of Contract Law is about responding to breaches of contractual obligations. This motivates models of imperfect contracts (Grossman & Hart 1986; Hart & Moore 1990), in which unforeseen circumstances transform a contractual claimant into a residual claimant. This is what makes contractual claims risky.

When a firm breaks a contractual obligation, the aggrieved contractual claimant can take or threaten legal action to enforce its claim or protect its interests as the contract is renegotiated. If the firm's value falls below the value of its contractual claims, it lacks the resources to satisfy the contractual against it, and is bankrupt. A bankruptcy court judge or administrator can then oversee the firm's *liquidation* – the sale of all its assets and the division, informed by the country's bankruptcy laws, of the proceeds among its contractual claimants (although in practice priority rules are often weakened and non-contractual claimants offered non-zero amounts in return for a speedy resolution).

Alternatively, the judge might oversee the firm's *reorganization* – the rewriting of some or all contractual claims as either new contractual or residual claims so the firm can continue in business. For example, a bankrupt firm's debt contracts might be rewritten to specify lower interest payments and a longer repayment schedule. Its employment contracts might be rewritten to reduce the firm's costs. Its employees and creditors might be granted residual claims as

[3] eBay v. Craig Newmark et al. 2010. Delaware Court of Chancery Civil Action 3705-CC

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partial compensation for the loss in value of their contractual claims – that is, the employees and creditors might be given shares in the reorganized firm. The firm's old shareholders generally have no claims against the reorganized firm, but their limited liability also blocks claims against them by the firm's aggrieved contractual claimants. The contractual claimants must approve the reorganization in most countries that allow reorganizations.

A third option, called *administrative bankruptcy*, is available in some countries for some firms. This removes the decision-making process from the courts and entrusts a government official with rewriting all claims against the firm without any need for the contractual claimants' approval. Examples of administrative bankruptcy include the *resolution* of bankrupt US bank by agents of the Federal Deposit Insurance Corporation, a state-owned enterprise that insures bank accounts, and the primary bankruptcy procedure used in France: *redressement judiciare* (Davydenko and Franks 2008).

3.1 A standard framework

Figure 1 summarizes a simplified framework for thinking about how bankruptcy leads a firm's contractual and residual claimants to want to distort its risk-taking. The total value of the firm, V, is measured along the horizontal axis and the values of contractual and residual claims, C and R, respectively, against the firm are measured on the vertical axis. The contractual claimants are debtholders in Myers (1977), employees in Jensen and Meckling (1979) and generic contractual claimants here; the residual claimants are shareholders in both.

The central intuition in the figure concerns how the possibility of bankruptcy affects the level of upside and downside risk the different claimants prefer. For simplicity, let the residual claimants be shareholders and the contractual claimants be debtholders. If the value of the firm is V_M, only marginally above C^*, the value of its debt obligations, the value of its shares is R_M and marginally above zero. In this situation, the shareholders have much to gain and little to lose if the firm takes risky bets with negative expected payoffs. If the bet does pay off, the value of the firm rises to V_H, the value of the shares rises to E_H, and nothing happens to the value of the firm's debt. When the bet goes wrong, and the value of the firm falls to V_L and shareholder value falls only marginally, from R_M to zero – that is, from marginally above zero to zero. The downside risk from the gamble going wrong instead leaves the firm unable to fulfill its

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contractual obligations to its creditors. The firm must break its debt contract and, even if an ultimate settlement in bankruptcy court awards its debtholders all the firm's assets, the debtholders receive only $C_L = V_L < C^*$. Aggressive risk-taking enriches the shareholders if it pays off and harms debtholders (and other contractual claimants) if it goes bad.[4]

Thus, a firm run to maximize expected shareholder value would "bet the shop" by taking ever wilder risks as the share price dropped towards zero (Myers 1977). This might occasionally boost shareholder value; but more often it would not, and would instead leave the firm in bankruptcy, where reductions in the value of its various contractual claimants would be hammered out, apportioning the losses among its creditors, employees, suppliers, and so on. This strategy does not obviously optimize plausible social welfare objectives.

If the same firm were run to maximize expected creditor value, other problems arises. If its value were V_M, the contractual claimants would want to avoid all risky ventures, including those with high expected payoffs. If the firm undertook such a venture and it paid off, the value of creditors' claims against the firm would remain C^* because all upside returns would accrue to the shareholders. However, if the venture went wrong, no matter how unlikely this eventuality, the firm's value would fall to some value V_L below C^*, and the creditors would bear most of the losses. Firms taking no risk, like firms taking wild risks, seems unconnected to plausible social welfare criteria.

3.2 Risk shifting and specific classes of contractual claimants

These issues play out slightly differently for different categories of contractual claimants. This section briefly touches on how Figure 1 plays out for creditors, professional managers, and rank and file employees.

3.2.1 Creditors

Creditors serve as a paradigm for contractual claimants in general. Myers (1977) explores the conflict of interests between creditors and shareholders along the lines of Figure 1. Firms whose values barely exceed their debt increase the value of their shareholders' wealth if take more risks,

[4] Myers (1977) notes that the value of the residual claim in Figure 1 resembles the payoff to a call option whose strike price is the value the firm's debt and whose underlying asset is the firm. The reasoning here parallels that explaining why a call option's value rises with the volatility of its underlying asset.

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perhaps including risks with negative expected returns. Shareholders have little to lose if the risk ends badly: their wealth falls only slightly, from R_M, which is only marginally above zero, to zero. Reducing the firm's value further, to $V_L < C$ only cuts what debtholders can recover after the firm goes bankrupt. In contrast, if the risk pays off, an increase in firm value from V_M to V_H boosts shareholders' wealth from R_M to R_H. For companies whose values exceed their debts by wider margins, this divergence of interests fades. But it never disappears entirely for firms with economically significant debt financing.

Jensen and Meckling (1976) discuss shareholder-creditor conflicts and derive a theory of optimal leverage based on a trade-off off between a tax advantage of debt and increased agency cost minimization. Myers (1977) characterizes these conflicts as being especially perverse when firms are close to financial default. These perverse incentives include not only underinvestment in states where the primary beneficiaries are the debtholders, but also overinvestment when the volatility of investments is sufficiently large..

This framework has considerable empirical support. Parino and Weisbach (1999) present simulations and empirical evidence consistent with the bondholder-shareholder conflicts described in Jensen and Meckling (1976) and in Myers (1977). The conflict arises because bondholders and shareholders have different preferences for volatility, driven by the nature of their respective contractual and residual claims. Adding limited liability to shareholders' residual claims provides a strong incentive for "going for broke" in investment gambles. Despite such perverse incentives, the actual economic significance of the conflict is small. For instance, the underinvestment problem resulting from managers acting in the interest of shareholders is almost two orders of magnitude smaller than the tax savings from debt. Moreover, we believe that managers may not always pursue shareholder preferences. In particular, managerial claims on the firms are largely fixed, and hence more aligned with creditors, in whom they find natural allies. Indeed, Parrino, Poteshman and Weisbach (2005) find that managers – including those with substantial equity-linked compensation – opt for safer projects. Part of this preference stems from managerial risk-aversion, but this is not all. Even shareholders, with risk-neutral preferences, may rationally opt for lower risk projects in the presence of debt-tax shields and material costs of financial distress.

Creditor-shareholder conflicts underlie a rapidly growing literature on excessive risk-

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taking by very highly leveraged banks and other financial institutions (e.g. Laeven and Levine, 2009). This discussion motivates regulatory limits mandating that banks keep their debts low enough to leave the value of their shareholders' equity above a minimal "capital requirement" to discourage risky lending (Admati and Hellwig 2013).

Such regulations are not generally imposed on nonfinancial firms. Because bankruptcy is always an option for an indebted firm, loan contracts often include provisions that let creditors intervene to protect their interests. Thus, loan contracts often specify *collateral* (specific assets the creditor can seize if the borrower fails to make a scheduled debt repayment) and contain *covenants* (clauses legally limiting the borrower firm's freedom of action). Specific plots of real estate or items of equipment that are clearly identifiable and readily saleable often serve as collateral. Covenants include limitations on the borrower's freedom to pay high dividends, take on additional debt, or undertake new capital investments. They can be contingent on events unfolding in ways undesirable to the creditor: for example, if the borrower's earnings fall below a set threshold, a covenant might grant the creditor a veto on major new capital projects.

Countries' legal systems also provide different sets of *creditor rights* that apply in general and need not be specified in covenants. La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) count the following as key creditor rights:

1. Restrictions, such as creditor consent or minimal dividends, for a bankrupt firms to be reorganized rather than liquidated
2. No stay or asset freeze restricting secured creditors' from seizing collateral after a reorganization is approved
3. Secured creditors, rather than other contractual claimants such as government or workers, being paid first in a liquidation
4. Management not retaining control of the firm pending resolution of a reorganization

Stronger creditor rights grant creditors fuller control over firms that have failed to meet the terms of their debt contracts. Stronger creditor rights obviously provide creditors with bargaining power, even in firms where bankruptcy is merely an option. Creditors may have informal rights above and beyond such legal provisions. For example, German banks typically vote public investors' shares at annual general meetings (Fohlin 2005) and Japanese banks often

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have representatives on nonfinancial firms' boards (Kaplan and Minton 1994).

Djankov et al. (2007) show that different countries' legal systems provide creditors rights of very different strength. Where creditor rights are stronger, borrowing is less costly and credit is more available (Djankov et al. 2007; Qian and Strahan 2007; Bae and Goyal 2009; Boubakri and Ghouma 2010; Chen et al. 2016; Feldhütter, et al. 2016; Rodano et al 2016). Credit also becomes more available after countries strengthen creditor rights (Giannetti 2003; Djankov et al. 2007).[5]

In part, these effects appear to reflect creditors with stronger rights lending more money to fewer firms (Esty and Megginson 2003; Qian and Strahan 2007). Stronger creditor rights may let creditors forego the risk reduction associated with diversifying their lending across many firms. Focusing its attention on fewer borrowers lets a creditor better screen, monitor, and (if necessary) litigate problem borrowers by seizing collateral, enforcing covenants, or invoking their legal rights as creditors.

Banks and other financial intermediaries plausibly serve as vehicles through which small diffuse loan providers (depositors) solve free-rider problems associated with monitoring costs (Diamond 1984, 1991). Each small saver lacks the resources to screen, monitor and discipline wayward borrowers, and rationally relegates these tasks to others. If each small saver were rational in this sense, none would screen, monitor or discipline errant borrowers, nor dare lend their savings at interest. Banks solve this collective action problem by charging a spread between the rates they earn on their lending and the interest savers earn on their deposits and, in return, bearing the costs of screening and monitoring borrowers and of seizing collateral, enforcing covenants and litigating against problem borrowers.

Like creditor rights enshrined in law, collateral and loan covenants also reduce creditors' screening, monitoring and disciplining costs (Rajan and Winton 1995). Davydenko and Franks (2008) associate collateral with lower loan costs in countries with weaker creditor rights laws. Acharya, Amihud and Litov (2011) report firms being more prone to using M&A to acquire

[5] Contrarian studies exist. Cho, El Ghoul, Guedhami and Suh (2014) report lower long-term leverage in countries with stronger creditor rights. Vig (2013) link strengthened creditor rights in India to reduced secured debt, total debt, debt maturities, and asset growth, and increased firm cash holdings.

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collateralizable assets in countries with weaker creditor protection. Boubakri and Ghouma (2010) find lower borrowing costs when covenants are present, especially where creditor rights are weak. The is likely because violating a debt covenant is costly: Roberts and Sufi (2009) find persistently lower net debt issuing after debt covenant violations, and that covenant violators can seldom switch lenders. Chava and Roberts (2008) find that capital investment declines sharply following a financial covenant violation, when creditors use the threat of accelerating the loan to intervene in management. Debt covenants explicitly restricting firms' capital spending may be especially binding (Nini, Smith and Sufi 2009). Debt covenants can strengthen creditors' bargaining power even if the debtor is not in violation. Denis and Wang (2014) report that unviolated debt covenants are frequently renegotiated, and argue that creditors bargain with debtors, offering covenant relaxations for changes to corporate operating and financial policies to address developments they did not originally foresee.

Informal constraints can further substitute for formal creditor rights. Across countries and US regions, more intense religiosity is associated with lower borrowing costs, especially where creditor rights are weaker (Chen et al. 2016). Stulz and Williamson (2003) find stronger creditor rights in Protestant countries than in Catholic countries, with these differences fading in more open economies.

Creditor rights may merely comprise part of broader institutions that mitigate the costs of imperfect contracts. Mathur and Marcelin (2015) find better institutions, stronger property rights and economic freedom enhancing credit availability, rather than stricter creditor rights (which they argue have a perverse effect). Bae and Goyal (2009) link better contract enforcement in countries judicial systems to larger, longer maturity, and less costly loans. Qi, Roth and Wald (2010) link lower costs of debt to better protected political rights, especially freedom of the press. Ergungor (2004) argues that Common Law has more flexibility in resolving conflicts between stakeholders than most Civil Codes have; and that larger and more powerful banks are thus more important in Civil Code countries because they can better screen and monitor borrowers and enforce their contractual claims. Davydenko and Franks (2008) report that French banks compensate for weak creditor rights, or possibly weaker institutions in general (La Porta et al. 2008), by requiring better and more collateral than lenders in the UK or Germany do. Despite this, creditors' recovery rates in default are sharply lower in France. Djankov et al. (2007) argue that public credit registries help compensate for weak creditor rights in developing economies

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with French legal origins.

If stronger creditor rights compromise, inhibit or conditionally limit public shareholder rights, public equity capital might become costlier or less readily available. Disruptive high technology start-ups, thought to play a critical role in boosting productivity, rely primarily on risk-tolerant equity financing (Schumpeter 1911; Gompers, Lerner & Scharfstein 2005); while established firms vulnerable to disruption rely more prominently on debt financing (He and Matvos 2015). If creditors are large and few, older firms' creditors might adversely interfere with the governance or capital access of potentially disruptive entrants. Where large banks and other creditors are more politically influential, and much recent work argues that they are increasingly so everywhere (Johnson and Kwak 2010; Admatti and Hellwig 2013; Acharya et al. 2015), public policy might hamper more disruptive innovation.

Formal creditor rights can be augmented by informal power, especially in economies whose financial systems are dominated by a few large banks. For example, large banks are thought especially influential in Germany and Japan for historical political-economy reasons (Streeck and Yamamura 2001). Loughran, Ritter and Rydqvist (1994) find most German IPOs to be old firms (their median age on their IPO dates is 55). Takahashi (2015) finds Japanese commercial banks intimately involved with many IPOs, often represented on their boards. Kutsuna et al. (2007) find smaller Japanese IPO firms relying more heavily on their banks. Thus Katz (2003, p. 208) concludes that "*a bank-centered financial system is simply inadequate in the era of innovation-led growth*" and that Japanese banks' influence over that country's non-financial firms "*is one reason why Japan is so bad at fostering new firms*".

Also consistent with creditors using their corporate governance influence to reduce risk, Acharya, Amihud and Litov (2011) find more value-destroying diversifying M&A in countries with stronger creditor rights. Mehrotra et al. (2011) show that Japanese mergers, unlike mergers elsewhere, are countercyclical, provide no takeover premium for target shareholders on average, and reduce shareholder wealth more if the merging firms share a common main bank.[6] They conclude that Japanese banks wield their corporate governance influence to orchestrate mergers that reduce the risk of their loan portfolios. In a similar vein, Boehmer (2000) and Franks and

[6] Japanese M&A announcement returns in late1980s data correlate positively with the strength of acquirer's relationship to its bank (Kang et al. 2000). This was the peak of Japan's "bubble economy".

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Mayer (2001) find no evidence that banks with influence in the corporate governance of German bidder firms advance the interests of those firms' public shareholders.

Creditor influence in corporate governance might thus enter social welfare trade-offs balancing higher growth via disruptive innovation against stability that allows cheaper debt financing as well as other possible advantages, such as long term employment stability. Evidence linking banks and other creditors more powerful voices in corporate governance to broader social goals is tentative. Stronger creditor rights correlate with higher levels of investment (Benmelech and Bergman 2011; Rodano et al 2016) and higher growth rates in long-run per capita GDP, capital stock and productivity (Levine and Shaghil 1998). However, Kyröläinen, Tan and Karjalainen (2013) find higher marginal values of cash and investment in countries with weaker creditor rights, consistent with weak creditor rights leaving firms more financially constrained.

3.2.2 Professional managers

Bebchuk and Fried (2004) view the compensation firms pay their CEOs and other top executives as a private benefit, and argue that its rapid escalation reflects worsening agency problems due, in part at least, to political rent-seeking by CEO lobbyists. Executive pay in listed firms tends to resemble a contractual rather than residual claim. Jensen and Murphy (1990) and many others report that executive compensation moves only slightly with the firm's financial fortunes, and tends instead to be a fixed claim proportional primarily to the firm's size. CEOs might thus eschew risky projects diversified shareholders would view as value-creating (Mirrlees 1999; Holmstrom 1979; Bertrand & Mullainathan 2003; John et al. 2008).

This finding motivates their recommendation that boards tie CEO pay more firmly to the share price, so CEOs and public shareholders have correlated residual claims. This convergence of interests might then reduce the agency problems Bebchuk and Fried highlight. However, CEO pay became only slightly more related to stock returns in subsequent years (Bebchuk and Fried 2004). This may be because CEOs effectively appoint the corporate directors, who set and reset CEO pay, making it impossible for firms to credibly commit to paying their CEOs as residual claimants.

Resistance to tying top executive pay to the stock prices may reflect the indubitable fact that many things outside the CEO's control affect the share price. A further problem is that, in an inefficient stock market, share prices may deviate from the values of the residuals to which they

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are claims. Diversified shareholders can ignore firm-specific risk due to such things; risk-averse relatively undiversified CEOs cannot. Tying CEO pay to the share price, by exposing CEOs to risks they cannot control, might merely encourage even more aversion to risks they can control. Measures to magnify CEOs' rewards for successful risk-taking might also misfire by inducing CEOs to take "*wrong actions*" (Holmstrom & Milgrom 1991).[7]

Kaplan and Stromberg (2009) report that top executive compensation in post-leveraged buy-out firms (LBOs) is highly correlated with firm performance, and is thus effectively a residual claim. One interpretation of this contrast is that the major shareholders of LBO firms are sophisticated private equity funds who appoint boards capable of holding CEOs to performance-based pay contracts. Similarly, Kaplan and Stromberg (2003) find entrepreneur compensation more strongly linked to equity in VC-backed firms where informational asymmetry is more severe. Making the CEO a residual claimant is then one aspect of the control private equity shareholders impose. A more attenuated effect is reported in listed firms with one or more large institutional blockholders.

The interests of different contractual claimants need not align. For example, creditors and public shareholders plausibly have a shared interest in constraining agency costs associated professional managers paying themselves excessively (Jensen 1986; Almazan and Suarez 1998). Thus, Elston and Goldberg (2003) find German executive pay to be negatively correlated with banks' direct equity ownership.

3.2.3 Employees

Studies of labor involvement in corporate governance often make use of German data because of that country's Codetermination Laws, which grant labor representation on corporate boards.[8] Codetermination has roots in 19th century romantic and theological arguments (Streeck and Yamamura 2001); however, its current incarnation is a 1976 law that mandates equal representation for shareholders and workers on the supervisory boards of large firms. Currently this applies to firms belonging to business groups with over 2000 employees. Mid-size firms

[7] For example, such a CEO might engage in legally dubious practices that, if undetected, would raise the share price. This might be especially tempting to a CEO who expects to move on to another firm after a few years.

[8] Various other European countries have adopted more limited forms of codetermination (Schulten and Zagelmeyer 1998).

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(belonging to groups with over 500 employees) must let labor select one-third of their supervisory boards. Smaller, mostly family-controlled, firms are exempt. The explicit aim of the act was to balance workers and shareholder interests in order to democratize corporate governance.

Supporters of codetermination also stress how including labor representatives in supervisory board decision-making facilitates better information flow both upward (leading to more informed decisions) and downward (leading to more wholehearted compliance). Furobotn and Wiggins (1984) argue that "*labor representation on the firm's board can overcome informational problems and lead to Pareto-efficient solutions*".

Jensen and Meckling (1979) dispute this, modelling codetermination in the framework of Figure 1. Employees, like creditors, would avoid risk-taking, even if shunning profitable risky ventures. This is because upside gains accrue to shareholders, not workers. Any risk that has any chance, no matter how miniscule, of reducing the firm's value below C threatens employees. This convergence of interests makes employees and creditors natural allies against public shareholders and other non-contractual claim holders. Indeed, the political power of German banks, discussed above, may well have contributed to the implementation, expansion, and survival of codetermination.

Consistent with this convergence of employees and creditors interests, Benelli et al (1987), Gorton and Schmid (2000, 2004) and Chen et al. (2016) link enhanced worker influence via codetermination reforms to increased leverage. Indeed, much of this evidence is consistent with banks' political influence pushing Germany towards enhanced employee representation on boards. Public shareholders, in contrast, do not appear to benefit from enhanced labor influence over corporate governance: Benelli et al (1987) and Gorton and Schmid (2000, 2004) link codetermination laws to depressed firm valuations.

Labor can gain a voice in U.S. firms when employees own blocks of equity. This differs fundamentally from German co-determination, wherein workers have board representation but own no shares. One way US employees accrue substantial equity holdings in their employers is via an Employee Stock Ownership Plan (ESOP). These often give employees ownership claims, but delegate voting rights to the firm's top managers. Focusing on US firms in which employees both own and vote large equity blocks, Faleye et al (2006) find stronger labor influence

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correlating with lower shareholder valuations, less long-term investment, less risk-taking and slower growth.

Strong creditors may also protect employees when firms go bankrupt. Jiang, Li and Wang (2012) report that US bankruptcy reorganizations in which a hedge fund is a pivotal creditor are more apt to adopt key employee retention plans. Such protection does not extend to top managers, who are more likely to be ousted sooner if creditors have stronger bargaining power (Jostarndt and Sautner 2008; Jiang et al. 2012; Eckbo et al. 2016).

3.2.4 Other stakeholders

Retired employees are yet another contractual claimant in countries, such as Canada and the United States, where retirees' pensions and benefits in retirement are the responsibility of their former employers, rather than profession-based pension funds (Britain) or the state (Germany). If the firm commits to paying pre-specified monthly benefits, the pension plan is said to provide a *defined benefit*. Like current employees, retired employees expecting defined benefits are primarily interested in ensuring that their deferred compensation for work done is paid, and thus see little upside and a potential downside in risky ventures the firm might undertake, even if those ventures have positive expected returns. In countries where firms fund such defined benefits out of current earnings, partially or completely, Figure 1 thus captures the divergence of interests between these retired employees and residual claimants.

The United States mandates that firms with defined benefit pension plans establish pension funds, whose values are equal to the present values of their expected future payments to plan participants. To the extent that this insulates retirees from the firm's bankruptcy, they have a uniquely risk-free contractual claim and lose interest in the firm's risk-taking. Many US firms run defined contribution plans, rather than defined benefit plans. In these the firm makes fixed contributions an investment fund, whose uncertain return determine what benefits ultimately accrue to retirees. In either case, the firm must make predetermined periodic payments to its pension fund. These payments amount to a contractual claim the pension fund has against the firm. In the United States, corporate pension plans are typically run by trustees appointed by top corporate management. In the United Kingdom, thee payments are typically to economy-wide to pension funds run by professional associations, which are run independently of specific employers.

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Firms can be contractual claimants of other firms. In the simplest case, a firm that has shipped intermediate goods to another firm and awaits payment has provided "trade credit", and is essentially another creditor. Like any other creditor, the unpaid supplier expects payment of pre-specified amounts within a pre-specified time period. A firm that has paid in advance for intermediate goods produced by another firm is likewise a provider of credit. It expects repayment in goods of a pre-specified nature and quantity within a pre-specified time frame.

In both cases, the creditor firm has a claim that takes the general form of the contractual claim in Figure 1. The unpaid supplier and the customer awaiting delivery both prefer that the firm avoid taking risks until it has fulfilled its contractual obligation. Thus, firms controlled by their customers or suppliers are under pressure to avoid risks, even potentially profitable ones, and just live up to their bargains.

Lists of firms' stakeholders also include the environment, community, government, society as a whole, and other collectives, which the firm's actions might subject to externalities. These claims against the firm reflect externalities – pollution, economic spillovers, infrastructure use, and the like –the firm's decisions impose on others. These claims are real, so the parties affected are stakeholders in the sense that their well-being depends on how the firm is run. But these claims are often intrinsically difficult, and sometimes impossible, to value.

Non-governmental organizations (NGO) increasingly seek to influence corporate decisions. If NGO pressure compensates for government failure or market failures related to these externalities, this pressure could push corporate decision towards increasing social welfare. For example, if environmental law fails to deliver socially optimal pollution, environmentalist NGO pressure on corporate boards might serve as a substitute by encouraging controversy-averse top managers to factor environmental externalities into their decisions. This sort of non-state market driven (NSMD) governance has evolved to influence corporate decision-making at the most negative publicity-sensitive point in each corporate supply chain. Thus, NGOs focus their advocacy on publicly traded firms rather than unlisted firms, on firms with valuable brands to protect versus firms that do not, and on firms that sell directly to consumers rather than firms that produce intermediate goods.

Of course, NGO are also formed to advance special interests that do not align with overall social welfare. Relying on NGO pressure thus also can skew corporate decision-making

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in directions favored by well-financed special interest groups.

3.3 Expanded value maximization

The previous sections show that this logic is compromised by the behavior of the firm's stakeholders under uncertainty. If bankruptcy becomes a salient option, the shareholders want increased risk-taking and the creditors want diminished risk taking. Shareholders' and creditors' conflicting interests can be balanced if the managers' mandate is altered to maximizing the total value of the firm – that is, the value of its equity plus the value of its debt.

However, the interests of labor and other contractual claimants remain outside this reconciliation. A broader resolution of stakeholders' conflicting interests might capitalize the value of employees promised wages and benefits and retirees promised benefits charge managers with maximizing that plus the value of the firms debts plus the value of its equity. Calculating the value of employees' wages and benefits is problematic –requiring "heroic" assumptions about future wages, turnover, illnesses, retirement dates, inflation, and discount rates. The valuation of retirees' benefits - mandatory in firms' financial statements in the United States and many other countries where retirement programs are run by employers rather than trade or professional associations or governments – requires more such assumptions and is vulnerable to manipulation (Bodie, Marcus and Merton, 1985).

If creditors' interests generally paralleled the interests of all other contractual claimants, creditors might be relied upon to act for other contractual claimants. However, as noted above, different stakeholders interests are imperfectly correlated. Moreover, the claims of stakeholders affected via externalities, such as pollution or infrastructure congestion, are intrinsically difficult to value, yet this logic would require accounting for them as well in estimating the total net value of the firm to society. This exercise is impossible in practice because the data necessary do not exist, so the exercise essentially requires a firm's top managers to make a judgment call.

4. Surplus-claimants

Unfortunately, yet another set of issues further muddy the waters. The previous section is not incorrect; but falls far short of an adequate picture. First, stock markets are prone to manias,

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panics and crashes (Kindleberger 1976), so stock prices may sometimes have little connection with the actual values of the residuals to which they are claims. Second, the incompleteness of Figure 1 is exposed in first year economics and accounting classes, which each highlight that their concept of profits differs from that in the other class. Sometimes the difference is even explained. However, the importance of the difference is rarely if ever spelled out. This difference critically qualifies the intuition presented above.

Accounting profits are revenues minus contractual claims – the costs of inputs to production, labor, and interest. *Economic profits* are revenues minus the costs of all factors of production – inputs, labor and capital. The distinction becomes clear in the *net present value* (NPV) calculation all introductory finance classes recommend as the best approach to solving capital budgeting problems.

A generic capital budgeting problem posits a prospective project with a set up cost of K that, if undertaken, is expected to generate a cash flow of cf_t each year t throughout the project's lifetime, the next T years. Finance students are taught that the firm should prioritize projects by how positive their net present values are, and to calculate these NPVs using some variant of the formula

$$[1] \qquad NPV = E\left[\sum_{t=1}^{T} \frac{1}{(1+k)^t}(cf_t)\right] - K$$

where the discount rate, k, is the relevant *cost of capital*. In an all-equity finance firm, this is the firm's risk-adjusted cost of equity capital. Intuitively, the first term in [1] is the expected present value of the cash flows the project will return and the second term, K is the cost of undertaking the project. The project's NPV is positive if its expected financial benefits to the firm exceed its costs. Students are taught that firms should rank their potential capital investment projects (or feasible combinations thereof) by NPV, undertake those with the highest NPVs first, undertake all positive NPV projects if possible, and stop investing at projects whose NPVs are zero.

Financial economists' concept of *cash flow*, the cf_t in [1] is neither accounting profit nor economic profit. Rather, cash flow is equal to revenue minus all factor costs except the cost of capital. Rather than entering as a dollar outlay, the cost of capital enters the calculation via the denominator in the first term of [1], with r being the rate of return investors demand given the

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risk involved.

Capital budgeting problems can readily be recast in terms more familiar to economists by representing the cost of capital as a dollar outlay, like other factor costs.[9] The project's set-up cost can be represented as an annuity, or fixed annual payment, disbursed throughout the project's lifetime, that would be of equivalent value to investors. This annuity payment is the value of a that solves

[2] $$\widetilde{K} = E\left[\sum_{t=1}^{T} \frac{1}{(1+k)^t} a\right]$$

The annual contribution of the project to the firm's economic profit, π_t, is then its cash flow (revenues minus the costs of all factors of production except capital) minus the project's cost of capital expressed as an annuity. That is,

[3] $$\pi_t = cf_t - a$$

In economics, the project is viable it the present value of its economic profits is positive; that is, if the project generates a surplus

[4] $$\tilde{S} = E[PV(\pi_t)] = E\left[\sum_{t=1}^{T} \frac{1}{(1+k)^t}(cf_t - a)\right] > 0$$

Obviously, [4] is satisfied if and only if the *NPV* in [1] is positive. That is, a project's NPV being positive is equivalent to it generating positive economic profits for the firm. This equivalence validates NPV analysis in Finance textbooks.

Rajan (2012) recognizes the centrality of this objective when he notes that: "*The firm's structure and financing center around one common problem: how to create NPV, that is, value net of the opportunity costs of the inputs, and then how to allocate this back to agents in the economy in a way that maximizes value creation*." Thus, an owner-operated firm's proprietor receives her market wage, her return as an equity investor and whatever surplus value (NPV) she creates. Schumpeter (1911; 1942) refers to the last as her return to entrepreneurship, compensation for her unique entrepreneurial talent. Because the owner-operator's entrepreneurial talent is the critical ingredient for generating the surplus her actions cannot be defined in

[9] This is the gist of the *economic value added* (EVA) approach to capital budgeting, which is based on inferring a close approximation to economic profit from managerial accounting data.

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complete contracts; the value of the surplus created is maximized if she is the residual claimant (Grossman & Hart, 1986). Hart & Moore (1990) extend ownership of the NPV to other firms in a value chain and to employees if they are likewise indispensable to generating the NPV.

This reasoning leads to a practical redefinition of ownership as the power to deny others access to the firm's assets. Ownership lets the owner selectively grant usage rights to collaborators, who therefore "obey" the owner in return for this access (Hart and Moore 1990).[10] Diffuse public shareholders, because they cannot deny others access to a firm's assets, are thus not its actual owners.

This becomes clear in the notation above. Investors (including shareholders) expect and receive the annuity payment of a each year. The project's economic profits $\pi_{j,t}$ are over and above what investors (including shareholders) expected, so their expected present value, the project's NPV obviously does not *a priori* belong to public shareholders.

But if net present values do not belong to shareholders, to whom do they belong? And if firms are charged with maximizing the net present values of all they undertake to do, whose interests are they thereby advancing?

The discussion above motivates distinguishing *surplus claimants*, to whom a share of the NPV is due, from ordinary residual claimants, who expect a risk-adjusted expected return for providing capital and bearing risk, and *contractual claimants*, whose claims against the firm are defined by contracts. To explore this, we consider subsets of shareholders and other stakeholders who might have claims to the NPV. The section thereafter expands the discussion to consider these other stakeholders.

4.1 The surplus and the economics of idiosyncrasy[11]

We begin by noting that the critical distinction is not between contractual and non-contractual stakeholders in determining the allocation of a firm's surplus. Rather, it is between stakeholders who have made idiosyncratic investments in the firm versus those whose investments are largely reversible. The latter class includes not just contractual stakeholders such as bondholders, but

[10] This view differs from the "costly contracting in the presence of opportunism and asset specific investments" view of Williamson (1979, 1984), elaborated in section 3.

[11] These arguments follow Williamson (1979, 1983, 1984).

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also non-contractual claimants such as shareholders who are free to exit at a moment's notice by selling their shares. In contrast, claimants to the NPV are characterized by irreversible investments in the firm. The NPV or surplus – defined as the difference between the expected present value of the firm's output and the sum total of both contractual and non-contractual claims, along the lines of equation (3) above – represents a stream of quasi-rents that accrues *in part* to each party with an idiosyncratic investment. The division of the surplus among these parties is contestable, with the bargaining power of each party shifting over time to reflect changes in the relative values of their idiosyncratic investments and in the institutional environment.

For example, economic gains from outsourcing might be captured by an entrepreneur who understands the supply chain better or earlier than others. These gains are the entrepreneur's return to her idiosyncratic investment in experimenting with outsourcing. Outside shareholders, who buy the firm's shares subsequently, earn the risk-adjusted return they would earn on other stocks of like risk, but do not share in the economic profit due to the entrepreneur.

To generalize this example, revisiting the notation in the previous section, consider a firm with projects whose combined net present values amount to the surplus $\tilde{S}$. The firm has contractual claims worth C, non-contractual equity claims worth $\tilde{E}$, and an uncertain output worth $\tilde{V}$.[12] The net present value or surplus, $\tilde{S}$, is the excess of output over the combined value of the contractual and equity claims. In a world with positive NPVs, no *a priori* reason requires $\tilde{S}$ to be distributed with mean zero, though of course this is possible. In finance textbooks, firms are charged with identifying and undertaking projects with positive net present values, implying that a long-run mean of $\tilde{S}$ is positive.

Treating the entire surplus as belonging to the shareholders because of the residual (non-contractual) nature of their claim misses the point that the surplus (i) represents economic profits, and hence is net of capital costs; and (ii) is contestable by competing stakeholders with varying degrees of bargaining power.

[12] The contractual claims might include debt due creditors, wages and benefits due labor, unpaid bills due suppliers, undelivered goods due customers, and the like. The equity claims are rights to dividends and other disbursements to shareholders. The firm's value in capital markets, K in [2], is the value its equity E plus the value of one of its contractual obligations, its debt, D.

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4.2 Entrepreneur-founders

Entrepreneur-founders are arguably under-represented in financial economics, despite the popularity of entrepreneurship programs in business schools.[13] Schumpeter (1911) reasons that positive economic profits are created by innovative entrepreneurs, who devise new technologies that generate temporary monopoly profits until rival firms replicate or surpass it. In this view, net present values are capitalized entrepreneurial rents, and properly belong to the entrepreneurs who run profitable firms, not to their public shareholders.

Schumpeter (1911) argues that economically profitable innovative firms tend to be young firms, and that firms grow less conducive to innovation as they grow older. Large firms' top managers can have human capital whose value is contingent on existing capital, as when IBM's top managers (all mainframe computer experts) delayed that firm's entry into PCs (Betz, 1993) or Xerox refused to back its engineers' inventions (Chesbrough 2002). Innovators may prefer to found their own firms to safeguard their property rights over their innovations, as when Fairchild Semiconductors' top scientists departed to found many future Silicon Valley giants (Gompers & Lerner 1999; Gompers, Lerner & Scharfstein 2005).

The entrepreneur-founder is thus arguably the stakeholder with the most firm-specific human capital investment, perhaps a unique idea first explored in her garage, which (if successful) becomes the basis of a transformative product. Schumpeter (1911) views such an entrepreneur as the generator of a firm's surplus value. The entrepreneur's idiosyncrasy is critical, for as Rajan (2012) notes in his presidential address: "*To produce significant net present value, an entrepreneur has to differentiate her enterprise from the ordinary*."

The entrepreneur-founder thus makes an investment that is idiosyncratic, its value is higher in the firm she founds than it would be elsewhere, and is a non-contractual claim; she gets what is left over after all the firms' contractual claims are paid up. The juxtaposing of residual claimancy with value-creating irreversible idiosyncratic investment amounts to a claim to the firm's surplus. Indeed, without the latter, the firm has no real existence and the Coasian abstraction of a firm as a mere nexus of contracts suffices. Value-creating irreversible

[13] Where entrepreneurs do appear, they often get a short shrift. They are overly optimistic and irrationally risk-loving (Landier and Thesmar, 2009) or motivated by some form of "dark" non-monetary consumption (Hamilton, 2000; Moskovitz and Vissing-Jorgensen, 2002).

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idiosyncratic investments by various stakeholders –the entrepreneurial founder, the uniquely talented CEO, the R&D lab director, the local community that tailored infrastructure to the firm's needs – lends the firm a real and institutionally complex existence beyond merely being a convenient locus for efficient contracting.

Rajan (2012) expands upon this by envisioning an entrepreneur being critical to organizing and coordinating a team. Asset specific investments by team members stabilize the team, making the firm viable where the cost of specifying myriad contracts ex ante would otherwise preclude its formation. The economics of idiosyncrasy bind the team members to the firm and each other. Rajan endows the entrepreneur with the power to allocate asset use, but this is not essential if idiosyncratic human capital investments create and sustain a mutual hold-up among the various stakeholders who collectively form a firm.

Taken normatively, this reasoning suggests that entrepreneurial startups might be run to maximize the wealth of their founder-owners. For private firms, this is relatively uncontroversial. Contract theory (Grossman & Hart 1986) would allocate the surplus, and ownership of the non-human assets that generate it, to the party whose imperfectly contractible actions most affect its value. However, successful new firms soon need additional financing, which creates a conundrum: the necessity of converting a new enterprise from a high level of idiosyncrasy, essential to its success, to an acceptable level of standardization, essential to its attracting outside financing. The resolution, according to Rajan (2012), is "*to make the firm's key human capital more replaceable and liquid, even while it continues to produce the differentiated product.*" In other words, the fundamental second stage transformation posited by Rajan is necessary precisely to loosen the bilateral monopoly between the firm and the entrepreneur-founder. Of course, the transformation is one of degree. Entrepreneurs with more successful enterprises can get away with less standardization while still attracting the same unit of outside capital.

If the initial round of outside financing is from venture capital funds, the surplus is the joint product of the entrepreneur-innovator, who provides the unique technology, and the venture capital fund, which provides financial, accounting, marketing, and legal expertise. The entrepreneur-innovator and venture capital fund both have residual claims, whose relative sizes depend on the relative importance of what each brings to the table, and contracts can suffice to

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limit disputes between them (Gompers & Lerner 1999).

Successful start-ups soon require more capital and turn to initial public offerings (IPOs) of shares to public investors. Venture capital funds typically encourage IPOs so they can cash out and use the proceeds to back other early-stage start-ups in what Gompers and Lerner (1999) call the "*venture capital cycle*". Chandler (1977) argues that the complexity and scale of business enterprises in large high-income economies is often so large that no individual, family, or group of individuals small enough to cooperate efficiently can run or finance them. Because the fortunes of large business enterprises are unavoidably uncertain, the returns to the providers of this capital are risky. The public investors who buy these shares are large in number and their efficient diversification means the investment of each is typically too small to justify the costs of monitoring the firm's actions and intervening legally to protect their interests. These public shareholders are thus residual claimants with meager control rights.

This perspective necessitates revisiting Jensen and Meckling's (1976) discussion of agency costs. Their model posits that IPOs are organized to maximize the wealth of their pre-IPO owners. If these are claimants to the firm's surplus, and they intend to exit at the firm's IPO, their return to entrepreneurship is increased by country-level and firm-level institutions that better limit private benefits consumption by the professional managers taking over. Strong disclosure rules and vulnerability to hostile takeovers, institutional investor activism, proxy contests, and the like all help make IPOs more lucrative for firms' pre-IPO owners. However, the entrepreneur/founders might instead opt to retain an equity control block. This leaves the listed firm with two distinct sets of residual claimants: public shareholders who expect a risk-adjusted return set by the market and the founder/entrepreneurs who expect that plus the surplus for which they are responsible.

Various approaches to deal with this dichotomy exist. The entrepreneur-founders, including venture capital providers, can capture the positive NPV they generated by receiving free or underpriced shares at the IPO. Public shareholders can then be on equal terms with pre-IPO shareholders going forward in return for this one time transfer. Alternatively, the firm's governance structure can be such that the entrepreneur/insiders extract a stream of private benefits as ongoing compensation for surplus creation.

Private benefits paid to the firm's insiders are thus not necessarily an expropriation of

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public shareholders' wealth. Unless shareholders are systematically tricked by false information about expected agency costs, they receive risk-adjusted returns commensurate with the stock prices they pay – at least on average. No "expropriation" arises.

This is an important point. Even if the surplus is zero, if public shareholders have rational expectations about the stream of private benefits going to the firm's insiders, they pay an IPO price equal to the present value of the dividends and other disbursements they expect to receive given those private benefits. The social cost of Jensen and Meckling's (1976) agency problems is thus not an expropriation of public shareholders' wealth by rapacious corporate insiders, for there is none. Rather, the social cost Jensen and Meckling (1976) highlight is a form of capital market failure. The greater the private benefits diversion public shareholders expect, the lower the share price at the firm's IPO. If the IPO price is low enough, the IPO can no longer be worthwhile to the firm's pre-IPO owners. If firms cannot commit to providing public shareholders sufficiently credible returns, the firms are shut out of the market for public equity financing. The social cost of agency costs is not "shareholder value expropriation", but that such firms cannot raise external equity capital on terms that make those projects viable. Laws and regulations, corporate charter provisions, the possibility of a hostile takeover occurring and other mechanisms to pre-commit the firm credibly to good governance mitigate this market failure.

4.3 Business Groups and ultimate controlling shareholders

In many countries, firms are organized into business groups – clusters of firms under common control, but each with its own shareholders and stakeholders (Morck et al. 2005). Large business groups in many Asian, European and Latin American countries can each contain many seemingly separate, individually large, listed firms in diverse industries. Such a group can easily constitute a substantial swath of its country's big business sector. Where business groups predominate, the firm is not the appropriate level of aggregation for considering tensions between shareholders and stakeholders or between ownership and control. Such countries typically recognize this by augmenting their bodies of Corporate Law with various formulations of Business Group Law. The latter determines, for example, whether directors' primary duty is to their firm or to the group and how they should balance the interests of the firm's immediate shareholders and stakeholders against those of other group firms or the group's ultimate controlling shareholder.

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A business group most often consists of an apex firm, usually controlled by a wealthy tycoon or his heirs, which owns equity blocks sufficient to control each of a first tier of listed subsidiaries. The remaining shares in each of these firms, called their *public floats*, are owned by atomistic small shareholders. Because individual stakes in the public floats are too small to justify the costs of monitoring the firm's actions and intervening legally to protect their interests, relatively small control blocks – often in the five to twenty percent range – suffice to let the controlling shareholder of the apex firm appoint the directors and officers of each first tier subsidiary. Each first tier subsidiary then owns equity blocks in its set of listed second tier subsidiaries, again of minimal sufficient size to provide control. Each of these similarly controls listed firms in a third tier. The process can be repeated indefinitely, with unlisted firms interspersed and the structure occasionally complicated by lower tier firms contributing to the control blocks of their ancestor firms. This recursive process, called *pyramiding*, can generate structures of firms controlling firms controlling firms ... attaining macroeconomically significant size. Figure 2 illustrates.

Existing group firms with substantial retained earnings tend to sprout subsidiaries by providing their initial capital and then raising public float equity via an IPO (Almeida and Wolfenzon, 2006). The similarity of this process to the venture capital cycle described above motivates Khanna, Palepu and Sinha (2005) to suggest that India's Tata business group acts as a venture capital fund that retains ongoing interests in its ventures, rather than cashing out at the IPO, as US venture capital funds typically do. This appears to be atypical. Most group member firms in most countries are large and old firms that dominate an established sector of their countries' economies. That these groups are venture capital funds seems farfetched. Khanna and Yafeh (2007) thus suggest two alternate reasons for the worldwide prevalence of business groups.

Business groups may exist so that controlling shareholders diversify risk. If the lower tier firms in Figure 2 are distributed across many sectors, the apex firm can approximate a diversified portfolio in that increasing expected dividends from one subsidiary can compensate for declining expected dividends from another. Controlling an apex firm that directly or indirectly controls a diversified portfolio of firms thus dominates controlling one operating firm with assets equal to those of the apex firm. Typical pyramidal business groups in Latin America appear to have structures consistent with maximizing the gains from diversification (Khanna and

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Yafeh 2007); but this is not observed in many other regions.

However, this does not explain the prevalence of the pyramidal business group structure, even in Latin America. Equivalent diversification benefits arise from owning a diversified portfolio of small direct ownership stakes in many firms. The pyramidal structure also provides uncontestable control over the governance of all the firms in the pyramid. Clearly, for pyramidal groups to exist, control over many firms must be valuable.

A range of evidence shows that a controlling shareholder's claims against group firm are more valuable than those of other shareholders in many countries. Dyck and Zingales (2004) show that control blocks trade at prices per share substantially above a firm's share price in public markets, and that this control premium is higher in more corrupt countries. Nenova (2003) shows that shares with magnified voting power also trade at higher premiums above the prices of other shares in the same firm in more corrupt countries. These findings suggest that controlling shareholders of pyramidal groups add (or extract) more value in more corrupt countries. These findings suggest that ultimate controlling shareholders extract value from their groups of firms, which raises the possibility that they are somehow critical to creating a surplus.

The surplus may arise because a common controlling shareholder lets firms trust each other, and such trust is more valuable in more corrupt economies (Khanna and Yafeh 2007; Morck and Nakamura 2007).[14] In a highly corrupt economy, firms can mistrust each other for a variety of reasons. Intermediate goods producing firms can cheat their customer firms by skimping on quality. Supplier firms with monopoly power can "hold up" their customer firms by raising the prices of the intermediate goods they provide to extract any positive NPV the customer firms might generate. Customer firms with monopsony power can similarly "hold up" their supplier firms by lowering the prices they offer for intermediate goods to extract any positive NPV the supplier firms might generate. Where trust is low, such opportunistic behavior can deter investment by reducing many firms NPVs to zero.

However, a common ultimate controlling shareholder can order the firms in her business group to invest in positive NPV projects despite trust concerns. As long as business group firms

[14] These arguments follow from earlier work by Coase (1937), Williamson (1971, 1975), and Klein, Crawford & Alchian (1978) explaining mergers of freestanding US firms with their customers or suppliers.

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only do business with each other, the NPVs will come to rest in a firm controlled by the ultimate controlling shareholder. Those positive NPVs can be transferred to the ultimate controlling shareholder via what Johnson et al. (1999) dub tunneling. This encompasses all manner of mechanisms for transferring wealth from other member firms to the apex firm in Figure 2. Tunneling includes transfer pricing, the apex contracting with the donor firm, the group firm in which the positive NPV accumulates, to buy or sell goods or services at artificial prices. Tunneling also includes the donor firm paying for private benefits the ultimate controlling shareholder consumes, lobbying politicians on behalf of the ultimate controlling shareholder, repaying debts or favors owed by the ultimate controlling shareholder, and so on. Business groups in East Asia have highly vertically integrated structures consistent with this explanation (Khanna and Yafeh 2007; Fan et al. 2015). Business groups elsewhere typically do not.

Low trust can also mar labor markets and consumer product markets. Workers who expect employers to treat them poorly rationally exert less effort, and consumers who anticipate low quality products and poor services offer commensurately discounted prices. Where investors lack trust in firms' insiders, financial markets are apt to fail altogether, making external financing unavailable (Rajan and Zinglaes 1998). Khanna and Palepu (2007) argue that ultimate controlling shareholders who build reputations for fair dealing can elicit more effort from their firms' workers and higher prices from their firms' consumers, and even capital from public shareholders and lenders. These advantages raise the NPVs of investment projects into positive territory for group firms, letting them undertake investments that other firms could not. This explanation requires the group to be neither widely diversified nor vertically integrated, and is a potential explanation for business groups anywhere where markets function poorly.

Governments can also be mistrusted in corrupt countries. North and Weingast (2000) describe many low and middle income countries as having a *limited access order*. Such countries limit access to legal rights – for example to police protection, access to the courts, and so on – to small elites. Member of the general citizenry, and firms they run, cannot rely on the police or courts for protection or redress. Any investment an ordinary citizen makes, let alone any positive NPV it generates, is subject to expropriation by corrupt officials or their cronies. Haber (2013) argues that business groups in Latin America and elsewhere arise to extend a politically-connected ultimate controlling shareholder's personal access to such rights across all the firms in a business group, and calls this the *vertical integration of government and big*

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business.

In all of these examples, positive NPV investments occur only because the ultimate controlling shareholder supplies a missing ingredient – trust. To raise capital from financial markets, the ultimate controlling shareholder must ensure that her group firms pay public shareholders an average return commensurate with the risk they bear. However, the ultimate controlling shareholder extracts any positive NPVs that result from the trusting behavior she fosters. The group is organized to maximize that NPV, not the value of any or all of its member firms' public floats.

Normative conclusions are less clear. These situations are second-best outcomes that may well be profoundly suboptimal compared to the outcomes that would arise in a high trust economy. Most importantly, entrepreneurs with creative business ideas in such economies are forced to come to an agreement with the ultimate controlling shareholder of a business group if they are to access capital on a large scale. Creative destruction can threaten the ultimate controlling shareholder's existing firms, making such an agreement unlikely. The innovator's optimal strategy can be emigration and the low trust economy runs with little domestic innovation. The optimal strategy of the controlling shareholders of established firms can be to lobby politicians for barriers to entry to slow the pace of technological progress.

4.4 Contractual claimants as surplus claimants

Top executives, employees, creditors and other contractual claimants may contribute to creating a firm's surplus. To the extent that they are both contractual claimants and surplus claimants, the discussion of each in section 2 requires elaboration. Where there is an expected surplus, models of imperfect contracts (Grossman & Hart 1986; Hart & Moore 1990) assign the residual claim to the party whose discretionary actions most affect the value of the assets to which the contractual claims attached. Where there are multiple such parties, their bargaining power shapes their claims.

4.4.1 Creditors

Banks might contribute to nonfinancial firms having positive NPVs in a variety of ways. Hoshi, Kashyap and Scharfstein (1990) argue that Japanese banks create value for their client firms by organizing coinsurance pools. That is, the bank orchestrates payments from financially healthier

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to financially weaker firms, reducing bankruptcy risks for all of them. If this lets firms undertake riskier and longer term investments, a surplus arises.

Rajan (1992) observes that a firm's existing bank has an informational advantage over other banks the firm might approach. This creates an adverse selection problem that prevents the firm from being able to switch banks: Why should another bank, which knows less about a firm than its existing bank, ever provide the firm with a loan on better terms than its existing bank would offer? This, in turn, gives a firm's existing bank a degree of bargaining power in claiming some or all of any positive NPVs the firm might generate. Consistent with powerful creditors extracting borrower firms' surpluses, Japanese firms more subject to bank influence borrow more and pay higher interest cost than other similarly indebted firms (Morck and Nakamura 1999; Morck, Nakamura and Shivdasani 2000; Weinstein and Yafeh, 1998). Also, Dittmann et al. (2010) report that German firms more subject to a bank's influence borrow more money and are more apt to hire their bank as its M&A advisor.

Rajan (1992) allows that banks' bargaining power in claiming a client firm's surplus might be unrelated to its role in creating that surplus. This raises the possibility that banks might use their informational advantages, and the adverse selection problems this creates, to expropriate NPVs the banks had no part in creating. If stronger informational advantages let banks do this more aggressively, more bank-dependent firms' incentives to invest diminish correspondingly.

However, a firm's creditors might also contribute to its surplus. For example, venture capital funds may provide idiosyncratic management, financial and other services essential to the start-ups they finance with convertible debt. Convertible debt lets them lock in a minimal contractual claim if the start-up does poorly and exercise creditors' rights if it fails; but become equity holders if it succeeds. Straight debt holders might also have a role. A firm's long-time lenders may have made substantial idiosyncratic investments in understanding its finances and operations, and their loans in its balance sheet may signal its certification of the firm's bona fides investment in firm specific information (James 1985). If that certification helps the firm do business more readily, the creditor arguably contributes to its profits and may have a claim on its surplus (see e.g. Bernanke, 1983; Fama, 1985; James, 1985). This perhaps fits banks better than bondholders because reversing a bank credit arrangement is arguably more costly than selling a

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bond in the secondary market.

Overall, evidence of creditors contributing to surplus creation in Germany and Japan, where creditors' influence is greater, is decidedly mixed. Earlier work on Japan posits banks promoting surplus creation by stabilizing firms so they can undertake long-term investments in innovation or worker training (Berglof and Perotti 1994; Kaplan and Minton 1994; Kang and Shivdasani 1995); however recent work tends to refute this (e.g. Beason and Patterson 2004). Direct tests using German data reach inconsistent conclusions, which may depend on the bank influence measure (direct ownership versus all voting rights including proxy voting), the time period, and the sample of firms. Some studies report a positive correlation between bank influence and financial performance in Germany (Cable 1985; Gorton and Schmid 2000; Edwards and Nibler 2000; Lehmann and Weigand 2000). More recent work generally finds no beneficial impact of German banks influence on firms' profitability or growth (Agarwal and Elston 2001; Chirinko and Elston 2006; Dittmann et al. 2010).

A possible reconciliation of these findings might turn on the unique economic environments of Germany and Japan in the decades following World War II. Both countries' firms were devastated by allied bombing, and had decades-long rebuilding to do. Perhaps the reconstruction of a war-damaged economy is uniquely amenable to bank financing. The assets needed and the roles they will play are well understood in advance, as are the likely cash follows they will generate. This view gains credence from work showing that stock markets, not banks, financed the initial industrialisation of both countries in the decades around the turn of the 20th century (Fohlin 2005; Mork and Nakamura 2007). Once reconstruction was complete, their bank-centric financial systems began to seem less advantageous when growth via disruptive innovation must resume.

4.4.2 Professional Managers

Entrepreneur-founders ultimately pass from the scene. If their shares are sold to public shareholders, effective control passes to professional managers, whose talent is responsible for all subsequent positive NPV undertakings. Competition between firms for talented managers would then lift managerial compensation to levels sufficient to leave economic profits equal to zero and shareholders' ex post returns equal to the risk-adjusted returns they demand ex ante. If professional top managers are only one of several contributors of idiosyncratic investments

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critical to the surplus, their bargaining power relative to other contenders – creditors, labor, shareholders, and others – factors into the division of the surplus. Professional managers' bargaining power, derived from competition in the CEO market, can also fade if, over time, their idiosyncratic investments give the firm, and hence the other stakeholders, an increasing degree of monopsony power. What begins as a competitive market for professionals can become a bilateral monopoly if the managers' accumulated skills are firm-specific, and thus worth less elsewhere.[15]

That managers might make such idiosyncratic investments is not implausible; indeed, uniquely talented CEOs might be largely responsible for their firms' positive NPV investments and thus to its ongoing surplus. This view is consistent with Kaplan's (2013) arguments that professional CEOs earn their high pay. Middle managers or administrative assistants, who joined the firm with an ostensibly general skillset and accepted the terms of a generic employment contract, might over time make idiosyncratic investments in human capital. The longer the employee stays with the firm, the stronger such idiosyncratic bilateral ties might become and the more the formerly purely contractual claimant might come to have a claim to the surplus. Indeed, the simple act of ageing may give rise to the potential for expropriating firm-specific human capital. MacDonald and Weisbach (2004) take the case of technological change eroding the value of firm-specific human capital of older employees and creating room for expropriation. Absent safeguards against such a possibility, employees may be less willing to invest in firm-specific skills. One solution, as MacDonald and Weisbach (2004) suggest, is to back-end the compensation schedule for workers – in effect, steepen the salary slope with respect to age. Similarly, Lazear (1995) finds that life-time employment is more common in firms that demand a higher level of idiosyncratic investment in skill.

From public shareholders perspective, executive pay associated with positive NPV generation can be difficult to distinguish from executive pay that is private benefits consumption. A firm's top professional manager, its CEO, has broad scope for running her firm as she likes. She can shirk, hire cronies, undertake pet projects or otherwise divert the firm's cash flows to fund her private benefits. Corporate governance laws and regulations exist to check this scope,

[15] For e.g., see the concept of Fundamental Transformation introduced by Williamson (1984) in the context of large number bidding for the provision of utility services.

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but are thought largely ineffectual in many countries (Doidge et al. 2007). Individual firms can implement legally binding commitments to limit such private benefits, but these commitments are never complete (Jensen and Meckling 1976).

Nonetheless, even where corporate governance laws and regulations have teeth, CEOs have broad power to deny others access to a firm's assets. This situation might be efficient if CEOs invest intensively in firm specific assets critical to generating its surplus (Rajan and Wulf, 2006). Consistent with this, Bertrand and Schoar (2003) link CEO characteristics, including birth cohorts in schools and type of degree earned, to their management styles and find a strong CEO fixed effect on firm policies after controlling for asset characteristics. Similarly, Bennedsen et al. (2007), using the universe of all limited liability firms in Denmark from 1992 through 2003, find a strong link between CEO time spent on the job and firm performance. Both studies attest to idiosyncratic CEO-related effects. If, as a counterfactual argument, CEO skills were a commodity with no firm-specific component, CEO fixed effects would not explain firm policies, which might instead be driven by industry imperatives.

The existence of CEO fixed effects admits the possibility of a bilateral investment between the firm and the CEO. Once this possibility is acknowledged, the CEO is potentially a residual claimant with an important distinction from other residual claimants, such as outside shareholders. If the CEO makes an idiosyncratic and partly irreversible investment critical to generating a positive NPV, her claim is also to the surplus, and diverges from that of public shareholders.

Section 2 noted that top executive pay in post-LBO firms is highly correlated with firm performance measures (Kaplan and Stromberg 2003, 2009), and suggested that their powerful creditors and private equity investors enforce such compensation contracts. The discussion in this section offers a second interpretation of these findings: the top executives running post-LBO firms might be selected for unique talent. Because these firms are unlisted, their performance is gauged by earnings and related measures, all of which potentially might include economic profits.

Recall from section 2 that Kaplan and Stromberg (2009) report that top executive compensation in post-leveraged buy-out firms (LBOs) is highly correlated with firm performance, and is thus effectively a residual claim. One interpretation of this contrast is that

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the major shareholders of LBO firms are sophisticated private equity funds who appoint boards capable of holding CEOs to performance-based pay contracts. Similarly, Kaplan and Stromberg (2003) find entrepreneur compensation more strongly linked to equity in VC-backed firms where informational asymmetry is more severe. Making the CEO a residual claimant is then one aspect of the control private equity shareholders impose. A more attenuated effect is reported in listed firms with one or more large institutional blockholders.

At present, the importance of CEOs to generating positive NPVs is largely unknown. CEOs have characteristic sets of corporate strategies that they implement as they move from firm to firm. CEOs often defend their compensation packages with references to the value they have created. CEO pay is (tenuously) linked to increases in shareholder valuations. Whether these valuation increases reflect transfers from other stakeholder to shareholders, fortuitous circumstances CEOs use to extract higher pay, or genuinely positive NPVs is largely unexplored

4.4.3 Employees

A firm's employees can also make idiosyncratic and irreversible investments that contribute to a firm's surplus in the same sense. The various arguments advance in connection with CEOs' contributions to NPV creation can also apply to employees – particularly those with high levels of skill. Additional considerations arise because employees are numerous. Acting as a team, employees and managers can jointly contribute to the firm's NPV (Alchian and Demsetz 1972). The nature of employees' contractual claims is shaped by top managers' efforts to measure the marginal contribution of each employee and to incentivize employees to limit employee shirking, private benefits consumption, risk avoidance, and other forms of behavior paralleling those associated with poor management in Jensen and Meckling's (1976) theory of agency problems. In Alchian and Demsetz, the essence of the firm is team production with inseparable marginal products. A monitor is needed to measure the joint output, who then compensates the team members for their respective input. The monitor assumes the role of a residual claimant, although it is not clear what sort of coordination problems prevent the team members from expropriating the surplus. In Holmstrom (1999), the firm emerges as the "owner" of productive assets, and the firm preferentially allows its workers to use these assets. The ownership of assets prevents the employees from extracting the surplus; likewise, external markets prevent the firm from extracting the surplus from the employees and a stakeholder balance of sorts is maintained with

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the sub-economy of the firm.

Lazear (1979, 1995) argues employees have long-term implicit contracts with their employers. Firms pay junior workers less than their marginal contributions to firm value and senior workers more than their marginal contributions to firm value precisely to motivate junior workers to make such investments. Shleifer and Summers (1989) argue that an overly narrow focus on shareholder value maximization, perhaps due to takeover threats, can lead firms with older work forces to break these implicit contracts. Consistent with implicit contracts, wage-tenure profiles are steeper than productivity-tenure profiles (Abrams and Medoff 1980; Lazear and Moore 1984).

Salop and Salop (1976) argue that these results might also reflect a selection mechanism at work. If prospective employees know their productivity, but firms initially do not, high productivity employees rationally enter long-term implicit contractual arrangements where they are initially underpaid and overpaid later. Low quality employees do not if the initial wage is sufficiently low. Back-loaded implicit contracts thus screen out low productivity workers. This reasoning can also explain why wages rise more steeply than productivity with years worked. Firms underpay junior workers because their marginal contributions are uncertain and then overpay the high-productivity workers they retain. Very strong labor laws that provide recent hires ironclad protection before firms can assess productivity then imply high youth unemployment rates because firms then screen young workers more tightly for signals of productivity before hiring them (Botero et al. 2004; Feldmann 2009).

Evidence that takeovers or takeover threats lead to firms breaking their implicit contracts with employees is limited in general. Pontiff, Shleifer and Weisbach (1990) shows that acquirers withdraw acquired firms' excess contributions to defined benefit pension funds; but these excesses do not belong to employees, so their reversion to the firm is not obviously a breach of contract – implicit or explicit. Leveraged buy-outs (LOBs), debt-financed takeovers ultimately paid for by increasing the target firms' debt after its takeover, presage wage cuts and layoffs at the target . This is consistent with LBOs creating value for their shareholders by abrogating implicit contracts with the target's long-term employees. However, LBO targets might equally well be underleveraged because they are inefficiently managed: their workforces too large because of their top managers' empire building and their leverage too low because their top

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managers wish to avoid intensified monitoring by creditors.

Akerlof (1982) argues that implicit contracts take the form of the firm paying efficiency wage premiums in return for employees working harder, with this equilibrium stabilized by both sides behavior being guided by the principal of reciprocity. Raff and Summers (1987) argue that Henry Ford's practice of paying workers higher salaries than they could earn at his competitors attracted and retained higher caliber workers and elicited higher productivity. Akerlof and Yellen (1990) argue that this logic works to different degrees in different industries, but that fairness norms lead firms with operations in many industries to overpay workers in divisions where efficiency wages are unwarranted. This logic suggests that bust-up takeovers, in which acquirers buy multi-sector firms in order to break them up into many single-industry firms, might lead to wage reductions in some of the resulting focused firms. If so, post-takeover wage reductions need not be due to firms breeching implicit contracts.

4.4.3 Customers and suppliers

The interactions between customers and suppliers become more complicated if firms contribute to other firms' positive net present values. For example, Johnson et al. (2010) note that IPO valuations are higher for firms with prior relationships with large customers, and that customers realize some of the gains as well when their suppliers file prospectuses prior to going public. The two-way gains admit the possibility that neither side is able to fully capture the surplus from the going public decision. These issues were discussed above in connection with business groups, where a common controlling shareholder is thought to provide the coordination necessary to maximize the group member firms' combined surplus.

In countries without business groups, these considerations can lead to vertical mergers, in which firms along a supply chain are integrated into a single firm that can maximize the value of a single surplus. Vertical mergers, where a firm merges with its major supplier or major customer, reflect these considerations in the US (Grossman and Hart, 1986, Williamson, 1984). Market power at any point (or points) along the supply value chain can generate bilateral monopolies and thus a surplus rendered contestable by contractual complexity and opportunism (Williamson, 1979, 1984). The specific form of opportunism here, called *hold-up*, wherein a firm with a surplus due to innovation or other unique investments must transfer that surplus to a monopoly supplier or monopsony buyer.

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Potential solutions short of vertical mergers generally involve trust building mechanisms. For instance, each party can post bonds whose value deteriorates in the event of cheating. Investments in customer and supplier relations go well beyond the niceties demanded by law; and firms invest purposefully in such relations to economize on transaction costs. Economizing on contractual costs can make customers or suppliers *de facto* residual claimants. Williamson (1983) has one or both contracting parties post a bond, which goes to the non-defaulting party if either defaults. Dixit (2006) models facilitating bilateral exchanges. Repeated transactions incentivize firms to build up reputational capital – histories of honoring contractual commitments that reduce its perceived risk to its stakeholders (e.g. Klein and Leffler 1981; Telser 1980). Large sophisticated customers, like creditors, can provide monitoring services of value to shareholders or other stakeholders. Firms producing or buying more idiosyncratic goods – that is, whose value is lower if sold to any alternative customer – are thus uniquely vulnerable to each other defaulting. Firms more dependent on idiosyncratic goods thus have lower leverage (Johnson, Kang and Li 2010), creditors (Titman 1984; Titman and Wessels 1988)

4.4.5 Corporate Social Responsibility and the Community as Stakeholder

Milton Friedman famously criticized corporate social responsibility (CSR), corporate spending to finance NGOs, charities, community development projects and the like, as merely another example of top corporate insiders using shareholders money for their own purposes – in this case, to finance their preferred social agendas.[16] Notwithstanding Friedman's critique of CSR, interest in the role of corporations going beyond profits to help the local (and sometimes the global) community remains strong, both in academia as well as in the popular press.

This continuing interest may reflect equality considerations: higher CSR forces typically wealthy shareholders to contribute more to the public good. However, pension funds are major shareholders in many countries, and their beneficiaries – typically retired blue collar workers or civil servants – are not obviously improperly wealthy. Also, as noted above, CSR funding recipients' goals need not align with broad social welfare. Advocacy groups and NGOs that best vie for higher CSR funding might merely be the best organized special interest groups.

[16] The Social Responsibility of Business is to Increase its Profits, by Milton Friedman. New York Times Magazine, September 13, 1970.

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Firms that spend more on CSR have higher shareholder valuations, but this could reflect either CSR boosting shareholder wealth by reducing its contracting costs or successful (either lucky or skillfully-run) firms having more resource to spend on CSR. One approach to resolving this question is to investigate whether higher CSR correlates with lower long-term contracting. In one such study, Lins et al (2016) find that firms with more past CSR spending experience less adverse changes in debt yields during macroeconomic downturns. This finding is consistent with past CSR spending signaling less focus on maximizing shareholder value and therefore a lesser likelihood that top managers might "bet the shop" in Figure 1. This investment in social capital thus resembles an insurance contract: the insurance policy payments are the firm's repeated high CSR spending to signal credibly that top management values all stakeholders and the firm's insurance payoff is cheaper debt financing from creditors during downturns. Other stakeholders might chip in: employees might accept wage cuts and communities might cut taxes or fees during downturns. If the net present value of this social insurance policy is sufficiently large and positive, even the shareholders might rationally increase their valuation of such a firm.

5. Stock Market Inefficiency

Risk shifting and bargaining over a firm's surplus value are each the focus of a large literature specifically pertaining to stakeholder influence in corporate governance. Recent research into stock market efficiency also has implications for this debate.

Recent work (Shiller 2015) finds behavioral factors key to explaining stock market fluctuations. This renews John Maynard Keynes' (1936) argument that share prices rise and fall with "animal spirits", forces of mass psychology that arise "not presumably out of cold calculation," but rather " depend on the nerves and hysteria and even the digestions" of key actors. Behavioral finance findings thus lead Stout (2012) to declare shareholder value maximization "the dumbest idea in the world" and Martin (2011) to argue that a duty to maximize shareholder valuations leaves firms being run to optimize shareholders' expectations rather than economic efficiency. These arguments must be taken seriously.

Samuelson (1998) concludes that most convincing evidence supporting Keynes thesis – stock market manias, panics and crashes (Kindleberger 1977), excess volatility tests (Shiller

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1981; Campbell and Shiller 1988), closed-end fund discount comovement (Chopra et al. 1993), and the like – generally pertain to market indexes; while the most convincing evidence that stock prices reflect "cold calculation" – event studies, studies examining firm-level financial data, etc. – typically pertain to individual stocks. Indeed, individual stocks exhibit far less excess volatility than do market indexes (Vuolteenaho 2002; Jung and Shiller 2006; Choen et al. 2009). Holmstrom (1979) suggests that CEO pay be tied to share price movements net of industry and market-wide fluctuations to remove volatility the CEO cannot control. Samuelson's dictum provides a second justification for this – these movements appear less driven by behavioral factors. Of course, all of the other problems detailed above remain.

6. Implications and Conclusions

The legal systems of most countries do not assign directors and officers a legal duty to maximize shareholder value, or even firm value (Stout 2013). Officers' and directors' traditional duty at Common Law is to put the interests of the corporation before their own. Maximizing shareholder value is one possibility; others might include maximizing its total value to shareholders and some or all contractual claimants, maximizing its life expectancy or maximizing its size. The law is largely silent as to what does or does not advance the interests of an artificial legal person such as a corporation.

Public policy would ideally advance social welfare, but social welfare is mathematically undefinable (Arrow 1950). In practice, competing interest groups coalesce to lobby politicians for policies that advance the special interests of class members.

Classes with fewer members, and whose members each command more resources, coalesce more readily (Olson, 1965). This is because such classes can better fund lobbyists and discipline free-riding by their members. Thus, banks coalesce into a strong lobbying group in countries whose banking systems consist of a few large banks. CEOs of major corporations also coalesce into an organized interest group because they number at most a few hundred.

In contrast, classes with many members fail to coalesce because their individual members each rationally opt to free-ride: they do not contribute to funding lobbyists because each knows her contributions is too small to matter and relies on others to fund the lobbying effort. Diffuse

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classes can coalesce if contributions can be made compulsory. Thus, mandatory labor union membership can create powerful lobbying organizations, potentially representing the interests of millions of workers. Ideologies can also unite members of a diffuse class. Examples include environmental activists and religion-based proponents of corporate social responsibility.

Public policy developments regarding the extent to which corporations ought to be run in the interests of their various stakeholders are well described by this. High profile policy options tend to reflect the interests of stakeholder classes with fewer members, each of which is more powerful or whose members share a powerful ideology.

Stakeholder theory, the view that firms should be run in the interests of all their stakeholders, is attracting growing prominence at business roundtables and in some academic circles. In mathematics, any optimization with multiple objectives must specify how each is measured and traded off against all the others Arrow 1950). Without this, the problem is ill defined and has no solution. Yet this is precisely what stakeholder theory mandates, and Barry (2002) persuasively explains how efforts to rid stakeholder preferences of logical inconsistencies merely aggravate the problem. Thus, Jensen (2002) concludes that stakeholder theory essentially lets top managers design their own objective functions and run their firms in their own interests.[17] Presented with a multitude of objectives, the decision-maker ends up focusing on none. Thus, with no way to keep score, stakeholder theory leaves top corporate managers unaccountable for their actions. Expanding the corporate objective function to include non-equity stakeholders has the side effect of magnifying top mangers' scope for opportunism. Stakeholder theory's wide support among CEOs and directors is thus understandable.

The influence of other stakeholders also accords with this logic. Self-interested officers and directors, charged with acting for all stakeholders, are likely to prioritize the stakeholders most likely to sue them, condemn them in the media, or otherwise embarrass them. Environmental lobby groups are capable on all of these counts, so the prominence of environmental commitments amid firms' corporate social responsibility policies is unsurprising. German Codetermination (labor representation on supervisory boards) arose in its modern form

[17] Jensen (2002) counters stakeholder theory by advocating *enlightened value maximization*: the firm's objective function should be the maximization of shareholder valuations subject to safeguarding its reputational capital in the eyes of all stakeholders.

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in the mid-20th century, when nearly 40% of German workers belonged to labor unions (Fitzenberger et al. 2011). Labor influence in corporate governance in many countries dates to that Roman Catholic Church's early 20th century social doctrine advocating Corporatism – the tripartite direction of industries by associations representing firm owners, workers, and government officials (Morck and Yeung 2011).

The growth of institutional investors as major shareholders has altered this calculus for shareholders. Jensen and Meckling (1976) model shareholders as too numerous and individually insignificant to act as a class, and thus as passively reacting to the decisions of corporate insiders, courts, and government regulators. This reflected corporate ownership for large US firms at the time (Morck et al. 1988). The rise of institutional investors – pension funds, private equity funds, hedge funds, and the like – is changing this, transforming shareholders into a class with fewer and larger members (see, among others, Gompers and Metrick 2001). The channels via which institutions influence the firm's behavior are many, ranging from proxy contests and hostile takeovers to bipartite behind-the-scenes "jaw boning". For instance, Carleton, Nelson and Weisbach (1998) examine actual letters sent by TIAA-CREF to target firms and that most proposals in such letters are adopted by managers despite little publicity about them, interestingly, firms with controlling shareholders are less likely than dispersedly-held firms to adopt the proposals in these letters.

Shleifer and Summers (1988) point out that hostile takeovers represent attempts by shareholders (or their agents) to expropriate wealth from other stakeholders, such as long-term employees. Pontiff, Shleifer and Weisbach (1990) investigate this possibility by examining pension assets in target firms following hostile takeovers. They find that reversions of pension assets increase two-fold following takeovers, and that these are twice as common for hostile takeovers vis-à-vis friendly mergers. In the end, Pontiff et al peg the stakeholder wealth loss as being able to explain about 11% of target premiums where pension reversions are known to occur, although unconditionally, the wealth loss is almost certainly lower.

The rise in the influence of institutions occurred earlier in the United Kingdom than elsewhere, and perhaps explains that country's courts and governments largely restricting officers' and directors' fiduciary duty to shareholders (Stout 2013). A similar transformation is occurring in Canada (Doidge et al. 2015). In contrast, institutional investors, except for banks

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(whose primary interests are as creditors), remain minor players in Germany and Japan. We also note that institutional investors increasingly invest overseas, and those based in one country can advocate for shareholder value maximization across borders (Ferreira and Matos 2008; Aggarwal et al. 2011).

These developments weigh against stakeholder theory becoming increasingly dominant, but do not necessarily portend more efficient resource allocation. Institutional investors may be driven by Keynes' animal spirits (Aren et al. 2016), and stakeholder interest groups are unlikely to give ground without a fight.

Jensen (2002) argues that, despite these difficulties with stakeholder theory, firm value maximization (or shareholder wealth maximization) is best achieved in practice by catering to all stakeholders – an approach he calls *Enlightened Value Maximization*. This view defends stakeholder interests a means to the end goal of shareholder wealth maximization. This argument has flaws: it fails to resolve the many situations of clear conflict between the interests of shareholders and or different stakeholders; it fails to apportion any surplus the firm might create; it fails if financial markets are inefficient; and it fails to value externalities the firm might inflict on more distant stakeholders, such as the environment.

Nonetheless, enlightened value maximization, or something akin to it, might well be the least bad alternative on offer. In contrast to stakeholder theory, the approach has a single roughly measurable objective, firm value, while explicitly recognizing that good relations with stakeholders can boost firm value by easing contracting costs and facilitating surplus creation.

Stout (2013) correctly notes that Common Law mandates that firms be run to maximize neither shareholder value nor firm value, but the ill-defined concept of the "interests of the corporation." The view that firms must be run to maximize their value (or their shareholder value) is a myth perpetuated by finance and economics academics to the considerable distress of lawyers. Nonetheless, courts, legislators, and regulators groping for a practicable definition of the "interests of the corporation" may be moving towards Jensen's view. Arguments that firms be run to defend stakeholders subject to not harming shareholders point in this direction (Green, 1993 and Bainbridge, 1993). Jurisdictions that have committed to firms being run to balance the interests of all stakeholders likewise cannot indefinitely defer explaining what this means. Here to, Jensen's enlightened value maximization might provide a politically defensible resolution.

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In practice, the difference between shareholder value maximization and stakeholder theory may matter less in practice than in theory. Common Law courts everywhere uphold the Business Judgement Rule, which bars courts from second guessing decisions made in the normal course of running a business. In practice, this provides ample cover for top managers to advance their own interests and to favor other stakeholders over shareholders by holding their decisions to a "reasonable man" standard. If a reasonable man might have done the same in their place, the officers and directors may not be second guessed.

The distinction of residual from contractual claimants is also far more precise in theory than in practice. Baums and Scott (1993) dispute the view that shareholders are uniquely vulnerable, while other stakeholders are protected by contracts. Green (1993) elaborates: "*Can it really be said that employees (or local communities or dependent suppliers) are really better able to "negotiate" the terms of their relationship to the corporation than are shareholders*?" Employees can be laid off and their salaries can be cut within the terms of standard employment contracts. Relatively unorganized customers or suppliers can be presented with take-it-or-leave-it contracts containing escape clauses that essentially render them residual claimants. Such considerations, combined with the arguments in section 3 that idiosyncratic irreversible investments can bind employees and other stakeholders to a firm, substantially eroding their bargaining power *vis à vis* the firm.

These considerations combine coalesce into a policy trade-off. Too narrow a focus on shareholder value discourages stakeholders from making the idiosyncratic irreversible investments that contribute to positive net present values. Too little protection for shareholders raises the firm's cost of equity, curtailing its set of financially viable investment options. Either way, the real cost to society is the investments not undertaken because neglected stakeholders shy away from specialized investments or because neglected shareholders shy demand higher returns for higher risk.

Finally, business ethics concerns are also unavoidable. Obeying the letter of the law regarding the rights of stakeholders can pit shareholder value maximization against social welfare. Where externalities are important, a narrow focus on shareholder value can create scope for top managers making morally dubious decisions. For example, maximizing shareholder value ex ante might justify cutting costs and entertaining acceptably small risks of environmental

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disasters. Even if such a disaster triggers legal actions that bankrupt the perpetrating firm, its shareholders are protected by limited liability and so lose only the value of their shares. Such disasters might be discouraged by exposing officers and directors to personal liability should they occur, but this only works if managers put their self-interest ahead of shareholder value.

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Figure 1. Divergence of interests between a generic contractual claimant and a generic non-contractual (residual) claimant

The value of a stakeholder's contractual claim, C, is fixed at C^* if the value of the firm's assets is V_H, which is far above C^*, contract law requires the firm to pay the contractual claimant C^* and the value of the residual claim, normally that of shareholders, R_H, is whatever is left, which is $V_H - C^*$. If the firm's assets are worth V_L, which is less than C^*, the firm is in default and is required by bankruptcy law to pay the contractual claimant whatever it can, which is everything it owns, so $C_L = V_L$, and the residual claimant gets nothing, that is $R_L = 0$. If the firm's assets are worth V_M, which is only marginally above C^*, and is run to maximize expected shareholder wealth, it undertakes high-risk projects with small probabilities of success because shareholders gain if the bet pays off, and the value of the residual claim rises to V_H, but pay little cost of the risk turns out poorly because their residual claim's value falls only from $V_L - C^*$, barely above 0, to 0. If the firm is run to maximize contractual claim value, the firm avoids even very high return projects if they have even the slighted probability of reducing the firm's value from V_L to something even slightly below C^*.

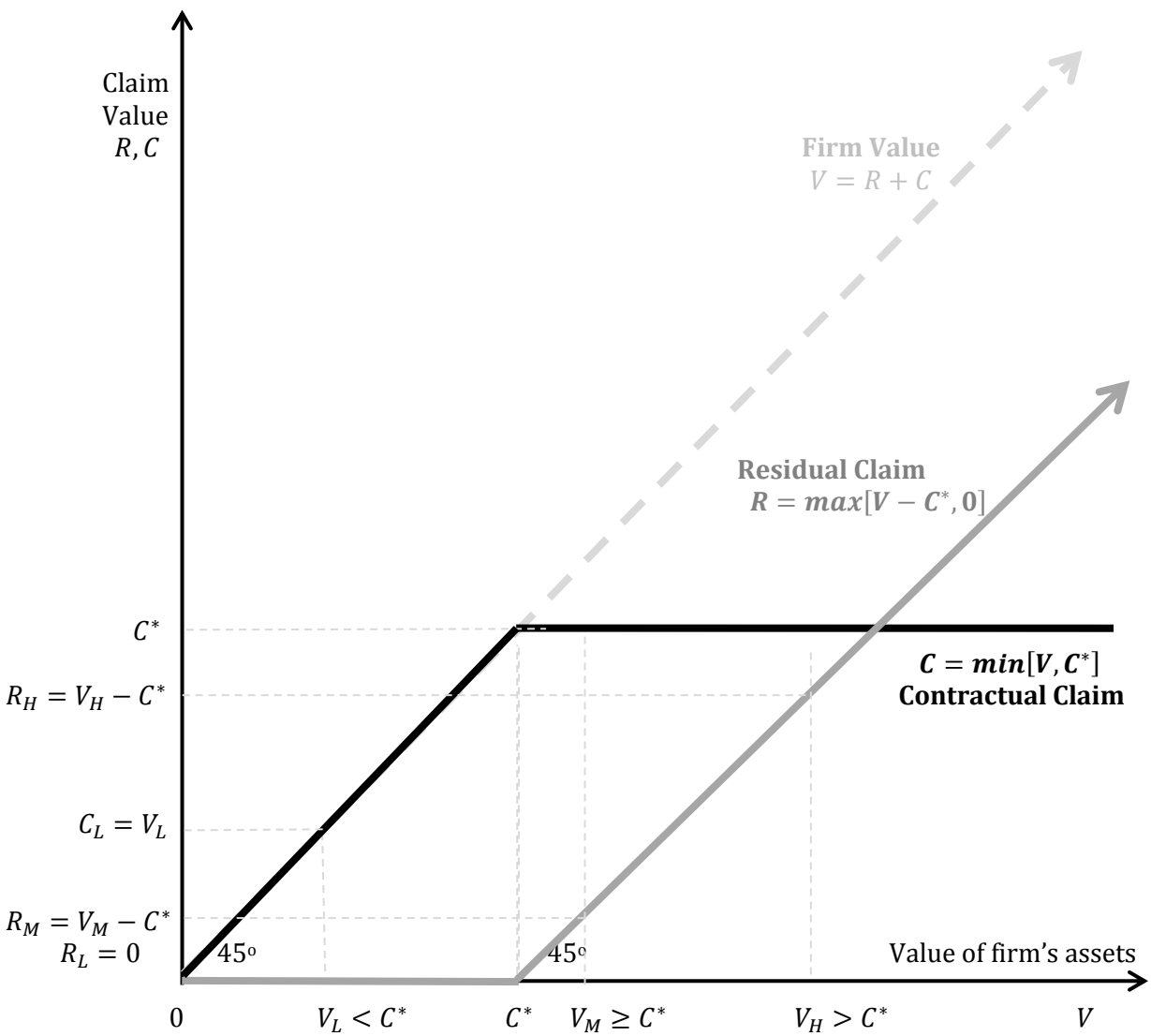

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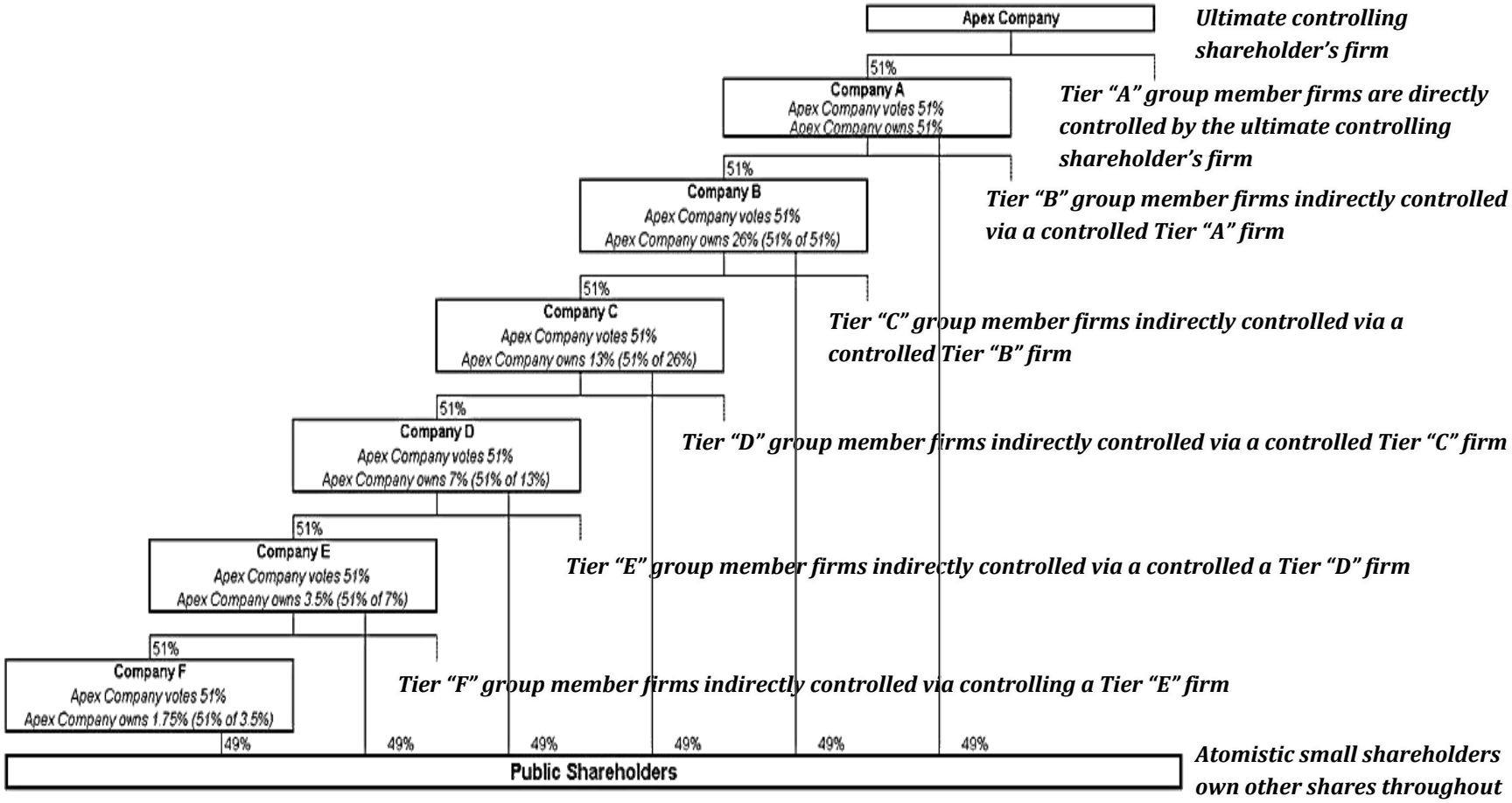
Figure 2. A stylized business group

The apex firm controls listed Tier "A" by owning a dominant voting block in each. Each of these likewise controls one or more Tier "B"" firms, each of which controls one or more Tier "C" firms, and so on. The pyramidal structure can be extended to contain as many tiers of firms as desired. Such business groups let a modestly wealthy ultimate controlling shareholder control a large constellation of seemingly separate firms worth vastly more by dint of controlling the apex firm, which controls all the others.



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