A CAPITAL-STRUCTURE THEORY OF FIRM BOUNDARIES

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Abstract

Many capital structure decisions, including both financial and governance features, must be made firm-wide: for example, the issuance of debt or of equity, the adoption of takeover defenses and the composition of the board of directors. Yet, the determinants of optimal capital structure are often asset-specific. The resulting tension is significant in the choice of firm boundaries. If two groups of assets have divergent capital structure demands – in that the optimal design of financial and governance rights related to each group is different – then either the assets are put in separate firms that tailor capital structure to their respective asset groups or they are combined in a single firm with a blended capital structure. We suggest that integration in this respect sacrifices efficiency in some cases, but not in others. Given the existence of countervailing advantages from integration, we expect that such combinations are more likely between asset groups that benefit least from capital structure tailoring. Thus, our theory contributes to predicting when combinations (e.g. mergers or acquisitions) or divestitures (e.g., spin-offs, carve-outs or securitizations) are more likely to occur.

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Introduction

Theories of the firm may be divided into two categories of scholarship. The first explains the locus of control over and of residual claims in assets. Organizational boundaries are of no significance in this category unless the distinct organizations are controlled by different parties. The second category focuses on the legal significance of boundaries of corporations and other organizations. For example, Hansmann and Kraakman propose that projects might be pursued in two distinct organizations to exploit monitoring specialization efficiencies of creditors lending against the respective projects. This paper falls into the second category and presents a capital-structure theory explaining why assets are sometimes grouped in a single entity and at other times partitioned into separate entities. By “capital structure”, we encompass both the financial and governance features of financial contracts. Under this theory, assets are partitioned into distinct organizations to realize efficiency gains from tailoring the features of these contracts to each partitioned asset group. Conversely, assets are grouped in a single entity when the tailoring benefits are outweighed by informational economies that derive from unitary, or firm-wide, financing: namely, a third party can be sure that financial claims and governance features do not vary among subsets of assets within a single firm. The discussion in this paper focuses on corporations, but can be extended to other forms of organization, including partnerships and trusts.

The foundational legal principle in our analysis is that only legal persons may own property. Legal persons may vindicate their ownership rights in court, and they may be defendants against whose property creditors may enforce their claims. Accordingly, only a legal person has the capacity to contract – that is, to make a legally enforceable pledge of its assets to the performance of its promise. Although more than one person may own property jointly, our analysis rests on an important legal constraint that a subdivision of a person may not. Specifically, a corporation is a legal person that may own property, but a division or branch of the corporation may not. The corporation’s division has no standing to bring action in court and cannot be sued. The division lacks capacity to enter into a legally enforceable contract because it cannot commit its property to the performance of its obligations. Although the corporation itself might enter into a contract that attempts to limit its exposure to only a subset of its assets, we show that such segmentation is difficult to achieve under current law.

These basic legal principles of civil procedure, property, contract, and corporate law impose very significant constraints on the design of capital structure. In this paper,
we review these constraints on debt and equity financing, and we trace the implications for the decision whether to partition assets between distinct corporations. Unsecured debt, for example, is a personal obligation incurred on a firm-wide basis. If a corporate division purchases inventory on credit, judicial enforcement of that obligation can reach any of the assets of the corporation and, in particular, it is not limited to the inventory. Secured debt entails not only a claim against the collateral assets, but also a personal right to collect the deficiency as an unsecured claim against any of the assets of the firm. Indeed, the secured creditor may move directly against these assets, without first enforcing its security interest against the collateral. Non-recourse secured financing does cut off the creditor’s personal claim against the debtor and thereby against non-collateral assets. However, any surplus from the collateral asset is available to other creditors of the corporation, and there are substantial legal impediments to making debt non-recourse: courts sometimes disregard the provision for no-recourse and bankruptcy reorganization law treats non-recourse debt as recourse unless the secured creditor elects otherwise.3

Similarly, with respect to equity financing, a corporation may issue common shares only on a firm-wide basis. A common shareholder is entitled to participate at dissolution in the residue of all firm assets after fixed obligations have been satisfied. Corporations may not issue classes of common stock whose rights on dissolution are limited to the assets of a particular division of the firm. Moreover, in significant respects, the governance rights of shareholders are firm-wide: they are regulated by a single state of incorporation and the voting shareholders elect a single board of directors. Although corporate by-laws may provide for division-by-division governance, the ultimate locus of control and fiduciary responsibility must rest, as a matter of corporate law, in a single firm-wide board. Hostile takeovers, a disciplinary force on management, impact the entire firm and, accordingly, takeover defenses also cannot be adopted on an asset-by-asset basis.

These capital structure constraints are mostly mandatory, in the sense that they cannot be altered or modified within a single corporation. We illustrate the constraint on intra-firm financing and governance flexibility by reviewing the challenges and experience of tracking stock. To match groups of assets with different financing and governance features, an entrepreneur cannot rely on tracking stock but must instead partition the groups into distinct corporations. There are justifications for this restriction. Modern scholars often conceive of a corporate entity as a nexus of contracts – not just a set of contracts, but a nexus. The nexus corresponds to the legal personhood of the firm and it reflects the interrelationship of the firm’s contracts: the terms of any one contract
impact the relationship between the firm and its other constituencies. To give a simple example, when a firm contracts to borrow new funds from a lender, all trade creditors are affected by the addition of another claim against the assets of the firm. Accordingly, before a party makes a substantial investment in a firm, it frequently investigates the other contractual obligations of that firm. In addition, it may demand commitments as to future contracting behavior, such as a limit on future borrowing. The greater the uniformity in the firm’s contracts and the fewer the variables that the firm can alter, the lower the investigation and contracting costs. At the same time, if the value of flexibility in matching asset groups to capital structure outweighs this informational benefit of uniformity, tailoring can be achieved at relatively low cost through the creation of multiple legal entities.

Theories of optimal capital structure often condition their prescriptions on the nature of the assets being covered. For instance, assets that are difficult to value and monitor are more likely than transparent assets to be held in firms that have private rather than public debt, and concentrated equity ownership. Assets whose value is volatile are less likely than low-risk assets to be financed with debt or concentrated equity. The practical consequence of the legal restrictions on asset-specific financing is that entrepreneurs and managers seeking to tailor financial and governance rights to asset types must do so outside corporate boundaries by partitioning assets among multiple firms and organizations. If a single firm combines asset groups that have markedly divergent capital structure “demands” in this respect, the integrated firm adopts a blended capital structure different from what the corresponding segregated firms would choose. Sometimes, the blended structure compromises efficiency and this loss may deter integration. Our focus on similarities and differences in capital-structure demands and the capital structure consequences of integration, is a novel approach to explaining conglomeratization (such as mergers and acquisitions) and divestitures (such as spin-offs, carve-outs and securitization).  

Our paper proceeds as follows. Part I elaborates the legal constraints that require firm-wide choices among financial and governance features of capital structure. Part II reviews the various ways in which optimal capital structure is asset-specific, in that it depends on the nature of the assets being covered. We thereby identify the source of a potential cost of the firm-wide constraints. Part III identifies the informational economies of firm-wide capital structure under existing law. It also contrasts and reconciles the focus of economic scholarship on the boundaries of control with our analysis of the legal boundaries of the firm. Part IV then illuminates the tradeoff
between the benefits and costs of combining assets within the legal boundaries of a single firm. We demonstrate how the capital structure theory may predict combinations (such as mergers and acquisitions) and divestitures (such as spin-offs, carve-outs and securitizations). The paper concludes by summarizing the predictions yielded by our theory and outlining an agenda for empirical testing.

I. Firm-wide features of capital structure

A. Corporate legal personality

A corporation is a legal person. Some corporate statutes are explicit in granting personhood to corporations. Ontario’s Business Corporations Act, for example, provides that a corporation has all the powers of a natural person. Other statutes, such as Delaware’s corporate code, grant to the corporation a range of powers that effectively confer personhood status on it. A Delaware corporation, for example, can sue and be sued, it can own property, it can promote or incorporate another corporation, and it can enter into legally enforceable contracts. A corporation has standing to vindicate its ownership rights in court: for example, by obtaining injunctive relief against a trespasser. The corporation can be sued and judgments can be enforced against its assets. Given that the corporation has standing to enforce its rights and that it can be sued on its obligations, a corporation has the capacity to enter into enforceable contracts.

An important but much less noted legal feature is that a corporation is an indivisible legal person. The rights of a legal person attach to the corporation as a whole: the entire corporation has ownership rights in its property and it appears in court as a single party. A division of the corporation, in contrast, does not have legal personality. A division cannot sue or be sued, cannot own property, and cannot contract. Moreover, although a corporation enjoys the capacity to contract that the division lacks, the corporation faces significant obstacles if it attempts to limit its obligation or liability under a contract to a subset of its assets. The foregoing basic legal rules provide the foundation for the constraints discussed below on the design of debt and equity financing and cause these capital structure features to be firm-wide.

B. Debt financing
Debt is a personal obligation that is enforceable only against a legal person, because it can be sued. When judgment is issued against such a defendant/debtor, the plaintiff/creditor may recover through the judicial seizure and sale of any of the debtor’s assets. Two features are important to note for our purposes: (1) assets of entities legally distinct from the defendant debtor are beyond the reach of a firm’s creditors, and (2) all assets of the defendant debtor are susceptible to removal from the defendant. Thus, a firm’s boundaries define the set of assets that are subject to the personal obligation of the firm to pay its debts.

The first feature is the cornerstone of the Hansmann/Kraakman explanation of organizational law: a creditor of firm A cannot recover from the assets of firm B and, reciprocally, the creditor does not risk having firm B’s creditors removing assets from firm A. In our analysis, the second feature is also very significant and the two features are important complements. Business organizations incur debt on a firm-by-firm basis and commit all their assets to the satisfaction of their respective debts. In this section, we review the legal rules that align debt obligations with firm boundaries.

(1) Financial features.

Assets outside organizational boundaries are generally beyond the reach of the firm's creditors. Parties who have contracts with a firm or who have lent money are usually not liable to the firm’s other creditors. The doctrine of limited liability protects firm owners, whether they are individuals or other firms. Thus, a parent is generally not liable for the debts of its subsidiary; nor is one subsidiary liable for the debts of another subsidiary, even if they are subject to common control. If, however, the formalities of the legal boundaries are not observed, a firm’s creditors might reach assets of affiliates or of a dominant lender, particularly if the firm is undercapitalized. This right comes in various doctrinal forms, such as alter ego, agency, piercing the corporate veil, or enterprise liability. In bankruptcy, a court may substantively consolidate related debtor corporations. As long as the formalities of distinct legal entities are observed, however, these doctrines are rarely invoked successfully.

There are other limited exceptions to the general rule that bars creditors from reaching assets outside its debtor’s boundaries, particularly if the debtor had ownership of those assets and transferred them to a third party. First, the creditor may assert that the debtor’s transfer was in fact a secured transaction rather than a true sale. The transferee is treated as if it held a security interest in the asset, rather than ownership. Therefore, the
debtor still holds an interest in the asset (the right to redeem), to which its other creditors may assert a claim. This is particularly significant in bankruptcy, where the stay prevents collateral from being removed from the estate and permits the assets to be used by the estate for the benefit of unsecured creditors. Second, under fraudulent transfer laws, creditors may challenge a sale for less than fair consideration if the debtor is insolvent or undercapitalized at the time of the sale. Creditors may also recover assets that were transferred by the debtor with the intent to hinder, delay or defraud the transferor's creditors. Non-arms length transfers, such as between affiliated entities, are particularly suspect in this regard.

The second important feature of debt obligations is that all assets within firm boundaries are susceptible to removal by creditor enforcement. Setting aside security interests for the moment, the legal enforcement of a debt claim begins with a lawsuit filed against the debtor. The plaintiff creditor brings an action against one or more persons, and not parts of persons, such as a division of a corporation. Moreover, a defendant cannot move to substitute a division for the entire organization, even if that division is the sole beneficiary of the alleged debt. Once judgment is obtained against a defendant debtor, all of the debtor firm’s assets are available to satisfy the judgment. Three basic mechanisms exist to enforce judgment against property of the defendant: (i) judgment liens registered against real property, (ii) execution liens against personal property, and (iii) garnishment orders against receivables owed by third parties to the defendant. A judgment creditor may not recover more than its debt (plus applicable interest and collection costs), but any of the defendant’s assets may be seized and sold to pay this amount. Similarly, in the case of a corporate debtor, any receivables may be garnished. The creditor and the judicial officer (such as a sheriff) have discretion in choosing which assets to pursue. Typically, they do so in such as way as to satisfy as much of the judgment amount at the least collection cost. In this collection process, the presence or absence of any other connection between the judgment debt and the levied or garnished asset is not relevant. Thus, if a supplier delivers goods on credit and subsequently sues to recover the outstanding balance, its judgment may be enforced against completely different sets of goods and against receivables from the debtor’s sale of completely different goods. Moreover, setting aside security interests for the moment, a provision in the debt contract that purports to dedicate, or conversely insulate, any set of assets is not binding on the sheriff, as the enforcement agent.

A judgment debtor may file for bankruptcy, and at that time bankruptcy rules replace the state law collection process. Bankruptcy law adheres to the firm-wide
character of debt. Bankruptcy law permits the filing of a petition against or by a debtor, who must be a person. 20 “Person” includes a corporation or partnership, but not a division thereof.21 Once bankruptcy is initiated, “all legal or equitable interests of the debtor in property” are transferred to the bankruptcy estate and controlled by the bankruptcy trustee.22 The bankruptcy trustee can supplement this property with assets outside firm boundaries that it reaches with its various avoidance powers.23 The bankruptcy trustee represents all holders of unsecured claims.24 In liquidation (Chapter 7), the trustee sells the assets of the estate and distributes the proceeds to the creditors who have claims against the debtor. 25 In reorganization (Chapter 11), the debtor usually files a plan of reorganization and creditors with claims against the debtor usually must accept the plan for it to be confirmed.26

The presence of secured debt does not alter the fact that debt is a firm-wide obligation. Although a security interest gives the creditor priority over collateral assets, a secured party has the right to enforce the debtor’s personal obligation and need not realize its security first.27 If it does enforce against the collateral, it is entitled to collect the deficiency from the other assets of the debtor.28 The deficiency entitlement of the secured creditor, however, is a default provision that can be waived and altered by the parties. Specifically, the parties may agree to non-recourse debt, which is explicitly a claim against specific assets without personal obligation of the debtor.29

A non-recourse secured claim is asset-based. However, other investors in the firm are likely to have personal recourse against the debtor and therefore can participate in any surplus remaining after the secured creditor is paid. Thus, even pure non-recourse debt has firm-wide consequences because it affects the recovery of the firm’s other creditors. Moreover, non-recourse lenders sometimes ultimately do have personal recourse against other assets of the debtor. In practice, non-recourse lending agreements increasingly provide for contingencies that trigger full recourse.30 There are also significant legal obstacles to insulating non-collateral assets by non-recourse. Notwithstanding a non-recourse provision, a borrower may be personally liable for the debt if it has acted fraudulently or, under the doctrine of waste, if it has not acted prudently in managing the collateral assets.31

If a debtor petitions to reorganize under Chapter 11 of the Bankruptcy Code, a non-recourse lender has the option of being treated as if it had personal recourse against the debtor.32 The justification is that the court must assess the secured claim of the lender based on its valuation of the collateral. The non-recourse creditor bears a
substantial risk that the court may undervalue the collateral and thereby deprive the creditor of value it would enjoy outside bankruptcy. A recourse secured creditor, in contrast, can recover part of that shortfall in its deficiency claim against the debtor’s estate. So, Bankruptcy Code section 1111(2) offers a deficiency claim to even the non-recourse secured creditor to protect it in part from the risk of judicial undervaluation of the collateral. This provision has important implications in the reorganization process. The non-recourse creditor may vote on the reorganization plan as an unsecured creditor and is guaranteed a reorganization dividend equal to what it would have received on its deficiency claim in a Chapter 7 liquidation.

Although creditors have a claim on all of their debtor’s property, their priority may be either firm-wide, under an agreement by X to subordinate its claim to Y, or asset-specific, where Y has a security interest in defined property of the debtor. We noted above that security interests do not limit the debtor’s exposure to the collateral assets, unless the debt is explicitly non-recourse. Yet, it is important to note that the legal scheme of priority is more asset- than firm-oriented. A security interest is a property right to a discrete set of assets in addition to a personal right against the debtor. Article 9 speaks expressly of security interests against property. The statute requires that this collateral must be identified in the security agreement and in the financing statement, in order for the security interest to be enforceable against the debtor and third parties. The drafters indicated expressly that a security agreement is unenforceable if it describes the collateral simply as “all property of the debtor”. Nevertheless, by including adequately specific description in the security agreement, the parties can grant the creditor blanket priority over all the debtor’s property, both current and after-acquired assets. The feature of Article 9 that enables such broad coverage is that priority is typically achieved by filing a financing statement with respect to multiple asset groups and that the filing is against the debtor’s name rather than against the property serving as collateral. In contrast, priority in real property is effected by filing against the collateral rather than the debtor, and interested third parties who wish to lend to the debtor must search each plot of land separately. Moreover, secured lenders cannot enjoy the same priority in after-acquired real property as they can in personal property because under state law their priority can arise no earlier than the time at which their debtor acquired the collateral property. Thus, the asset-based conception of debt priority is more zealously protected in the law of mortgages than the law of personal property security.

Bankruptcy law undermines the asset-specific dimension of creditor priority. Once a firm enters bankruptcy, the automatic stay prevents secured creditors from
removing their collateral in order to preserve the going concern value of the debtor.\textsuperscript{36} The Bankruptcy Code purports to require the debtor to adequately compensate a secured creditor for the delay in realizing on its security interest and for any harm to its interest that might result from the debtor’s use of the collateral during bankruptcy.\textsuperscript{37} Yet, bankruptcy commentators uniformly observe that in practice adequate protection is more of a legal fiction than fact, leading to a significant compromise in the value of secured creditor priority in bankruptcy.\textsuperscript{38} Subordinate creditors often participate in the value of the collateral even if the secured creditor is ultimately not paid in full. Bankruptcy thus raises the likelihood that a secured creditor will pursue its personal claim against the debtor, rather than simply against the collateral assets. In sum, although the priority afforded by security interests is asset-specific in legal doctrine, it yields in many respects to the overall focus of debt financing on the debtor as an indivisible person.\textsuperscript{39}

(2) Governance features.

We have demonstrated that the decision to incur debt is made at a firm-wide level and each creditor can reach all firm assets. One division of a firm cannot borrow without also committing all the other assets of the firm. For this reason, various other borrowing terms have firm-wide impact. Consider the covenants and events of default in a loan agreement. Some covenants impose firm-wide obligations: for example, to maintain a specified ratio of assets-to-liabilities or to comply with a negative pledge clause. Other covenants are asset specific: for example, the debtor’s promise to maintain and insure key machinery. Even asset-specific promises have firm-wide consequences, however, because their violation triggers the creditor's right to accelerate maturity and thereafter pursue all assets of the firm. That is, all the assets are pledged to bond even a promise to be performed by a single division of the borrower. Cross-default clauses raise the stakes even higher by magnifying the consequence to the firm: a single division's violation of a covenant can cause a chain of defaults that leads to the acceleration and enforcement of numerous creditor claims against the assets of the entire firm.

In sum, a corporation chooses its leverage, its composition of creditors, the terms of its debt across all assets of the firm. In Part II, we consider the fact that the \textit{optimal} choice in these terms is fairly industry-specific or asset-specific. If more than one industry is represented in the operations of the firm, then the decision must blend the debt-structure demands of the disparate industries. The blended structure is likely to be different from the tailored structures that could be achieved by segregating asset types in distinct firms. In some cases, the blended capital structure has no adverse efficiency
consequences; in other cases, however, we identify the prospect of efficiency losses that may lead decision makers to place different types of assets in discrete legal entities.40

C. Equity Financing

As a legal person, a corporation commits all its assets to support its contractual commitments. We have noted that a corporation faces obstacles in trying to limit its exposure in a debt contract to a subset of assets, or division. The corresponding challenge of limiting equity interests to the property of one division is at least as difficult. In this section we examine constraints on the design of stockholder payoffs at dissolution and from dividends, the governance rights of stockholders, and the exposure of the firm to the market for corporate control. We illustrate some of these constraints by examining the experience over the past twenty years in the design of tracking stock.

(1) Financial features.

As a general matter, the financial rights of a stockholder are to a payoff on dissolution of the company and to periodic dividends that the directors might announce from time to time. Common stockholders have the right to the residue of firm asset value upon dissolution, after all liabilities and other prior claims are satisfied.41 A firm’s equity may be divided into classes carrying different financial rights.42 For example, classes may enjoy different priority to dividends and to proceeds upon dissolution or they may hold rights to different proportions of the residue.43 However, the financial rights of each class attach to all the corporation’s property, not specific asset groups. This contrasts with the flexibility in debt contracting discussed earlier, where priorities may be asset-specific.

Common stockholders have no enforceable right to dividends: the corporation’s directors decide when and how much to pay. The directors’ discretion is subject to regulation that protects fixed claimants. The board's discretion is legally constrained in a manner that is consistent with a firm-based, rather than asset-based, approach. Corporate statutes require that firms only pay dividends out of current net operating profits or out of a capital surplus.44 Net operating profits and capital surplus are defined on a firm-wide basis. Capital surplus is based on the difference between a corporation's total assets and total liabilities.45 Thus, directors cannot announce a dividend payable out of the profits of a single division if the firm as a whole fails to meet the statutory threshold described above.
The fact that stockholder rights are firm-wide constrains the ability of firms to provide compensation-based incentives to their employees. A firm can compensate a divisional manager on the basis of the division’s performance, as reflected in the firm’s financial statements. However, if it seeks to exploit market information, it is limited to the market price of its firm-wide shares. Thus, the firm has a choice between using the market’s assessment of the entire firm or relying only on internal information to tailor compensation more closely to the manager’s performance.

In Part II, we discuss various benefits from tailoring capital structure, including the financial and governance features of equity, to asset-type. Motivated by some of these benefits, a number of corporations have issued tracking stock that purport to track the fortunes of a corporate division: for example, a telecommunication division. Although issuers market this stock as one that reflects the value of their tracked division, the designers face significant legal obstacles to achieving the intended “tracking” of value. In fact, the tracking function would be far better achieved by establishing a distinct legal entity to hold the assets and using alternative restructuring forms such as spin-offs and equity carve-outs. The use of tracking stock in their stead seems to be motivated by more advantageous tax treatment.46

The tracking objective is undermined by the firm’s inability to link the tracking stock’s dissolution rights to the tracked assets. Tracking stocks uniformly provide that they are entitled to share in the value of the entire firm.47 The more recent attempts to create a closer connection between the tracking stock and the division have been crude: they determine the share of the residue to which the tracking stockholder is entitled rather than the aggregate value. In some cases, the tracking stock is entitled to a fixed, predetermined proportion of the corporation's total assets.48 In other cases, the tracking stock’s share is determined by the ratio of the market capitalization of the tracking stock to that of the remaining stock.49 Under the first formulation, the division’s profits and losses are still shared with other classes of common stock, and the tracking stockholders participate in the fortunes of other divisions. The fraction of firm value realized by the tracking stock on dissolution is invariant to the division’s performance after the issuance of the stock. Even under the second method, the tracking stock’s payoff on dissolution varies with market capitalizations which themselves depend on market expectations of proceeds on dissolution. This circularity implies that the payoff for tracking stock is only loosely, if at all, correlated with the division’s performance.50 The fact that lawyers and bankers have devoted considerable resources to the structure of tracking stocks and that
nevertheless they remain remarkably crude mechanisms for tracking dissolution value, highlights the inability of the firm to issue asset-specific securities.

The law gives firms more flexibility with respect to dividends than dissolution rights, and therefore tracking stocks are somewhat more successful in linking dividends than dissolution rights to tracked divisions. As we note above, corporate law protects fixed claimants by requiring that the firm as a whole must have a threshold level of required earnings or surplus to pay the dividend. The terms of tracking stock issues also require that the tracked division independently have earnings or a surplus from which to pay the dividend. Thus, the directors’ ability to pay dividends to this group of equity investors is in part asset-based, in that it depends on the profitability of the single tracked division. Accounting principles and securities regulation require that the firm disclose separate financial results for each tracked division. Yet, the allocation of fixed obligations among divisions leaves much to the discretion of the firm, and significantly from our perspective, much more so than with respect to the measure of firm-wide obligations. The more meaningful constraint is likely to be the statutory firm-wide restriction that prevents the payment of dividends if the surplus in the tracked division is offset by a deficit in the balance of the firm.

(2) Governance features

We have shown that equity cannot be issued purely in relation to a division alone, but rather the financial rights of equity are tied to the boundaries of the corporation. Even so, shareholders with firm-wide financial claims might prefer to tailor the mechanisms of corporate governance to different asset-types within the firm: for example, by providing division-based boards of directors that are held to different fiduciary standards and by adopting division-specific anti-takeover defenses. Corporate law, however, mandates that many governance tools be firm-wide rather than asset-contingent. At a general level, the state of incorporation determines the corporate statute and the courts that enforce mandatory and default laws of governance. Under the internal affairs doctrine, the incorporation jurisdiction governs the corporation irrespective of where the corporation conducts business. A corporation chooses its incorporation state on a firm-wide basis: it cannot select different state corporate laws for different divisions. At the same time, it selects the corporate statute and the body of judicial precedent found in the state, as well as the skill of the local bar and judiciary in interpreting it. For example, by selecting an incorporation state, a firm chooses among various duties of care to bind its directors. Delaware establishes a gross negligence standard, while Indiana
requires reckless or willful misconduct. The state of incorporation affects the ability of shareholders to bring derivative suits. For example, Delaware does not require plaintiffs in a derivative action to post security for costs, while other states, like New York, do.

Another firm-wide characteristic is that a corporation must have a governing body at the peak of its governance structure that directs and manages all assets of the corporation. A corporation may not select a governance structure that places a separate board of directors at the head of each division, where that divisional board would be directly accountable to the corporation’s shareholders. The firm as a whole must have a single person or group of persons at the top of the corporate hierarchy and directly responsible to the shareholders. Boards may delegate, by resolution or by bylaw, many of their powers to committees. A board could delegate powers to a committee responsible for only a subset of the corporation, such as a division. The board of directors, however, retains the power to undo the delegation set out in a prior resolution, amend the bylaw establishing the committee, or recommend to stockholders that they amend the bylaw establishing a particular committee. Moreover, despite delegating its powers to a committee, the board cannot avoid its fiduciary obligations to the shareholders, even with respect to the decisions made solely by the committee.

Thus, a unitary board of directors (or an alternative body) sits at the top of the internal governance of a corporation. The structure and composition of that board sets the parameters for the supreme decision making process with respect to all assets of the firm. As we discuss in Part II, there are various respects in which the optimal structure and composition depends on the nature of the firm’s assets: for example, the number of directors on the board or the proportion of independent or outside directors on the board.

Given the legal personality of the corporation, the firm-wide nature of equity and the unitary nature of the board of directors, it follows that directors owe their fiduciary duties to the entire corporation, and neither to shareholders nor to any part of the firm (e.g., a division). This is clear as a matter of common law, but it is also mandated explicitly in some corporate law statutes. In the Canada Business Corporations Act, for example, s. 122(1)(a) requires directors and officers to "act... with a view to the best interests of the corporation." Moreover, a corporation cannot opt out of this rule by providing in its charter, for example, that its directors have a duty only with respect to enumerated divisions and not the rest of the firm.
Given that equity interests are firm-wide, that firms have unitary boards and that
the boards owe duties to the entire firm, it follows that only an entire firm and not asset
groups (or divisions) may be subject to hostile takeovers. If a raider seeks to control only
a division, it must first take over the entire firm and then dispose of the other assets.
Therefore, a firm’s takeover defenses are firm wide: for example, poison pills, staggered
boards, and dual-class recapitalizations affect all assets in a firm. Moreover, in its choice
of incorporation state, the firm selects a broader regime for takeover regulation that
governs all its assets. A corporation could not expose only a subset of assets to a hostile
takeover while at the same time protecting other assets from a hostile bid through asset-
specific takeover defenses. The threat of hostile takeover is a well-known discipline on
managerial agency problems, and takeover defenses blunt this discipline. As we
discuss in Part II, agency problems are a function of asset type, but a firm cannot expose
its managers to hostile takeovers on an asset-by-asset basis.

We outlined earlier the difficulty in ensuring that tracking stocks in fact “track”
the financial condition of a division. The terms of a corporation’s legal personality
prevent tracking stockholders from holding an exclusive residual claim against only the
assets of the tracked division. Tracking stock architects face a parallel challenge in
focusing the governance rights of tracking stock on the tracked division. As noted
above, the corporation’s board of directors (or its functional equivalent) sits at the top of
the hierarchy. If tracking stock carries voting rights, they are to vote for directors on this
unitary board. This in turn implies that there can only be a hostile takeover of the
whole corporation, not of a division that has issued tracking stock. In addition, it is clear
that tracking stock does not affect the choice of corporate law that governs assets: the
corporation with tracking stock may only incorporate in a single jurisdiction and the law
of that jurisdiction governs both assets within and outside the relevant division.

Moreover, the fiduciary duties of the directors are owed to the firm as a whole.
Delaware courts have declined to expand fiduciary duties to apply a fairness scrutiny to
transactions that have disparate impact on different tracked divisions. Consequently,
corporations are constrained in the mechanisms they can invoke to address the conflicts
of interest between classes of tracking stock. They tend therefore to adopt policies or
bylaws that purport to restrict decisions that reallocate value between divisions. For
example, they provide for arm’s length terms in interdivision transactions and specific
guidelines for the allocation of general expenses among divisions. More generally,
corporate policy may require the board to consider the interests of both tracking
stockholders and other stockholders when certain actions that may affect the division's
value are taken. Yet, the board of directors is able to retract such policy and, in any event, we doubt that the courts will be aggressive in enforcing such corporate policies when the directors are meeting their fiduciary obligations to the firm as a whole.

II. Asset-specific determinants of optimal capital structure

The theory of optimal capital structure began as an inquiry into the mix of debt and equity, notably in the seminal article by Miller and Modigliani (MM). Since then, capital structure theory evolved to focus on optimal contract design. Accordingly, corporate finance scholars write not only about the optimal amount of leverage, but also about the identity of the lender (trade credit, institutional lenders, or public debtholders) and optimal contractual features in debt, such as maturity, conversion rights, collateral, events of default, and guaranties. On the equity side, scholars analyze features such as the optimal concentration of ownership, takeover defenses and the composition of boards of directors. In this Part, we review a sample of corporate finance theories to demonstrate that many factors determining optimal capital structure depend on the nature of the assets being financed. Suppose that asset group A and asset group B are different in one or more of these respects so that if they are held in distinct corporations, these firms have different optimal capital structures. If the two asset groups are instead integrated in a single firm, yet a third, “blended” capital structure is likely to be chosen that reflects both asset groups (and their interaction). Our investigation is concerned with the circumstances under which efficiency is compromised when capital structure is not tailored to specific asset groups in distinct firms.

The literature concerning optimal capital structure is dominated by concerns raised by imperfect information, particularly the fact that insiders of firms have superior information than outsiders. This asymmetry of information impedes the ability of a firm to raise external capital because outside investors are skeptical of the firm’s representation of its value and therefore discount the firm’s securities. The asymmetry also causes agency problems: outside investors cannot fully prevent insiders from using their information advantage to enhance their payoffs even at the cost of reducing overall firm value, and to hide this activity from their investors. Managers may enhance the private benefits they receive from controlling the firm (such as leisure, perquisites, financial compensation, or human capital) or they may make decisions that serve the interests of one constituency (e.g. shareholders) at the expense of others (e.g. creditors). Much of the financial and governance features of securities are aimed at mitigating these costs.
The focus on agency conflicts highlights several distinctions between asset types that are relevant in the following analysis. The valuation of some assets depends on information about technology or markets that is privy to insiders. Growth opportunities or options (such as R&D projects) tend to be more opaque in this respect than assets in place (such as mature manufacturing operations). The contribution of management to asset values is often difficult to observe when the values are susceptible to exogenous risks. Agency problems are more significant when managers can convert firm assets into private benefits, so asset liquidity is an important distinction. Finally, investors are concerned about the volatility of assets because they may be risk averse and because of the risk of insolvency. Therefore, the asset-type contrasts we will refer to frequently are: (a) opaque versus transparent, or growth opportunities versus asset-in-place, (b) liquid versus illiquid assets, and the related feature of cash flow, (c) risk (volatile) versus non-risky assets.

We recognize that capital structure decisions are within the control of managers and consequently, are themselves subject to agency problems. This has been particularly salient in the literature in connection with the choice of incorporation venue and the adoption of takeover defenses, but it is also a concern in other financing decisions such as the firm’s leverage. We assume, however, that firms select capital structure to address information concerns and thereby minimize their cost of capital. We do so only to keep manageable a potentially vast exploration into capital structure determinants. Our purpose here is to demonstrate the asset-contingent character of many, if not most, optimal capital structure decisions.

A. Debt financing

We consider first the conventional question of optimal leverage – the ratio of debt to equity capital. Finance scholars have identified three determinants, among others: taxes, bankruptcy costs and information asymmetry. We address them briefly to demonstrate the effect of integration or segregation of asset groups on leverage decisions. The blended leverage decision of the integrated firm should be different than those of the segregated firms, but whether this compromises efficiency is a much more complicated question.

First, the return paid on debt (interest) is tax deductible for the firm and taxable to the investor, while the return on equity is not deductible for the firm and might be taxed
at a lower (capital gains) rate than interest in the hands of the investor. Therefore, the tax profiles of the firm and of the investor are significant factors in choosing capital structure: for example, whether the firm has taxable income to offset against interest expense or whether the investor is a taxable entity. The nature of the firm’s assets in part determines its tax profile. For example, if the asset is a growth opportunity that promises cash flow several years down the road, the deductibility of interest has little current value and, all else equal, the firm would tend to issue equity rather than debt. If the growth opportunity is combined in a firm with a mature asset that produces income in the current period, then the firm can adjust its calculation of optimal debt based on the taxable income of the combined assets. Thus, while combining the two asset types yields an intermediate degree of leverage, it does not impair the ability of the firm to tailor its choice of leverage to its tax profile.

Second, the prospect of bankruptcy costs deters debt financing because the risk of insolvency increases with leverage. This relationship is also asset-contingent. The more volatile are the firm’s asset values or cash flows, the greater the bankruptcy risk for any given degree of leverage. Thus, more volatile assets should be financed with less debt and more equity. The integration of two groups of volatile assets within a single corporation, however, reduces insolvency risk, unless the assets’ returns are perfectly correlated. Thus, integration in a single firm may lead to higher leverage than that of a firm holding either asset group alone. In the previous paragraph, we observed that an integrated firm does not compromise the ability to design leverage so as to minimize taxes. Here, we note that integration lowers the marginal cost of debt by reducing expected bankruptcy costs and opens the possibility of higher leverage.74

A third set of considerations relating to optimal leverage are the twin problems of overinvestment and underinvestment. In the former case, managers overinvest in unprofitable ventures when they can thereby enhance their private benefits or when they thereby benefit the shareholders of a leveraged firm by taking greater risks.75 Managers sell or borrow against one asset and use the proceeds to invest in a new project that is either more risky or yields greater private benefit. The ease with which they can do so combines with the cash flow in the company to create “financial slack” with which managers may overinvest. Debt, and particularly high priority debt, constrains financial slack by requiring periodic payouts of free cash and impeding the firm’s ability to borrow against or sell its assets.76
Underinvestment is the converse problem caused by the private information of insiders that makes outside investors discount the value of the firm’s securities, and thereby raise its cost of capital. A firm may find it consequently difficult to raise external financing for its new ventures and relies on internal finance or financial slack to fund them. Therefore, a highly levered company, particularly one with outstanding high priority debt, may lack the internal capital to fund profitable new ventures that are opaque to outsiders.

Debt, and particularly high priority debt, mitigates overinvestment but aggravates underinvestment. Therefore, debt financing is desirable when overinvestment is a greater threat than underinvestment. The relative significance of each problem varies with the nature of firm assets. For example, where a substantial portion of a firm’s value is in growth options rather than assets in place, fixed debt claims (particularly high priority claims) may impede the later financing of opportunities. This firm should have little debt in order to leave room for future debt financing. On the other hand, if firm assets are mature and growth opportunities are few, fixed obligations are desirable to remove free cash from the discretion of managers and to impede fresh borrowing against the existing assets.

When a firm has a combination of mature assets and growth opportunities, it should choose leverage somewhere in between the polar cases described above. Indeed, the firm might tailor its leverage to the combined set of assets, by allowing for sufficient slack to finance the anticipated profitable growth opportunities and no more than that. The financial efficiency of integration, in this respect, depends on a related concern: the merits of the internal capital market created by the combination of the asset groups. If the managers have the incentive to move capital efficiently from the mature to growth assets, by using cash flow from (or borrowing against) the former to finance the latter, then the internal capital market reduces the cost of capital. Otherwise, internal capital markets expand the possibilities for managers to shift capital opportunistically. In these cases, the integrated firm might prefer to shrink the internal capital market by raising the debt burden further, even though it may increase expected bankruptcy costs. Thus, the inefficiency of integration is manifest in the capital structure choice, as well as in the greater risk of managerial misbehavior. The combined firm must incur the bankruptcy cost of additional debt in order to address a new agency problem created by integration, the larger internal capital market.
Debt mitigates managerial agency costs also by setting a solvency threshold that triggers liquidation and the removal of assets from the managers’ control if the value of the firm’s assets falls below its liabilities. The prospect of liquidation threatens to deprive managers of future private benefits and thereby disciplines their current incentive to misbehave. For example, managers of a highly levered firm are less likely to shirk because competition in the product market will force the firm out of business more quickly than if the firm enjoyed a buffer of cash or other financial slack.

Debt policy is not limited to the amount of leverage; it extends to the design of debt instruments, such as the choice of events of default. Events of default are triggered by violations of covenants. As noted earlier, many covenants are firm-wide: for example, ratio tests and constraints on distributions to shareholders. However, other kinds of covenants are asset-specific: for example, insuring specific assets and prohibitions on the sale of assets. But since debt is firm-wide even if covenants are asset-specific, any implications for the debtor from breaching the covenant impact the entire firm. For example, default accelerates the maturity of the entire obligation of the firm (and perhaps other obligations that have cross-default clauses). Thus, a covenant that may be appropriate with respect to one group of assets may be undesirable when that asset group is combined with others, because of the wider impact of the default sanction. The integration of asset groups may be inefficient because it leaves the firm with a choice between two coarse alternatives: to include the asset-specific covenant and bear the firm-wide consequences of violation or to exclude the covenant and bear the cost of diluted incentives.

Another important feature of capital structure is the identity of debtholders: whether they are institutional lenders, trade creditors, or public investors. Agency costs bear significantly on this decision as well. For example, the allocation of debt claims among creditors determines the efficiency of monitoring. A firm should structure its debt so as to place monitoring burdens on creditors who enjoy comparative advantages. In their article on organizational law, Hansmann and Kraakman commend asset partitioning between organizations on these grounds. As noted earlier, they use an example of two ventures: oil refining and hotels. The advantage of placing the two ventures in separate entities is to exploit the monitoring specialties of different creditors. Thus, the lender with expertise in oil refining may lend to that firm without worrying about the profitability of the hotel venture. If the two ventures were combined in a single firm, the lender would be tempted to monitor the hotels as well: a task for which it suffers a
comparative disadvantage. Presumably, similar considerations would point to economies in screening of asset quality by lenders.

Many firms have a choice between issuing public and private debt that raise similar concerns about screening and monitoring functions. Financial institutions hold private debt and are typically better at screening and monitoring borrowers. Yet, the value of this advantage is asset-contingent: the quality of some assets is more difficult to assess than others and agency problems similarly vary between asset types. In some cases, the value of a delegated monitor or screening agent such as a bank is worth the cost and in other cases it is not. In the latter cases, such as where the firm has acquired a track record of performance, the firm is more likely to forego the intermediation of a financial institution and to issue public debt. If group A assets are assets in place that are relatively easy to screen and monitor and group B are more opaque such that screening and monitoring activity yield significant returns, then distinct firms holding the asset groups should have different ratios of private to public debt. If the assets are integrated within a single firm, the ratio should be different yet again. However, because debt is firm-wide, the monitoring incentive of private debtholders is diluted by the presence of the more transparent assets and the ability of the public debtholders to share in the monitoring benefits. Similarly, from a screening perspective, public debtholders may discount debt from a corporation that has assets that they find difficult to value even if private lenders are capable of valuing the debt accurately.

Private debt can be more easily renegotiated. Modifications in the payment terms of public debt must be approved by each debtholder and this is correspondingly difficult when debtholders are dispersed. The cost of this relative inability to restructure public debt varies with the probability of insolvency and the extent to which firm value derives from assets in place as opposed to growth opportunities – or, to use the bankruptcy term, the going concern surplus. If one asset is likely to require renegotiation, perhaps because of volatile market conditions, while a second asset is not, and if there are reasons for the second asset to benefit from the issuance of public debt (e.g., diversification benefits for lenders), then combining the assets compromises efficiency.

B. Equity financing

(1) Ownership concentration
Shareholding in a corporation may be more or less dispersed. One stockholder may hold sufficient stock so as to control the board of directors. The more stock that person holds, the more she internalizes of the fortunes of the firm and, all things equal, the better her decision-making incentives. If a shareholder's investment falls short of control, the advantage of larger stock ownership is that her incentive to monitor management is enhanced because she captures a greater portion of the resulting gain. This mitigates the freeriding impediment to shareholder governance when ownership is diffuse. An offsetting disadvantage of concentrated ownership is that the owner sacrifices some of her ability to diversify nonsystematic risk of firm assets, as well as the ability to trade shares in a liquid market. In addition, as the stockholder controls more votes, the better insulated she will be from the market for corporate control, and the more influence she is likely to have over the board of directors. Such managerial power could lead the controlling shareholder to pursue private benefits at the expense of overall value. Thus, concentrated ownership is more valuable when the optimal monitoring investment is higher, but less valuable when asset values are volatile and managerial entrenchment causes inefficient private benefit extraction.

Various factors may raise the cost of monitoring firm assets, and these factors are predominantly asset-specific (or, more colloquially, industry-specific). A firm is costly to monitor when its returns are volatile due to exogenous risks and it is difficult to unpack managerial performance from exogenous causes of good or bad outcomes. For example, textile companies are easy to monitor, and high-tech firms are more difficult. Businesses that trade internationally or have foreign operations are similarly complex. Conversely, shareholder monitoring is less valuable when other constituencies—such as institutional lenders or potential acquirers in the market for corporate control—monitor to deter poor management. In this vein, one might think of government regulators as alternative monitors. Even if they do not improve management, they constrain managerial discretion and thereby also the potential impact of shareholder monitoring. For this reason, several scholars predict that heavily regulated firms—such as telecommunications and utility companies—are more likely to be widely held. The prospect of costly managerial entrenchment also depends on asset types because some assets are more susceptible to inefficient private benefit extraction, such as self-dealing (e.g. natural resources).

The larger the risk associated with an investment in an asset, the less likely is there to be a controlling shareholder of the corporation that owns the asset. Controlling shareholders are more likely to be undiversified than other investors given the relatively
large stake that they have in the corporation. This determinant of optimal ownership concentration is asset-specific because different assets have different risk profiles. For example, retailers are more likely to have block shareholders at least partly because they have lower firm-specific (nonsystematic) risk.\(^93\)

We have concluded that different asset groups are likely to yield contrasting prescriptions for equity concentration. Assets that are volatile in value but transparent to monitoring should have dispersed ownership, while assets that are more opaque but less risky should be more likely to have block stockholders. If these two types of assets are combined in a firm with firm-wide shareholding, concentration would not be tailored to the individual asset groups, but to their combination. The efficiency consequences are ambiguous, although there may be efficiency loss. On the one hand, each share would be less risky, thereby lowering the cost of blockholding. On the other hand, for reasons discussed in the previous section, the incentives of the blockholder to monitor may be diluted, thereby lowering the benefit of blockholding.

(2) Governance Mechanisms

We identified above a number of features of corporate governance that are necessarily firm-wide, such as the mandate of the board of directors, the place of incorporation and the existence of takeover defenses. An optimal configuration of these features may depend on the nature of the assets in question, which in turn implies efficiency costs from the combination of different assets, as we explain.

The first governance feature for equity that we identified in Part I was the selection of a firm’s incorporation venue. This decision is at least partly a function of asset type.\(^94\) Delaware offers corporations expert courts and bars, but firms that incorporate in Delaware rather than their home state face higher incorporation and legal fees.\(^95\) Therefore, Delaware is a more attractive venue to firms that anticipate a significant probability of high-stakes litigation.\(^96\) The nature of firm assets is one factor determining the prospect of litigation. Volatile assets in particular are more likely to engender litigation than low-risk investments. Valuable assets also increase the risk of litigation by raising the stakes.\(^97\) Less valuable firms with relatively low-risk assets, therefore, are less likely to find it cost-effective to pay the higher franchise tax and legal costs of having recourse to the Delaware courts.
A potentially important determinant of corporate governance is the proportion of inside, outside and independent directors. At its core, the decision hinges on a tradeoff between information and agency conflict: an agent with superior information is also in the best position to extract private benefits from the relationship and avoid detection. Independent directors may have better incentives and less opportunity to extract rents than inside directors, but they suffer from inferior information. Banks are intermediate cases: their information is better than outsiders, but they may exploit this informational advantage at the cost of outside constituencies.

The informational disadvantage of outside directors depends on the nature of firm assets. Insiders may be relatively better suited to oversee investments in growth opportunities, such as in the high-tech industry, than in mature or low-tech operations, like grocery store chains. Even in industries where insiders have less informational advantage, the benefit of outside directors is muted by the presence of alternative disciplining forces, such as the threat of takeovers. As noted above, the case for including bank lender representatives on the debtor’s board is mixed. Banks have access to privileged information and expertise and can therefore monitor the board better than independent directors, for the benefit of all investors. However, they might also use their influence to skew firm decisions in their favor, against the interests of other constituencies. For example, they may seek to limit the firm’s risk taking, at the expense of equity investors. Accordingly, commentators have predicted that corporations that are large and stable with valuable tangible assets and lower levels of short term financing are less likely to suffer from shareholder-creditor conflicts, and thus are commensurately more likely to have bankers on their boards. Similarly, representatives of contracting partners may be nominated to boards in order to facilitate and secure key relationships.

An integrated firm may not be able to accommodate the divergent demands of asset-types for board structure. Suppose that a board member is valuable to monitor one asset group but is costly because the bank may act opportunistically with respect to another asset. In this scenario, combining the assets in a single corporation will require one or both assets to be governed sub-optimally. It may be more efficient for each asset to be governed separately, and the assets must be placed in distinct firms to do so.

Finally, different assets may have different optimal degrees of takeover protection. Takeover defenses yield the following three asset-contingent benefits, among others suggested in the literature. First, these defenses may deter inefficient acquisitions motivated by a bidder’s seeking private benefits of control from the firm.
Thus, an asset that is likely to generate significant private benefits, like a media company, may adopt takeover protection in order to deter rent-seeking acquirers. Second, defenses may enhance the target’s bargaining power to give it a larger share of the surplus from the transaction.\textsuperscript{105} The prospective bargaining surplus depends on the nature of the asset and the variety of uses to which it may be put. Third, takeover defenses may reassure contracting partners of the firm (such as licensors and franchisors) of the stability of the company so as to remove the need for change of control clauses in corporate contracts.\textsuperscript{106} The principal disadvantage of takeover defenses, of course, is that they insulate management from the discipline of the market for corporate control. Daines and Klausner’s observation that corporations in industries in which R&D was more significant are less likely to include takeover defenses on their IPOs might be explained by one or more of these asset-specific factors.\textsuperscript{108}

Combining assets with different demands for takeover protection within a single corporation creates costs. For example, if one asset is usefully monitored by the takeover market, while another asset is vulnerable to inefficient bids motivated by the attraction of private benefits of control, then their combination creates costs with respect to the governance of one or both assets. Since hostile takeovers (the threat of which makes takeover protection relevant) cannot target only specific corporate assets, combining two assets with varying demands for takeover protection is costly.\textsuperscript{109}

**III. Economics of firm-wide capital structure**

Part II demonstrated that many of the optimal financial and governance features of capital structure depend on the relevant assets. In some cases, integration creates efficiency losses due to the blending of capital structure demands. In this Part, we identify some of the countervailing economies from combining asset groups in a single entity under a firm-wide capital structure. Later in this Part, we draw the distinction between the boundaries of a firm and the boundaries of control that encompass multiple firms within a single groups of affiliates.

As we discussed in Part I, the firm-wide elements of capital structure stem from the corporation’s indivisible legal personality. The “atom” of capital structure is the person rather than the asset (in personam rather than in rem). The legal personality defines the unit that owns interests in property and has the capacity to contract: the corporation and not its divisions. A corporation is commonly described as a nexus of
contracts. The “nexus” characterization emphasizes not only the contractual character of relationships within a corporation, but also their interrelatedness. This interrelatedness among contracts and contract partners suggests that the efficiency of the corporate form derives from its property rather than contractual attributes.110 The value of any contractual right against a corporation is affected by the corporation’s other contracts. Thus, for example, in evaluating its credit risk, a creditor must consider the debtor firm’s current and future obligations under other contracts. The risk varies with the amount of claims that arise under other contracts as well as with the priority of the other claims. In addition, the risk is also affected by the terms of these claims, such as maturity, events of default and termination rights. Consequently, part of the screening by a prospective lender (or other investor) entails the review of actual and potential contract liabilities of the borrower. This investigation is substantially less expensive if the lender can establish at low cost the set of relevant contracts. The firm-wide structure, stemming from the corporation’s legal personality, serves this objective. First, the lender is assured that the obligations of a separate firm will generally not affect its recovery. Second, the lender knows that each contract of the firm potentially bears on the risk the lender bears. The same applies, mutatis mutandis, to any other party who contracts with the same firm, including stock investors.

Consider the counterfactual scenario in which a single corporation may commit a different set of assets to the performance of each of its various contract obligations. For ease of exposition, suppose that the asset groups are defined in terms of the corporate divisions that deploy the respective asset groups. The corporation commits division A assets to contracts Ai, and division B assets to contracts Bi. As a preliminary matter, each counterparty to contracts Ai would investigate which assets fall within division A. Given that division A is not a legal person and cannot own property, this investigation is costly. The ownership of many types of valuable property – such as land, motor vehicles, patents – can be verified through public registries. However, these registries reveal the corporate owners, not the internal assignment of assets to divisions. Indeed, the necessary investigation into internal assignments is even more complex if individual assets, such as an office building, are shared between divisions. Therefore, a party to contract Ai might require that the corporation expressly identify the assets of division A in the contract or provide an alternative form of external verification, such as the statement of its accountant, lawyer or other professional. However, if divisions are ongoing business ventures that dispose and acquire property over the duration of their contracts, the specification of assets committed to each contract becomes even more
costly. Parties do incur similar costs in the description of collateral in security agreements to grant some creditors asset-based priority over others.

If a corporation entered into asset-specific commitments with many of its creditors, it would impose costs on its dealings with all creditors. Any party dealing with the corporation would investigate all its contracts to discern which assets are implicated by other contracts. In contrast, the current regime economizes the investigation costs of a prospective creditor, who can assume that all firm assets are available to satisfy its claim as well as the claim of other creditors. The creditor can consult the public registry to determine which assets are subject to a priority claim of any creditor.

Asset-specific debt and equity contracts also exacerbate the agency problems created by internal capital markets within firms. As noted earlier, the relative ease with which capital may be moved within firm boundaries, compared to across boundaries, gives rise to agency conflicts. Financial agency problems exist when the claims of investors enjoy different priority against even the same assets: for example, lower priority investors desire greater risk taking by the firm. And, any outside investor is concerned about managerial asset-substitution: for example, proceeds from the sale of equipment could be used to pay for golf club memberships for executives. However, these are exacerbated when investors enjoy claims against different groups of assets because investors have the additional concern about the redistribution of capital between asset groups. For example, asset-specific investors would seek shifting of capital to their divisions and firm-wide investors would seek shifting away from any divisions subject to asset-specific claims. All investors should be concerned about influence costs, including the transaction costs of asset shifting as well as the possibility that capital is moved from higher- to lower-valued uses within the firm. These conflicts are mitigated either by removing asset-specific interests or by ensuring that all contracts are specific to either division and that each division has its own board of directors responsible only to its corresponding investors. Of course, the latter arrangement resembles closely two discrete firms. The significant remaining difference is the one described above: that property law does not provide for the discrete ownership of assets other than by discrete legal persons.

The desirability of a unitary board of directors, and important related features like takeover defenses and the place of incorporation, follows from the case for firm-wide equity. The stockholders elect the board and enforce the directors’ fiduciary duties to the firm. If their interests are homogeneous in that they are residual claims against all firm
assets, then there seems to be little advantage in having distinct boards govern different groups of assets within a single corporation. We have set out efficiencies associated with reliance on a corporation-based, in personam approach to the appropriate "atom" for financing. We do not have strong conclusions that this should be, as it is, the mandatory approach, but note in passing that creating an option for corporations to take an in rem approach may impose costs on firms that do not. For example, the mandatory corporate law rule requiring unitary boards of directors may be justified by the fact that internal lines of authority are difficult for outsiders to observe. If corporate law permitted parties to opt out of the unitary board by having divisional boards directly responsible to shareholders, investors would need to examine the corporate charter to determine whether their securities had been authorized by the appropriate board within the issuing firm. In this counterfactual scenario, a prospective investor in a corporation that abided by the firm-wide default would need to verify that the corporation did not have a separate board governing a division whose authorization would also be necessary to bind the corporation. 111

Thus, there are significant benefits to firm-wide capital structure: it exploits the informational benefits of a unitary corporate ownership of property and avoids the governance problems that would otherwise be created by the firm’s internal capital market. Assets, or divisions, can be financed discretely by segregating them into separate firms because they are treated as distinct owners of property and have distinct internal capital markets. Therefore, the firm-wide constraint on capital structure can be avoided at the relatively low cost of incorporating an additional legal entity.

IV. Capital structure and firm boundaries

In the foregoing discussion, we have established that (a) that the law requires a corporation to have a capital structure that is firm-wide in most respects and (b) many features of optimal capital structure are contingent on the nature of the firm’s assets. To tailor capital structure to assets, one must divide different asset groups into distinct legal entities. Conversely, combining different types of assets in a single firm imposes in some cases a loss from deviating from the tailored features associated with one or more asset types. In this section, we trace the implications of our theory for combinations, such as mergers and acquisitions, and asset divestitures, such as spin-offs, carve-outs and securitizations.
A. Firm boundaries versus control boundaries

In economic scholarship, the “theory of the firm” is a misnomer. It generally identifies theories of common control: whether assets A and B should be controlled (and/or owned) by the same person. In these theories, whether a party controls A and B in one or two corporations is of no consequence. In other words, economists are concerned with the boundaries of control, while this paper focuses on the legal boundaries of the firm. Together these two sets of choices provide a wide range of financial and governance structures that can be tailored to the assets in question and their information attributes. Indeed, it is very common in practice for corporate groups to encompass a number of distinct legal entities.

Economic scholarship has a long record of analyzing the integration of diverse assets within a single line of control. Two groups of assets, A and B, may be synergistic for a variety of reasons: A may be an input in the production of B, they may be complements in consumption (such as a jar and a lid), or there may be economies of scale and scope in their production or use. Imperfections in contract drafting or enforcement may prevent owners of A and B from fully exploiting the potential synergies. Bringing A and B under the control of a single person who makes allocation decisions by fiat overcomes the contracting obstacles. Indeed, much of the flexibility of internal markets can be captured by common control, although the legal consequences of firm boundaries impose some residual friction.\(^{113}\)

Of course, each of the foregoing advantages of integration has a flip-side disadvantage of agency problems, that were described earlier in the discussion of internal capital markets. Hierarchical authority shields decision making from the discipline of markets, and may suffer from significant problems of agency relations when the person with control does not internalize all the consequences of her decisions. Thus, managers who control of internal markets of various types may allocate resources so as to enhance their private benefits rather than overall profitability. Moreover, internal markets drive subordinate agents to engage in inefficient rent-seeking or influence costs to skew resource allocation in their favor.

Therefore, a complex tradeoff governs whether two groups of assets should be integrated under common control. Integration may be motivated also by economies in the investigation of decision making authority by third parties. Some of the information
economies described earlier can be captured by an affiliate-structure that converges in a single locus of control. For example, consider an investor who, for diversification purposes or to otherwise achieve her desired contingent payoff structure, desires to invest in assets A and B. If Corporation A and Corporation B are unrelated, the investor would investigate the governance implications of each capital structure, including governance mechanisms like the identity of directors and senior officers, as well as the structure and independence of the board of directors. The investor would then monitor separately the decisions of each structure, including its use of cash. In contrast, if Assets A and B are governed by a single corporation, the investor would be required to investigate only one capital structure and would need only to monitor one decision-making hierarchy, peaking at a unitary board structure. Combining the assets creates information economies for investors who wish to invest in both asset groups.

The question of whether assets A and B should be under common control is distinct from the question of whether they should be held in distinct firms. As noted earlier, partitioning assets into discrete entities raises legal frictions that partly break up internal markets. Moreover, partitioning permits the tailoring of capital structure to different asset types. The gains from tailoring might outweigh the investigation economies from combining assets under a single firm-wide capital structure. The choice of both control-based integration and firm-based integration creates a rich menu of capital structure design. For example, suppose that the optimal concentration of ownership for Asset A is 50% and for Asset B is 40%. If assets A and B are combined within a single conglomerate firm, they are encompassed within a single control boundary and a single firm boundary, and subject to a single concentration. Alternatively, A and B may be within the control of a single party but in distinct corporations through the use of a pyramid or cross-holding structure, to tailor stockholder concentration. The advantages of common control can thereby be combined with the flexibility of tailoring ownership concentration (among other capital structure features). For instance, the controlling party might own 80% of the parent, which in turn would hold 62.5% of the shares of Firm A and 50% of Firm B. This would yield the 50% and 40% ownership concentration target mentioned in the foregoing paragraph. Similarly, this structure can tailor the leverage associated with each asset group, while preserving the benefits of common control. This form of “partial integration” also exploits any information generated by the separate trading of minority shares in each of the groups of assets. Moreover, it helps the firm focus the market-based performance incentives of managers of each asset group by giving them rights in shares of their respective firms. Similarly, firms with widely varying debt structures can be accommodated within an affiliate group.
As we noted earlier, common control of two asset groups may avoid the problems of contracting under imperfect information, such as the hold-up of specific investments. When, however, the common control is shared by multiple investors, it raises countervailing agency problems that may outweigh the gains from integration. Forming distinct firms under the umbrella of common control can mitigate these agency problems, but the tailoring flexibility is constrained within the control boundaries. It may therefore still be the case, even with partial integration, that the remaining agency costs outweigh the gains from common control. For example, we noted earlier that the desirability of the market for corporate control and, conversely, of takeover defenses may be asset-contingent. Within a common control group, however, it is not possible to leave one asset group vulnerable to takeovers but the other protected against them, even by partitioning between distinct firms. The equity structure of the parent, whether widely held or controlled, determines the overarching control structure of the entire group. It may be the case, therefore, that unconstrained tailoring dominates the alternative of tailoring within control boundaries.

B. Combinations: mergers and acquisitions

There is a large body of literature concerning the merits of conglomerates, that highlights the contract and internal market concerns summarized in the preceding subsection. Our theory of capital structure presents a distinct set of considerations, and specific predictions may be developed on the basis of the general observations summarized above. Consider first factors affecting combinations of assets within a single legal entity through merger or acquisition. For example, holding all other things equal, we would predict that ownership concentration (e.g. concentrated or dispersed) or debt-equity ratios of businesses prior to their combination into a single conglomerate would be similar. We would hypothesize that businesses with a large number of independent directors are more likely to combine with other businesses with similarly significant proportion of independent directors. To the extent that they do not, we predict that this is because one or both of the lines of business do not suffer significantly from adopting some weighted average of the distinct optimal capital structures. A proxy for the cost of deviation may be reflected in the industry variance in capital structure. In an industry where a feature of capital structure varies widely, a natural inference would be that capital structure tailoring is not particularly important. This in turn suggests that the
combination of two assets with different existing capital structures from industries with highly variable capital structures is not particularly costly.

There is an exception to the foregoing predictions about conglomerate acquisitions. While we have generally worked with an assumption that firms optimize capital structure choices, it could be in reality that an acquisition is motivated by the gains that result from changing the capital structure of one of the firms, a change that incumbent management is unwilling to make. For example, leveraged buy-outs are often understood to be motivated by disciplinary efficiencies that result from changing the target's capital structure to a highly levered one.114 If the acquisition is motivated by an inefficient existing capital structure, it is understandable that the capital structures of the acquiror and the target would be different. A prediction that follows from this analysis is that hostile acquisitions, which are more likely to involve the ouster of incumbent management who are reluctant to reconfigure capital structure, are more likely to involve firms with disparate capital structure.

The theory also yields predictions about conditions under which assets are kept in distinct firms but combined as affiliates in a control group. Our central, most general prediction about corporate groups is that they are more likely in a context where different lines of business have relatively similar demands for equity, at least with respect to the question of the existence of a controlling shareholder, and board structure, but differ in other capital structure demands. Where the optimal structures for differing lines of business vary considerably in all dimensions, we would predict that the capital structure inefficiencies associated with integration would imply segregation of the lines of business into different corporations.

It is interesting to contrast our predictions with those of existing conglomerate theory. The theory that conglomerate structures result from synergies between divisions generates empirical predictions that contrast with ours. For the synergy theory to hold, one would expect that the different lines of business within a conglomerate will often be related to one another in significant ways. For example, a wallet manufacturer might also manufacture leather jackets and take advantage of scale economies in processing leather. Our theory suggests that even related businesses may not be integrated within a single firm if their capital structure demands diverge sufficiently. Conversely, assets with very similar capital structure demands might be combined even though they have no operational synergies or relationship with each other, simply to exploit information economies from a single capital structure. In this sense, the capital structure theory
supports the diversification motivation for conglomerates because these information economies are lost when an investor diversifies by buying securities in distinct entities.

C. Divestitures: spin-offs, carve-outs and securitizations

We use the term divestiture to describe the opposite of combinations: a firm transfers its rights to an asset group to a distinct entity. Divestitures come in different forms, including spin-offs, equity carve-outs or securitizations. The capital structure theory of firm boundaries illuminates recognized motivations for these reorganizations and reveals novel justifications. A basic lesson of the theory is that distinct legal entities will separate asset groups in order to tailor capital structure. One well-known divestiture transaction is securitization or structured finance, under which the firm sells a group of assets to a distinct corporation or trust, known as the special purpose entity (SPE), that is created solely for the purpose of holding these assets and financed by selling new securities. Although the assets are commonly receivables, other types of cash flows or even hard assets have been securitized. Once receivables are earned by performance, they become a passive investment in a continuing stream of payoffs. As noted earlier, finance theory prefers debt financing to remove the cash flow from the discretion of managers. Securitization places the receivables in a distinct entity that can be more highly leveraged than the originating firm that holds the operating assets.

We discussed earlier that partitioning asset groups into distinct entities, by any of the means mentioned above, might harness the discrete market valuation of each group (for example, by securities analysts). Partitioning is necessary to this objective because the law does not permit the issuance of debt or equity securities against only a subset of a firm’s assets. We mention here two advantages that might arise from the separate market valuation of assets. First, some commentators argue that difficulties in valuing some assets within a firm spill over and discount the valuation even of other assets within the same firm. If that is the case, then partitioning the assets into separate firms leaves the opaque asset undervalued (because of information asymmetry) but allows the market to value separately the more transparent assets. Second, the separate market valuation improves the effectiveness of equity-based incentive compensation to managers or other employees. Suppose that assets A and B are combined in a single firm. If the manager of asset A holds an equity-based compensation package, she internalizes fluctuations in the value of B, over which she has little if any control. The manager is subject to exogenous risks affecting the value of B, as well as the risk of careless performance by her colleague who manages B. The firm may link the manager’s compensation to the profitability of
asset A. However, this measure would depend on its internal accounting process, which carries its own uncertainty and potential for influence costs. In light of the obstacles to issuing asset-specific securities within a firm, the business might instead place A and B in distinct entities to allow the market to value A separately. An ancillary benefit of partitioning in this example is that this portioning of assets also might improve the discipline of the market for corporate control and of reputation sanctions.

Securitization transactions present an important instance of the foregoing phenomenon because the assets that are partitioned are passive investments that are subject to exogenous risks. Assets A and B are the operating assets and the receivables, respectively. The manager of the operational assets bears the exogenous risk of fluctuations in the recovery of receivables if she receives equity-based compensation in the integrated firm. The value of earned receivables may be largely unaffected by managerial effort and securitizing them removes their influence on the value of the equity in Asset A.

V. Conclusion

[to come]
ENDNOTES


3 See infra text at notes --.

4 Existing theories focus on the correlation of risk between projects, operational synergies, the weakness of contractual protection of specific investments, the benefits and costs of internal capital markets. See notes – and accompanying text.

5 Ontario Business Corporations Act, s. 15.

6 See, e.g., Del. General Corp. Law § 122(2).

7 Del. General Corp. Law §122(4).

8 Del. General Corp. Law §122(10).

9 Del. General Corp. Law §122(13).

10 Del. General Corp. Law §279.

11 We are focusing on corporations, so personal exemptions from seizure do not apply.

12 For the purposes of this paper, we limit our review to the case of consensually incurred obligations: to private lenders, public debtholders, contract suppliers and customers.

13 Similarly, obligation of a trust cannot be enforced against the trustee or beneficiaries personally: Restatement (Second) of Trusts.

14 Steven Schwarz, Collapsing Corporate Structures: Resolving the tension between form and substance, 60 Business Lawyer 109-145 (2004); Stephen Bainbridge, Abolishing Veil Piercing, 26 Iowa J. Corp. L. 479 (2001). This policing of firm boundaries is justified in some cases by the attempts of enterprises to shield valuable assets from liabilities that might arise during the course of operations, particularly for tort judgments or regulatory fines or penalties. These attempts are manifest in the establishment of parent-subsidiary groups that separate the activity of the enterprise from its valuable assets. See Lynn M. LoPucki, The Death of Liability, 106 Yale L.J. 1, 21(1996) (“Most large companies consist of numerous corporate entities. Limiting liability - that is, defeating part of it- is the principal reason for creating those entities.”). There are a number of competing explanations and other commentators have raised doubts about the incidence of such judgment-proofing activity. See, e.g., James J. White, Corporate Judgment Proofing: A Response to Lynn LoPucki's The Death of Liability, 107 Yale L.J. 1363 (1998).

15 E.g., Re Owens Corning (3d Cir. 2005) (a reorganizing debtor moved to consolidate in order to deal with creditors in a single plan, even though the plan proposed to preserve the parent-subsidiary affiliate structure).

16 See Robert B. Thompson, Piercing the Corporate Veil: An Empirical Study, 76 Cornell L. Rev. 1036 (1991). Thompson found in his sample of published opinions that veil piercing to reach parent assets was rare. In a recent case, a bank lent $2 billion to a parent and all its subsidiaries guaranteed the repayment obligation. Although all the firms were thereby debtors, the agreement limited the freedom of the debtor group to alter or disregard entity boundaries: for example, it required that separate books and financial records be kept and prohibited merger of any affiliates. The bank contracted for enterprise liability through the guarantees and wanted to ensure that formalities were observed to prevent a court from awarding enterprise liability (under any of the related doctrines) in favor of other creditors.

17 Thus, transactions that purport to remove assets from the reach of a firm’s creditors, such as structured finance, must ensure that the transfer will be viewed by a subsequent court as a “true sale”. Indeed, the threat of this dilution is what leads enterprises wishing to insulate assets from tort claims, to set them aside in distinct legal entities rather than to use secured debt. E.g. LoPucki, Death of Liability, supra note xx, White, supra note xx. For discussion of the importance of the true sale nature of a securitization transaction, see Edward M. Iacobucci and Ralph A. Winter, Asset Securitization and Asymmetric Information, 34 Journal of Legal Studies 161 (explaining how partitioning some assets from originator in securitization transaction creates economic value); Steven Schwarz, Structured Finance: A Guide to the Principles of Asset Securitization (2002) (describing emphasis on true sale characterization in securitization transactions).

18 Uniform Fraudulent Transfer Act §4(a)(2); Uniform Fraudulent Conveyance Act; Bankruptcy Code §548(a)(1)(B). We note in passing that the structure of this provision reflects the firm-wide concept of debt because it hinges on the ratio of the debt of an entity to its assets. What matters is not the capitalization of the division from where the asset is removed, but of the entire firm. The removal of an asset from a profitable venture within a firm may be a fraudulent transfer if the firm as a whole is financially distressed.
A similar observation may be made about the preference provision in bankruptcy, which allows the trustee to recover preferential transfers but only those made while the debtor was "insolvent". Bankruptcy Code §547(b).  

18E.g., Cal. Civil Procedure Law 695.010(a) (West 2005); 735 Ill. Comp. Stat. Ann. 5/12-112 (West 2005); N.Y. Civil Practice Law and Rules 5201(b) (McKinney 2005).  


Bankruptcy Code §101(41).  

Bankruptcy Code §541(a)(1).  

Bankruptcy Code §§544, 547, 548, 550, 551.  

In Chapter 11 reorganization, the debtor-in-possession has the same obligations as a trustee. §11(1)...

Bankruptcy Code §726(2), 501.  

Bankruptcy Code §1121(a), (b) (debtor may file the plan and has an exclusive right to file the plan for 120 days).  §1129(a)(7) creditors must either accept the plan or receive at least as much as they would recover under Chapter 7. (8) (each class of creditors must either accept the plan or not be impaired under the plan, unless the plan meets the cram-down requirements of §1129(b)).  

U.C.C. §9-601(a)(1) ("A secured party... may reduce a claim to judgment, foreclose or otherwise enforce the claim by any available judicial procedure"); (c)(this right and the right to foreclose the security interest "are cumulative and may be exercised simultaneously").

The following carveout terms are common: (1) losses due to bad acts of borrower, such as fraud, misrepresentation, and misappropriation of insurance proceeds; (2) environmental liability – borrower will be personally liable for any contamination of the property; (3) out of pocket expenses incurred by the lender in connection with a borrower default; (4) failure to pay insurance premiums or taxes; or (5) entire loan stated to be recourse if borrower files a bankruptcy petition. Mary Kay Kennedy & Martin M. Fleisher, Sample Negotiation of Mortgage Commitment and Loan Document Provisions, 461 PLI/Real 1059 (2000). See also Gregory M. Stein, The Scope of the Borrower's Liability in a Nonrecourse Real Estate Loan, 55 Wash. & Lee L. Rev. 1207, 1229 (1998); Michael D. Hamilton, The Borrower's Agenda, 513 PLI/Real 427, 472 (2005); Billie J. Ellis, Jr., et al., Negotiating and Documenting Real Estate Loan Transactions - Commonly Negotiated Provisions (With Forms), SB75 ALI-ABA 1, 13 (May 15, 1997). Courts have enforced these carveout provisions. See Heller Financial Inc. v. Lee, 2002 WL 1888591 (N.D. Ill. 2002) (holding contract term enforceable and not to be evaluated as liquidated damages clause); see also John C. Murray, Carveouts to Non-Recourse Loans: They Mean What They Say!, SJ004 ALI-ABA 185 (2003) (discussing, inter alia, the Heller case); FDIC v. Prince George Corp., 58 F.3d 1041 (4th Cir. 1995) (upholding finding that borrower's filing of bankruptcy petition triggered the carveout clause and allowed recourse).

It is common for the parties themselves to carve out contingencies under which the lender will have personal recourse against the debtor, but we exclude these from our discussion here because they are not part of the background "organizational" law. The following carveout terms are common: (1) losses due to bad acts of borrower, such as fraud, misrepresentation, and misappropriation of insurance proceeds; (2) environmental liability – borrower will be personally liable for any contamination of the property; (3) out of pocket expenses incurred by the lender in connection with a borrower default; (4) failure to pay insurance premiums or taxes; or (5) entire loan stated to be recourse if borrower files a bankruptcy petition. Mary Kay Kennedy & Martin M. Fleisher, Sample Negotiation of Mortgage Commitment and Loan Document Provisions, 461 PLI/Real 1059 (2000). See also Gregory M. Stein, The Scope of the Borrower's Liability in a Nonrecourse Real Estate Loan, 55 Wash. & Lee L. Rev. 1207, 1229 (1998); Michael D. Hamilton, The Borrower's Agenda, 513 PLI/Real 427, 472 (2005); Billie J. Ellis, Jr., et al., Negotiating and Documenting Real Estate Loan Transactions - Commonly Negotiated Provisions (With Forms), SB75 ALI-ABA 1, 13 (May 15, 1997). Courts have enforced these carveout provisions. See Heller Financial Inc. v. Lee, 2002 WL 1888591 (N.D. Ill. 2002) (holding contract term enforceable and not to be evaluated as liquidated damages clause); see also John C. Murray, Carveouts to Non-Recourse Loans: They Mean What They Say!, SJ004 ALI-ABA 185 (2003) (discussing, inter alia, the Heller case); FDIC v. Prince George Corp., 58 F.3d 1041 (4th Cir. 1995) (upholding finding that borrower's filing of bankruptcy petition triggered the carveout clause and allowed recourse).


If the debtor in a Chapter 11 reorganization chooses to keep the collateral asset rather than sell it, a secured creditor that has no recourse against the debtor is nevertheless treated as if it had recourse, unless the creditor elects to be secured to the full extent of the claim (rather than the value of the collateral). Bankruptcy Code §1111(b)(1)(A). If the secured creditor does not so elect, the debtor must pay the debt claim of the secured creditor in full (not just the value of the collateral) before it can cram-down a reorganization plan that gives shareholders any value in the firm emerging from Chapter 11. The section speaks of classes of claims,
but secured claims are usually each placed in a class of their own. As a result of this section, the non-electing nonrecourse lender is thereby put in essentially the same position as the recourse secured lender in Chapter 11 reorganization. For the nonrecourse lender, the effect of this provision and the election therein, is to protect the nonrecourse lender against being cashed out at the valuation given to the collateral by the court. If the secured lender makes the election, she is effectively guaranteed (unless she agrees otherwise) aggregate payments equal to the total amount of her claim, and to have a security interest in the collateral securing that amount.

Therefore, if the collateral is undervalued in bankruptcy, or later appreciates, the secured claim will capture the added value.

The Circuit Courts of Appeals are divided as to whether the deficiency claim of a nonrecourse secured creditor under §1111(b)(2) should be placed in a separate class from other unsecured claims. The majority hold that the deficiency claim should be combined with those of other unsecured creditors. In re Greyestone III Joint Venture, 995 F.2d 1274 (5th Cir. 1992). The Seventh Circuit, however, held that the nonrecourse creditor’s deficiency claim is sufficiently dissimilar to be placed in its own class because the claim does not exist outside Chapter 11. In re Woodstock Assoc., 19 F.3d 312 (7th Cir. 1994). For example, the consequence of a failed reorganization attempt is different for the deficiency claim of the nonrecourse creditor because no such claim exists under Chapter 7 or outside bankruptcy. Id, (the nonrecourse creditor’s deficiency claim was large enough to give it a veto in the unsecured class, so the debtor placed it in a separate class to ensure that the remaining unsecured claims constituted an accepting, impaired class for the purposes of a cram-down under 1129(b)).

U.C.C. §9-203(b)(3)(A), §9-502(a)(3) requires that the financing statement “indicates the collateral covered by the financing statement.” §9-504 (“A financing statement sufficiently indicates the collateral that it covers if the financing statement provides (1) a description of the collateral... or (2) an indication that the financing statement covers all assets or all personal property.”)

U.C.C. §9-108(b); ct. 2: “[A]n "all assets" or "all personal property" description for purposes of a security agreement is not sufficient. Note, however, that under §9-504, a financing statement sufficiently indicates the collateral if it "covers all asset or all personal property."” (italics in original); § 9-504 ct.2 (same).

Bankruptcy Code §362. In fact, the Supreme Court interpreted the Code to enable the debtor to recover even collateral that had been seized, though not sold, by the secured creditor. United States v. Whiting Pools, 462 U.S. 198 (1983).

Bankruptcy Code §362(d)(1); §363.


Of course, even if the claims of secured creditors were limited only to particular assets, this would not imply a partitioning of the value of the asset from the rest of the corporation: other investors will have access to any surplus the asset generates.

The use of security interests may be an intermediate mechanism, but it is less effective in segregating assets than distinct legal entities. See Hansmann and Kraakman, supra note --, at --; supra text accompanying notes --.

Del. Gen. Corp. Law §281(a); MBCA 1.40(22) (defines shares as “the units into which the proprietary interests in a corporation are divided”). See In re Estate of Mellot, 574, P.2d 960, 969 (Kan. Ct. App. 1977) (“By definition, a share of stock is a unit of interest in a corporation. While stock ownership confers no immediate title to any of the property of the corporation, it entitles the shareholders to a proportionate part of the property or its proceeds when distributed according to law and equity. Each share represents a distinct and undivided share or interest in the common property of the corporation”).

Of course, preferred stock differs from common equity in having many features of debt: preferred shareholders typically have a right to dividends annually, perhaps with conversion rights into common stock in the event of non-payment and/or a right to accumulated past unpaid dividends. Their right to dividends and to a fixed payoff on the corporation’s liquidation enjoys in priority over the interest of common shares. Common shareholders do not have a contractual right to dividends, but receive dividends at the discretion of the board of directors after corporate debts and dividends to preferred shareholders have been paid.

See, e.g., Jeffrey J. Hass, Directorial Fiduciary Duties in a Tracking Stock Equity Structure: The Need for a Duty of Fairness, 94 Mich. L. Rev. 2089, 2097 (1996) (“Most importantly, holders of a particular class of tracking stock have no direct claim against that assets of the business group to which their class is linked economically. Instead, based on their respective liquidation rights, such holders share in any assets of the entire corporation remaining once creditors and preferred stockholders have received all amounts owed to them.”)

Triantis, Internal Capital Markets, supra note xx at 1135; Bruce Hawthorne and Andrew Tebbe, Tracking Stock: Terms, Methods of Issuance, Advantages and Disadvantages, 1279 PLI/Corp 243, 248 (2001); Hass, supra.

Hawthorne and Tebbe, ibid.
Consider the stylized example of a corporation with 100 in assets divided equally across two divisions, A and B. Division A has issued tracking stock whose dissolution right depends on the market capitalization of the tracking stock relative to that of the rest of the corporation (i.e., Division B). Suppose that the corporation does not pay dividends, so that the value of the stock derives entirely from its liquidation value. The value of the relative market capitalizations of the divisions depends on the expected proceeds from liquidation which in turn depend on relative market capitalizations. Suppose that the market value of tracking stock A and B are each $50. If the firm were dissolved immediately, each stock would receive a payoff of 50. Now suppose that the firm operates for another period and division B incurs a loss of 20, so that the value of all the firm’s assets drops to 80. If the market value of tracking stock B does not change and the firm is dissolved, each stock would receive a payoff of 40. Therefore, each of their respective prices would fall to 40, leaving their share of the firm’s dissolution value unchanged. If an investor panics and sells her share of B for 30 so as to lower the observed market capitalization, this lowers the dissolution payoff of B and yields a self-realizing expectation. The relationship between the assets of the division and the value of the tracking stock on the relative market capitalization method of allocating proceeds could be positively related, unrelated, or conceivably even negatively related as the example shows. It depends on market activity that is unrelated to the performance of the tracked division.

For a comprehensive discussion of director’s duties under Delaware law, see In Re The Walt Disney Company Derivative Litigation, 2005 WL 2056651 (Del. Ch.).

Typically, that body is the board of directors. Corporate law permits a firm to identify an alternative governing body in its charter, but that body must hold all the powers and duties of a board of directors. The corporation’s business and affairs “shall be managed by or under the direction of a board of directors”. Del. Gen. Corp. Law §141(a). See Model Business Corporation Act 8.01(b).

Corporate law also constrains the types of decisions that the board can delegate: for instance, the board cannot delegate the power to approve, adopt or recommend to stockholders any matter that otherwise must be approved by stockholders, and the board cannot delegate the power to adopt, amend or repeal any bylaw of the corporation. Directors themselves may have the power to adopt, amend or repeal by-laws if such a power is set out in the certificate of incorporation: Del. Gen. Corp. Law §109(a). If the committee is established by a bylaw and the board does not have the authority to amend bylaws, the committee is nevertheless subject to dissolution by vote of the entire body of stockholders: Del. Gen. Corp. Law §109(a).

These are particularly significant because firms rarely opt out of the takeover defenses permitted by state law, suggesting that the availability of takeover defenses influences the incorporation decision. See, e.g., Robert Daines and Michael Klausner, Do IPO Charters Maximize Firm Value? Antitakeover Protection in IPOs, 17 Journal of Law, Economics and Organization 83-120, 96 (6% of Delaware firms opt out of Delaware's business combination statute at IPO, while 2% of non-Delaware companies opt out of relevant state antitakeover statutes); See Lucian Bebchuk and Alma Cohen, "Firms' Decisions Where to Incorporate" 46 Journal of Law and Economics 383-425 (2003); Subramanian, supra note xx. Pennsylvania permits firms to adopt stronger deterrents to takeover bids than Delaware. Pennsylvania has adopted a constituency statute, allowing directors to consider constituencies other than shareholders when reviewing an unsolicited takeover bid, a fair price statute, a control share acquisition statute that delays freeze-out transactions for a period following an acquisition of control. See Guhan Subramanian, The Influence of Antitakeover Statutes on Incorporation Choice: Evidence on the "Race" Debate and Antitakeover Overreaching, 150 U. Pa. L. Rev. 1828. Delaware simply has a business combination statute. Id.


66 See Triantis, supra note --, at 1135-7.
67 The relative voting rights per share are either fixed at the time the tracking stock is issued or floating based on market capitalization. Triantis, supra note xx at 1135 n96; Hawthorne and Tebbe, supra note xx at 247. Both Delaware and the MBCA permit a corporation to set aside seats on the board to be elected exclusively by specific classes of stockholders. MBCA §8.04; Del. Gen. Corp. Law §141(d).
68 Triantis, supra note --, at 1136 n. 98.
69 Triantis, supra note --, at 1136-7; Hawthorne and Tebbe, supra note xx at 249.
71 For example, managers may be disciplined to do keep capital costs low in order to survive competition in product and factor markets.
72 Boards issue debt and high-priority debt in particular also to lower their cost of capital at the expense of creditors who cannot or do not adjust their contract return to the capital structure of their debtors: tort creditors, for example. The potential gains from this strategy depend on the firm’s expected liability to these nonadjusting creditors, which is asset-contingent. For example, debt financing, and particularly secured financing, is more likely when the tort risk is higher. If high-tort-risk assets are combined with low-risk assets, then this benefit from preferring debt to equity financing is muted, but nevertheless can skew the financing of a larger firm with a broader set of assets. This consideration, however, may lead to the partitioning of operating from passive assets into distinct legal entities to allow for optimal tailoring.
73 [cite]
74 One manifestation of this problem is the tendency of managers to resist liquidation of assets even when their liquidation value exceeds their value in the firm’s going concern. Debt can provide for events of default that, when triggered, transfer control to creditors who then compel liquidation. Debt is particularly valuable in this respect, therefore, when this scenario is likely to transpire. Harris and Raviv, supra, 303.
75 The relationship between debt and asset substitution is more complicated than our brief discussion admits. The presence of debt increases the incentive of shareholders to push for excessive risk taking.
76 For example, suppose that Asset A produces $100 of free cash flow per period and Asset B produces $300 of free cash flow. Separate firms A and B may have periodic fixed obligations of $100 and $300, respectively, while the combined firm would have periodic fixed obligations of $400 to remove the aggregate free cash flow from managerial discretion.
77 Yet another interesting features is the convertibility of debt, which may be desirable to mitigate financial agency problems or to mitigate the market discount on equity interests where there is substantial information asymmetry.
78 Hansmann and Kraakman, supra note xx.
81 The literature on the efficiency of secured debt proposes that firms use security interests to focus specialized monitoring on asset groups within a firm. We have observed, however, that security interests are less effective partitioning devices than distinct legal person, such as corporations. Text accompanying note --.


Denis and Sarin, supra note xx.  


106 See Arlen and Talley, supra note xx.
107 See, e.g., Easterbrook and Fischel, supra note xx.
108 Daines and Klausner looked at IPO charters, supra note xx, 100-106. For example, corporations engaged in R&D may have significant growth opportunities which limits the agency costs of free cash flow, and hence limits the advantages of discipline from the market for corporate control.
109 It is possible that while the private optimality of takeover protection is compromised when assets are combined, social efficiency improves. For example, adopting takeover protection in order to extract rents from acquirors is not obviously socially useful, yet may be privately optimal. A capital structure compromise resulting from a combination of assets that lessens takeover defenses may be optimal socially even if sub-optimal privately.
111 See, generally, Merrill and Smith, supra note xx.
112 Triantis, supra note xx.
115 The sale of the receivables, however, leaves cash in the hands of the managers of the originator, raising similar concerns about the misuse of such cash. However, Iacobucci and Winter have argued that securitization creates economies of scale in monitoring the cash: its use can be evaluated in a single capital budget, rather than a series of smaller budgets.
116 Iacobucci and Winter, supra note xx.