# Diversification and the Legal Organization of the Firm

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Traditional diversification research has failed to account for the variety in ownership and organization for firms pursuing a diversification strategy. This paper begins to unpack this complicated issue.
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## Abstract
The existing literature on the relationship between strategy and structure tends to ignore the legal dimension of the organization of diversified firms. Yet, there is considerable variation in the legal organization of diversified firms; while some of these firms are organized as simple corporations, many are organized as "corporate groups" in which certain lines of business are organized as separate, subsidiary firms. In this paper we argue that this variation in legal organization is observed because legal organization can significantly affect firm value. In particular, forming subsidiary firms to accommodate new businesses can protect the outstanding stakeholders of a diversified firm from increases in bankruptcy risk and liability exposure. However, forming subsidiary firms also reduces economies of scope. Hence, there are offsetting costs and benefits to adopting different types of legal organization. Changes in these relative costs and benefits over time can also be expected to trigger changes in legal organization, as well as the divestiture of businesses characterized by particular types of economic hazards.
(*Diversification*; *Organization Structure*; *Subsidiary Firms*)

## 1. Introduction
Important relationships have been found between a firm's internal organization, its diversification strategy, and its performance. For example, Chandler (1962), Rumelt (1974), Williamson (1975), Hill (1985), Hoskisson (1987), and Argyres (1996) show that a firm's organizational "structure"—the way in which the activities of the diversified firm are divided into managerial subunits—is related to diversification and performance. Similarly, Kerr (1985), Hill (1988), and Hoskisson et al. (1993) show that the incentive and control mechanisms that are used to motivate coordination and/or competition among the subunits of diversified firms also affect performance, contingent on diversification strategy. We build on current theory and evidence by extending the concept of internal organization to include a firm's *legal organization;* we then argue that legal organization can also be expected to be related to diversification strategy and firm value.

The legal organization of a firm comprises those organizational arrangements that determine how the firm contracts with other parties, such as buyers, suppliers, lenders, investors, customers, and employees. The most familiar type of legal organization is the "simple corporation," in which a single legal entity is responsible for all contracting relationships. For example, if a firm that makes bicycles and skateboards were organized as a simple corporation, the corporation would be the sole and unique legal entity that owns the assets of both lines of business; receives the revenues from both lines of business; enters into contracts with suppliers for each line of business; employs the workers in each line of business; and is legally liable if customers of either line of business suffer an injury from using its products. Shareholders of the firm would own shares in the simple corporation, and banks would lend money to it.

Not all diversified firms are organized as simple corporations, however. Many firms are organized as "corporate groups" in which a "parent corporation" owns or partially owns a series of subsidiary corporations and/or

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partnerships. For example, if the bicycle and skateboard firm were organized as a corporate group, bicycle production and skateboard production would be organized as a separate subsidiaries, which would be either wholly owned (100% of the shares) or partially owned (less that 100% of the shares) by a parent corporation. Each subsidiary firm would have the same legal right to contract with other parties as the parent firm or any other legally incorporated firm. Hence, each subsidiary would own the assets of the relevant line of business and would contract with the suppliers, buyers, and employees of that business. Shares and debt could be secured on the subsidiaries' cash flows.

Empirical evidence indicates that corporate groups are a common form of legal organization among large diversified firms. For instance, Blumberg (1983) found that the average firm in the largest 1,000 industrial corporations in the United States in 1982 had 48 separate subsidiary firms. Similarly, Tricker (1984) found that the average firm of the largest 50 British firms in 1981 had 230 subsidiaries. There are several rationales for the formation of corporate groups. For example, a firm may create a subsidiary corporation when it operates overseas because foreign subsidiaries are locally accountable for paying local taxes and upholding local regulations. However, a question remains as to why so many firms organize their *domestic* lines of business as separate legal entities. Table 1 illustrates the extent of this phenomenon. It shows that in 1995, the average firm in a random alphabetical sample of 10 public firms had 13.4 subsidiaries, of which 6.4 subsidiaries (48%) were domestic. Only one firm had no subsidiaries.

**Table 1 Domestic Subsidiary Firms in Large U.S. Corporations**

| Firm Name | Total Number of Subsidiaries | Number of Domestic Subsidiaries |
|---|---|---|
| Hecla | 12 | 8 |
| Heilig-Myers | 5 | 5 |
| H.J. Heinz | 14 | 14 |
| Hercules | 13 | 1 |
| Hershey Foods | 4 | 2 |
| Hewlett-Packard | 39 | 6 |
| Hexcel | 0 | 0 |
| Hilton Hotels | 10 | 10 |
| Holly Corporation | 12 | 12 |
| Homestake Mining | 25 | 6 |
| Total | 134 | 64 |
| Average | 13.4 | 6.4 |

*Sources.* Standard and Poor's *Corporate Records*; Dun & Bradstreet's *Million Dollar Directory*.

*Sample.* For illustrative purposes, we randomly selected a New York Stock Exchange firm (Hecla). We then selected the nine alphabetically-sequential firms listed on the New York Stock Exchange.

Three principal explanations have been given to account for the prevalence of domestic subsidiaries. One of these is reduction or avoidance of the costs of product liability and other types of tort liability. Forming a corporate group may shield a parent firm from bearing the costs of tort liability claims lodged against a subsidiary.[1] The second is tax reduction. Subsidiary partnerships may allow firms to claim tax losses that would not accrue to integrated activities or to subsidiary corporations.[2] Finally, a "pyramid" of subsidiary firms may allow large shareholders to increase their voting control, relative to a simple corporation (Tricker 1984). These explanations undoubtedly explain the existence of some corporate groups, but we consider them to be unduly limiting. For instance, they ignore the opportunity costs of corporate groups. We argue that forming a corporate group results in losses of economies of scope that could be gained from diversification within a simple corporation. A second shortcoming is that existing explanations do not consider other benefits of corporate groups. We show that corporate groups can economize on transaction costs, relative to a simple corporation. Finally, the explanations ignore the issue of "incentive compatibility." The assumption is that managers will change legal organization when it is optimal from the point of view of the firm as a whole. However, because managers have different incentives than other corporate stakeholders, they may not adopt legal organizations that are value-maximizing if not doing so benefits their private interests. A valid theory of the legal organization of the firm must incorporate managers' interests, as we do.

We present a theory of the legal organization of the firm that explains why some diversified firms—and not others—may be organized as corporate groups. The core idea is that diversification can create conflicts of interest between different classes of corporate stakeholders. The conflicts arise because diversification within a simple corporation can create a situation in which some corporate stakeholders benefit from diversification and others are harmed. The latter will rationally take actions to protect themselves, either by seeking to prevent diversification or by seeking compensation after diversification. Their protective actions may include initiating lawsuits against management; proxy battles; the imposition of restrictive charter amendments, debt covenants, or labor agreements; and strikes. All such actions impose significant

costs—which we call "protection costs"—on the firm as a whole. According to our arguments, adopting a corporate group can reduce protection costs by reducing the losses from diversification that some stakeholders would otherwise bear. Hence, we predict that *the value of a diversified firm is related to its legal organization.* Our study therefore both extends and refines the current literature on the relationship between diversification, the internal organization of the firm, and firm performance.

The theory we present affords important insights. First, it predicts that the optimal legal organization of a diversified firm depends on the extent to which diversification yields economies of scope. Because corporate groups inhibit coordination within a firm, diversification within a corporate group structure will reduce economies of scope in comparison to diversification within a simple corporation. Consequently, if economies of scope from diversification are potentially large, the benefits of forming a corporate group may not outweigh the costs. Second, the theory we present provides explanations for why firms may prefer to form partially owned subsidiary firms rather than wholly owned subsidiary firms. We argue that the choice between these two forms also depends on stakeholders' comparative gains and losses from diversification. Finally, the theory identifies contextual and environmental factors that may promote corporate reorganizations and divestitures. In particular, we posit that recent changes in tort liability regulations and stakeholder rights may have precipitated corporate restructuring.

# 2. Background

## 2.1. Concepts: Corporate Stakeholders and Corporate Claims

The theory we develop is based on the understanding that every corporation has groups of "stakeholders" who may differ in their economic interests (Donaldson and Preston 1995). A corporate stakeholder can be defined as *a party that owns a claim on the incoming cash flows of a firm* (i.e., its revenues). In turn, a claim can be defined as *a contract between a firm and another party (such as a bank, an employee, or a supplier) that sets out the terms and conditions under which the firm makes payments to that party.* For example, an employee has a claim in the form of an employment contract that sets out when and how he or she will be paid. This is also true for banks, suppliers, and even customers, who are entitled to refunds or compensation if a products fails.

In a United States public corporation, claims on corporate revenues are ranked by law according to identity; some stakeholders can expect to have their claims paid before those of other stakeholders, so that claims are "prioritized." Fixed claims, requiring the firm to pay the stakeholder a fixed amount of cash at a fixed point in time in exchange for goods, services, or capital rendered, have higher priority than other claims. Among fixed claimants, the stakeholders with first priority are those owning "secured" fixed claims such as mortgages on specific buildings and vested pension funds. Next in priority are owners of unsecured fixed claims. Of these claimants, first priority goes to the Internal Revenue Service; a firm must pay its taxes before it pays any of its other unsecured financial obligations. Next, a firm pays its employees, its suppliers, and its unsecured debts. Finally, any remaining or "residual" cash flows belong, under the law, to the shareholders of the firm. Shareholders therefore have the lowest priority claims and the least certainty of being compensated for the capital they have provided to the firm. In the following section, we present a model showing that, in some circumstances, diversification can cause costly conflicts of interest between a firm's fixed and residual claimants. We also show that these conflicts can be moderated or eliminated by adoption of a corporate group form of organization at the time diversification takes place.

## 2.2. Model Assumptions

ASSUMPTION 1. *Fixed and residual claimants constitute single classes.*

We define two classes of corporate stakeholders, fixed claimants and residual claimants. We do not consider conflicts of interest among different classes of fixed claimants or among different classes of residual claimants. For example, managers, who are one type of fixed claimant, may be able to shift the costs of diversification that they would otherwise bear onto nonmanagerial employees, or onto banks, which are other types of fixed claimants. We do not consider such "burden-shifting" here, although our arguments can be extended to accommodate it. This issue is discussed in Section 4.

ASSUMPTION 2. *Fixed claimants and residual claimants are separate entities.*

We assume that fixed claimants own no residual claims and vice-versa. The two classes of claimants are separate parties in our model, as is generally the case in the United States public corporation. Under United States antitrust regulations, banks may not hold large equity stakes in nonfinancial firms. Similarly, managers in United States public corporations usually own fixed claims in the form of salaries, and rarely own large equity stakes (Jensen and Murphy 1990).[3]

In other countries fixed and residual claimants may not be so clearly separated. For instance, in Germany and Japan, banks typically own large proportions of both equity and debt in the same firms (Gilson 1995). In Japan, key buyers and suppliers may also own large equity shares (Gerlach 1993). The combined ownership of fixed and residual claims may serve to mitigate conflicts of interest over diversification. However, as we discuss in Section 3.6, these arrangements are costly, and are unlikely to completely eliminate conflicts among claimants.

ASSUMPTION *3. Managers who are fixed claimants, are primarily responsible for diversification decisions.*

Managers in large public United States corporations typically own little equity (Jensen and Murphy 1990), but have large fixed claims in terms of both salary and firm-specific human capital investments that can be recouped only in future salary payments. In return for their fixed compensation, managers generally have the responsibility and the right to allocate firm resources, and to diversify.[4] Of course, managers' right to diversify is not entirely unconstrained. Most importantly, for some decisions, managers must receive the approval of the board of directors, and the board must, by its charter, represent shareholders' interests. Shareholders can therefore exert some influence on managers' diversification decisions. However, the board is also legally charged with representing the interests of non-managerial fixed claimants such as employees, suppliers, and banks; it does not exclusively represent the interests of any single claimant group. Indeed, boards of directors are frequently the target of influence activities by various groups of claimants, as indicated by such events as proxy battles and amendments to corporate charters that seek to increase or reduce the influence of the board in managerial decision-making (Coffee 1986, Pound 1988, Jensen 1991). Therefore, rather than building the intermediatory role of the board into our model as an institutional mechanism *per se,* we recognize the board as one of the potential mechanisms available to both residual and fixed claimants to protect the value of their claims. This issue is discussed in detail in Section 2.4.

ASSUMPTION *4. Firms initially follow a single business strategy.*

For simplicity, we examine a firm's *first* diversification move, and analyze how the firm should be organized legally once diversification has taken place. Our arguments are generalizable to firms that are already diversified, but that plan to diversify further. In addition, our arguments easily extend to de-diversification. We discuss these extensions in Section 4.

ASSUMPTION *5. Prior to diversification, the firm is organized as a simple corporation.*

We assume the single business firm that undertakes diversification is initially organized as a simple corporation. In a simple corporation, a firm's transactions are conducted by a single legal entity that receives its revenues and pays its fixed and residual claims. Simple corporations and corporate groups are described in detail in Section 3.2.

### 2.3. The Impact of Diversification on the Value of Corporate Claims

Diversification may cause conflicts of interest between owners of outstanding fixed and residual claims on a simple corporation because it can have differential economic impact on the value of their claims. Three effects of diversification play a role in creating such conflicts of economic interest:

(a) the degree to which diversification generates economies of scope;

(b) the degree to which diversification changes the variance of corporate revenues; and

(c) the degree to which diversification increases the likelihood that the priority of outstanding corporate claims will be changed.

*2.3.1. Economies of Scope and the Value of Corporate Claims.* Economies of scope—often called "synergies"—are earned when productive assets such as manufacturing plants, distribution systems, research and development capabilities, brand names, knowhow, or capital are shared across more than one line of business (Panzar and Willig 1981). Economies of scope are more likely to be earned within a diversified firm than across specialized firms, because the transactions costs of sharing productive assets are lower within a single firm (Teece 1980).

Economies of scope that are earned from diversification will accrue largely to residual claimants, because the payments a firm makes to fixed claimants are by definition fixed. Consider a single business firm that has total revenues of \$10, total fixed claims (costs) of \$8, and residual cash flows of \$2 (\$10 minus \$8). Let this firm acquire a second line of business with identical revenues and fixed claims, but with which it can share distribution facilities. Now the revenues of the firm are doubled to \$20 ($2 \times \$10$), but costs are less than double because distribution facilities can be shared. Say that fixed costs of the diversified firm are \$14 rather than \$16 ($2 \times \$8$), the level they would be if facilities were not shared. Because costs are lower, residual cash flow is \$6 rather than $\$4 = 2 \times \$2$. Thus, diversification yielding economies

of scope has increased the value of outstanding residual claims, but not the value of outstanding fixed claims.

*2.3.2. Changes in Revenue Variance and the Value of Corporate Claims.* The variance of a diversified firm's revenues is the weighted sum of the variance of each line of business, plus the covariance among those revenues. Hence, so long as the revenues of the firm's lines of business are imperfectly correlated, the variance of its revenues of business will be less than the weighted average variance of the revenues of equivalent, independent lines of business (Llewellen 1971). This does not mean, however, that diversification cannot increase the variance of a firm's revenues. Consider a firm whose original business is investing in treasury bills, arguably the least risky of all assets. The firm would have an increase in revenue variance if it diversified into almost any other business. Concomitantly, a firm whose original business is highly cyclical, such as mining or construction, would most likely have lower revenue variance after diversification. Therefore, from the point of view of the outstanding claimants of a firm, diversification can either reduce or increase revenue variance.

When the variance of corporate revenues increases, the probability that the firm will become insolvent also increases. Insolvency imposes nontrivial costs on fixed claimants because, although an insolvent firm must pay its fixed claims before it pays its residual claims, fixed claimants are unlikely to be paid in full (Titman 1984). For example, workers who have made investments in firm-specific human capital such as specialized technological skills and who lose their jobs due to the firm's insolvency will not be compensated for these skills in their next job. In addition, insolvency may cause employees to lose pension rights, medical insurance, and other benefits. Similarly, suppliers may have to retool to serve new customers, and customers will lose their warranties. Such considerations cause the value of fixed claims to decline as cash flow variance increases. Fixed claimants therefore will favor diversification that reduces cash flow variance and oppose diversification that increases it. (Amihud and Lev 1981, Aron 1988).

Residual claimants, in contrast, will favor diversification that increases revenue variance, and oppose diversification that decreases it. Although residual claimants lose almost the entire value of their shares in bankruptcy, the value of shares increases when the variance of corporate cash flows increases because shares are financial options (Black and Scholes 1973). Shareholders' losses are limited to the loss of the initial price of the shares, but upside gains are unlimited.[5] Consequently, so long as mean revenues do not decline, an increase in revenue variance increases residual claimants' expected gains. Meanwhile, residual claimants minimize their exposure to bankruptcy risk by diversifying their investment portfolios (Sharpe 1963).

In sum, the economic interests of fixed and residual claimants in relation to changes in revenue variance are opposed; whenever one class favors diversification, the other will oppose it. Indeed, Galai and Masulis (1976) show that increases in revenue variance result in a direct transfer of wealth from fixed to residual claimants and vice versa. That is, if variance-increasing diversification increases the value of residual claims by a given amount, the value of fixed claims will decline by exactly the same amount.[6]

*2.3.3. Changes in Priority and the Value of Corporate Claims.* The final important economic effect of diversification within a simple corporation is that it can result in the creation of new claims that take precedence over current claims. A common situation in which this happens is when diversification increases the exposure of a firm to tort liability suits. For example, if a bicycle manufacturing firm that is organized as a simple corporation diversifies into skateboard production, the likelihood that the firm will be sued will increase because (arguably) more people are injured riding skateboards than riding bicycles. The result will be a loss of priority of the outstanding claims on the revenues on the bicycle firm, because tort liability awards must, by law, be paid before other fixed claims are paid. Hence, for a bank with an outstanding loan to the bicycle firm, the likelihood of having its debt repaid will be reduced after diversification.

There are other causes of loss of priority. For instance, in the United States, environmental cleanup costs must be paid by mandate of the federal government. Therefore, if a firm diversifies into a line of business that that is subject to environmental cleanup regulations, its outstanding claimants may have to pay for these newly assumed costs. Similar requirements may apply in other countries.

The outstanding claimants of a firm may also experience a *de facto* loss of priority after diversification, if it significantly increases the relative size of a higher priority claim. In this situation, even though the formal legal priority of the outstanding subordinate claims is not changed, the likelihood of their payment is reduced. Consider, for example, a firm entering a business in a new location that has strict worker safety regulations. This diversification increases the size of workers' potential claims relative to other subordinate claims, so that the probability of payment of subordinate claims falls. Another consideration is differences in bankruptcy regulations between states. Claims that have one level of priority in one state in bankruptcy may have a lower level

of priority in another state, because of differences in bankruptcy laws.[7]

It is important to note that both fixed and residual claimants have their economic interests harmed when diversification reduces the priority of their claims. Residual claimants bear the brunt of these costs, however, because their claims have the lowest priority.

In sum, diversification can differentially affect the value of outstanding fixed and residual claims on the firm. Hence:

PROPOSITION 1. *In a simple corporation, diversification can produce conflicts of interest between the outstanding fixed and residual claimants of the firm.*

The degree to which diversification differentially affects the economic interests of fixed and residual claimants depends on the balance of the costs and benefits each sustains from any given diversification event (See Appendix 2.) Taking that balance into account, fixed claimants may favor diversification when residual claimants oppose it or vice versa. These conflicts of interest are illustrated in the matrix in Figure 1. In the top left box of the matrix, both fixed and residual claimants gain from diversification and they agree to diversify. In the bottom right box of the matrix, both fixed and residual claimants lose from diversification and they agree not to diversify. In the other two boxes, however, fixed and residual claimants' interests diverge. In the bottom left box, fixed claimants, who manage the firm, want to diversify and residual claimants do not. In the top right box, fixed claimants do not want to diversify, but are pressured to do so by residual claimants.

Note that the central reason for the differential impact of diversification on the value of fixed and residual claims is that the outstanding claims of a firm—like other property rights—are not automatically, instantaneously, and costlessly renegotiated when conditions change (Demsetz 1967). For instance, employees do not automatically have their salaries adjusted upward to compensate them for the additional risk they bear when their employer's likelihood of insolvency increases. Similarly, a firm does not automatically compensate its shareholders when diversification reduces revenue variance. Rather, claimants whose economic interests are or will be harmed by diversification must take measures to protect the value of their claims. Such measures typically impose deadweight costs—protection costs—on the firm as a whole.

**Figure 1 Regions of Conflict and Agreement Between Fixed and Residual Claimants in a Simple Corporation**

### 2.4. Protection Costs

In our model, diversification decisions are made by managers, who are fixed claimants. Therefore, it is residual claimants who must take steps to protect the value of their claims from the negative impacts of diversification.

One way for residual claimants to protect their economic interests is through voting. Shareholders alone vote for the members of a firm's board of directors and if a standing board fails to protect shareholder interests, new board members may be elected. Shareholders can even force a board election through a "proxy battle" in which shareholders select and vote for a new board without cooperating with managers (Pound 1988). Alternatively, large shareholders or shareholder coalitions can pressure both a firm's board and its managers to change diversification policy by threatening to start a proxy battle or sell the firm (Shleifer and Vishny 1986, Pound 1992). Seeking to control a board is difficult and costly, however. First, managers as well as shareholders are represented on the board, so it may be difficult for shareholders to obtain a board majority to prevent or reverse diversification that benefits managers. Indeed, board members are frequently nominated by managers (Westphal and Zajac 1995). Second, the board has a much broader legal mandate than just protecting shareholders' interests; it is legally responsible for protecting the interests of other claimants as well, and directors may be held liable if they fail to fulfill this responsibility.

Another way for shareholders to protect their interests is by voting for amendments to the firm's corporate charter that increase their powers over managers' decisions. For instance, shareholders may vote for charter amendments requiring takeovers to be approved by a majority or supermajority of the firm's shareholders. Shareholders may also amend the charter to increase the number of outside directors on the board, or increase outsider representation on important board subcommittees such as the

executive committee (which approves many managerial decisions) or the nominating committee (which selects future officers and directors). Shareholders can sue a board if it flagrantly fails to protect their interests. However, it is both costly and difficult for shareholders to plead a claim against a board. Finally, shareholders can retaliate after diversification takes place by voting at shareholder meetings to reduce managers' salaries or increase dividends, thereby partially restoring the value of their claims.

Recent activism by shareholders of firms such as Continental Airlines, General Motors, IBM, Lockheed, American Express, and USX suggests that shareholders can sometimes influence firm diversification policy. Experience at these same firms illustrates, however, that managers can pursue polices that are unpopular with shareholders for prolonged periods of time (Jensen 1993). Such limits on shareholders' powers are due in large part to the high costs of corporate control transactions and legal proceedings (Williamson 1975). These costs are direct and indirect. For example, shareholder suits incur high legal costs and also divert managers' attention from the firm's ongoing business. Consequently, in many circumstances the costs to shareholders of protecting their interests through legal or constitutional mechanisms may not be worth the return. This does not mean that shareholders are powerless. Because shareholders can always sell their shares, even if doing so means taking a loss, managers can be disciplined indirectly through the movement of share prices. If managers act without consideration to shareholder interests for a prolonged period, the price of a firm's shares will fall and the firm will then become an attractive takeover target (Manne 1965). Therefore, the "invisible hand" of the market for corporate control enables shareholders in the aggregate to "settle up" with managers.

Note that shareholders do not bear all the costs of their protective actions; some of these costs are borne by fixed claimants. For instance, if shareholders sue the board of directors, managers who are on the board must incur legal costs to defend themselves. Similarly, managers may lose their jobs if shareholders launch a proxy battle or the firm is taken over. Shareholder retaliation may reduce managers' salaries, and selling off the stock of a firm will make it more costly for the firm to raise equity in future periods, to the detriment of managers whose future salary payments depend on the growth of the firm. Fixed claimants may also impose protection costs on residual claimants. For example, managers may preemptively seek to add amendments to the corporate constitution (such as staggered elections for directors) that make it more difficult for shareholders to control the board of directors or to vote on managerial decisions. Managers may retaliate against shareholders by withholding effort or by underinvesting in firm-specific human capital (Aron 1988). Thus, both fixed and residual claimants can impose protection costs on the firm—costs that would not be incurred *if there were no divergence of economic interest between fixed and residual claimants.*[8] Moreover, to the degree that the protection costs incurred by residual claimants are imposed on fixed claimants and vice versa, both parties suffer wealth losses when these costs are incurred. Hence:

PROPOSITION 2. *Both fixed and residual claimants have incentives to reduce protection costs.*

In the following section, we show that protection costs can be reduced or eliminated by changing a firm's legal organization at the time diversification takes place. As a result, the value of the firm may be increased.

# 3. Model

## 3.1. Minimizing Protection Costs Through Legal Reorganization

Figure 1 showed that in a simple corporation managed by fixed claimants, there are two situations in which managers and shareholders disagree about diversification. In one case, managers want to diversify and shareholders do not; in the other, shareholders want to diversify and managers do not. In each case, however, managers' or shareholders' resistance to diversification can be attributed to the fact that the economies of scope earned from diversification are not sufficiently high to offset their losses from either changes in revenue variance or reductions in the priority of their claims. (See Appendix 2.) At the limit, even if a class of claimants earns no economies of scope from diversification, they will not object to that diversification, so long as they do not bear any costs. Similarly, claimants will not object to diversification if the economies of scope earned offset the costs incurred. Thus, a solution to the problem of protection costs is for the firm to adopt a legal organization at the time of diversification that protects claimants from the negative effects of changes in revenue variance or changes in the priority of their claims. We show here that these ends may be achieved by changing the legal organization of a firm from a simple corporation to a corporate group at the time that diversification takes place.

## 3.2. Legal Organization and the Effects of Diversification on Corporate Claims

The critical aspect of a firm's legal organization, as it relates to our arguments here, is that it determines the

**Figure 2 Parent Firm Organized as a Simple Corporation**

ways in which corporate claims are secured. As a result, legal organization also determines the degree to which fixed and residual claimants sustain gains or losses from diversification.

The effects of diversification on corporate claims within a simple corporation are shown in Figure 2. Here, a firm with an original business, Business A, diversifies into a new business, Business B. Revenues from both lines of business of the diversified firm flow into the same legal entity—a simple corporation. A single class of fixed claims and a single class of residual claims are secured on those revenues. In sum, there is no separation of revenues or claims on revenues at the line of business level.

A corporate group with a wholly owned subsidiary firm is shown in Figure 3. Here, the new line of business of the firm, Business B, is organized as a subsidiary that is wholly owned by the parent corporation. Business B can issue its own fixed claims, which can be secured on its own revenues. Because Business B is wholly owned by the parent corporation, however, all of its residual cash flows accrue to the parent firm. Note that the revenues of the original line of business, Business A, flow directly to the parent; Business A is not organized as a subsidiary in this example.

A corporate group with a partially owned subsidiary is shown in Figure 4. The parent corporation owns only a

**Figure 3 Parent Firm with Wholly-owned Subsidiary**

**Figure 4 Parent Firm with Partially-owned Subsidiary**

portion, $x$ percent, of the shares of its subsidiary, which carries out Business B, the new business of the firm. Hence, only $x$ percent of the subsidiary's residual cash flows accrue to the parent; the remaining $(1 - x)$ percent flows to the other investors of the subsidiary. The residual cash flows that do accrue to the parent corporation are then mingled with the revenues of Business A, the original business of the firm. Note that the subsidiary in this case may be organized as a corporation with outside shareholders or as a partnership with outside partners. In contrast, a wholly owned subsidiary, by definition, cannot be organized as a partnership.

### 3.3. Using a Corporate Group to Reduce the Effects of Diversification on Revenue Variance

Corporate groups can reduce the extent of conflicts of interest between fixed and residual claimants, and thereby reduce protection costs, by reducing the negative effects of changes in revenue variance or changes in the priority of corporate claims.

*3.3.1. Corporate Groups and Variance-Increasing Diversification.* Increases in revenue variance resulting from diversification benefit residual claimants but harm fixed claimants. Therefore managers—who are fixed claimants—will resist variance-increasing diversification, even when it increases the value of the firm as a whole, if the costs they sustain personally (which stem from increases in variance) outweigh the personal benefits (economies of scope earned). Protection costs will then be imposed on the firm by residual claimants, who will take measures to pressure managers to diversify, and by fixed claimants (managers), seeking to protect their positions and their wealth. To reduce or avoid such protection

costs, a firm should adopt a legal organization at the time of diversification that:

(1) protects fixed claimants from increases in revenue variance (so the value of their claims is protected, and they are motivated to undertake the diversification) and, at the same time,

(2) allows residual claimants to benefit from increases in revenue variance (so the value of their claims increases, and protection costs are avoided).

A firm can protect the value of its outstanding fixed claims when diversification increases revenue variance by forming a corporate group in which its original business (Business *A*) is incorporated as a separate subsidiary firm wholly owned by a new parent firm. If all the outstanding fixed claims of Business *A* are secured on that subsidiary's revenues, there is no change whatsoever in the variance of the revenues on which outstanding fixed claims are secured. Therefore, in this arrangement, the outstanding fixed claimants of the firm have experienced no increase in the riskiness of their claims due to diversification.

Now let us consider what happens to the outstanding residual claimants of Business *A*, who can gain from variance-increasing diversification. If the variance of the combined cash flows of Business *A* and Business *B* is higher than the variance of the cash flows of Business *A* alone, outstanding residual claimants will prefer to have their claims secured on the combined cash flows of these two businesses, because this increases their variance from Variance *A* to Variance (*A* + *B*). In this case, all the residual claims of Business *A* should now be secured on the revenues of the parent corporation, in which the residual cash flows of the subsidiary conducting Business *A* will be combined with the revenues of Business *B*. In this arrangement, the outstanding residual claimants of the firm gain an increase in the value of their claims due to an increase in the variance of the revenues on which their claims are secured.

It is of course possible that the value of residual claims could be increased yet further if the new line of business of the firm, Business *B*, is also organized as a subsidiary firm that is only partially owned by the parent corporation.[9] This arrangement would allow the outstanding residual claimants of the firm (Business *A*) to hold new securities in a new legal entity (Business *B*) with higher revenue variance than the parent. In this case, a more complex form of corporate group will result, with one wholly-owned subsidiary firm (conducting Business *A*) and one partially-owned subsidiary firm (conducting Business *B*).

PROPOSITION 3. *When diversification increases revenue variance, the value of a diversifying firm will be higher if it is organized as a corporate group rather than a simple corporation. Specifically, the firm's value will be higher when it is organized as a corporate group in which (a) its outstanding fixed claims are secured on the cash flows of a subsidiary firm conducting its original business and (b) its outstanding residual claims are secured on the cash flows of the parent corporation and/or those of a subsidiary firm conducting its new business.*

In either case, the corporate group protects the value of outstanding fixed claims from increases in revenue variance. As a result, managers are willing to undertake diversification, and this allows residual claimants to benefit from increases in revenue variance. Thus, the corporate group provides an incentive-compatible solution to the problem of protection costs when diversification increases cash flow variance.

One interesting example of partially owned subsidiary firms formed to accommodate a new risky businesses is Disney's Silver Screen Partnerships (*New York Law Journal*, May 9, 1996). The partnerships were organized by Disney when it diversified into the risky major motion picture production business; each partnership was established to produce a specific number of films. Disney is the managing partner in each partnership, along with outside investors. The outstanding fixed claimants on Disney Corporation are protected from the additional risks of the motion picture business because their claims are secured on the original parent firm or on its other existing subsidiaries, which conduct less risky businesses.[10] New fixed claims associated with motion picture production are secured on the partnerships' revenues. The residual cash flows from Silver Screen accrue to Disney and to the other partners. Disney thus protects the value of its outstanding fixed claims while allowing its outstanding residual claimants to benefit from increased revenue variance and from economies of scope generated by Disney sharing its production facilities and expertise with Silver Screen.

*3.3.2. Corporate Groups and Variance-Reducing Diversification.* Decreases in revenue variance benefit fixed claimants but harm residual claimants. Therefore, managers will be motivated to undertake variance-reducing diversification even when it reduces the value of residual claims. Protection costs then may be imposed on the firm by residual claimants who seek to prevent or reverse such diversification, and by fixed claimants (managers) who respond by seeking to protect their positions and their wealth.

To reduce or avoid such protection costs, a firm should adopt a legal organization at the time of diversification that:

(1) allows fixed claimants to benefit from reductions in revenue variance (so the value of their claims is still increased) and, at the same time,

(2) protects residual claimants against reductions in revenue variance (so the value of their claims is not diminished).

The first of these ends can be achieved by forming a corporate group in which the outstanding fixed claims are secured primarily on the revenues of the parent firm. As the revenues of Business *A* and Business *B* are combined at the parent-firm level in this arrangement, their overall variance is reduced because of coinsurance. Therefore, shifting the outstanding fixed claims of the firm from Business *A* to the parent firm reduces their variance.

Now consider the original residual claimants of the firm. They stand to lose from variance-reduction due to diversification in a simple corporation because coinsurance affects all revenues that are pooled together. This negative effect of diversification can be moderated, however, by organizing the original business of the firm, Business *A,* as a subsidiary firm, and by spinning off a proportion of shares in the subsidiary to outstanding residual claimants at the time diversification takes place. Thus, the subsidiary firm will be owned partly by the parent corporation and partly by its original shareholders. Because the underlying variance of the revenues of Business *A* is unchanged by diversification, shares spun off to the original shareholders will experience no decrease in variance. However, a proportion of outstanding shareholders' original share capital will suffer from risk-reduction because ownership of the remaining shares of the subsidiary is transferred to the parent corporation, and the shares of the parent corporation will be necessarily secured on the intermingled revenues of Businesses *A* and *B.* Hence, protection costs can be eliminated altogether in this arrangement only if diversification generates economies of scope that are sufficiently high to offset residual claimants' losses from reductions in variance. Regardless of economies of scope, however, protection costs are reduced in the corporate group in comparison with undertaking diversification within a simple corporation.

PROPOSITION 4. *When diversification reduces revenue variance, the value of a diversifying firm will be higher if it is organized as a corporate group rather than a simple corporation. Specifically, the firm's value will be higher when it is organized as a corporate group in which (a) its outstanding fixed claims are secured on the cash flows of the parent corporation and (b) its outstanding residual claims are secured on the cash flows of its original business that is only partially owned by the parent corporation.*

One interesting example of a corporate group structured in this way is General Motors. During the 1980s, GM diversified into the defense business by acquiring Hughes and into the electronic data business by acquiring EDS. GM then internalized these acquisitions by making each of them a separately incorporated subsidiary that had its own class of "targeted" stock. This stock pays dividends based only on the residual cash flows of each line of business; GM's H-class of targeted stock is secured on the residual cash flows of Hughes and its E-class stock is secured on the residual cash flows of EDS. The original stock of GM is secured on the residual cash flows of GM's automobile business. Thus, the outstanding shareholders of GM were protected to some degree from coinsurance losses after these diversifying acquisitions. At the same time, the original fixed claimants of GM have been able to gain coinsurance benefits from having some of their claims secured on the cash flows of the corporate parent, which now accrue from three separate businesses.

### 3.4. Using a Corporate Group to Reduce the Effects of Diversification on the Priority of Outstanding Claims

Recall that the priority of outstanding claims on a diversifying firm's revenues may be affected if a new line of business adds claims that have higher priority or increases the size of high-priority claims. In the United States, a diversifying firm can protect itself from reductions in priority by organizing the new business as a separately incorporated subsidiary. This organizational arrangement generally entitles the parent corporation to have the same limited liability towards the subsidiary firm as any other shareholder, except under restricted circumstances.[11] For instance, a parent firm cannot be legally obligated to pay the tort liability costs of a subsidiary corporation, even if the subsidiary itself cannot pay those costs (Posner 1976, Meiners et al. 1979, Halpern et al. 1980, Blumberg 1983, Easterbrook and Fischel 1985, Schwartz 1985). As a matter of civil law, however, the parent firm of a partially owned subsidiary generally has more protection in terms of limited tort liability than the parent firm of a wholly owned subsidiary (Easterbrook and Fischel 1985). This is because it is usually more difficult to demonstrate that a partially owned subsidiary is acting as an agent of a parent firm, if outsiders also have a stake in that subsidiary. Hence:

PROPOSITION 5. *When diversification reduces the priority of outstanding claims, the value of a diversified firm will be higher if it is organized as a corporate group in which its new business is organized as a separate subsidiary corporation, than if its organized as a simple corporation.*

One important observation in relation to avoiding changes in claim priority is that adopting a corporate group may be optimal even when fixed and residual claimants agree about diversification policy. For example, in the case of the bicycle firm that diversifies into skateboards, the costs of injuries to skateboard users would be sustained by both fixed and residual claimants. Both of these parties may therefore support incorporation of the skateboard business as a legally-separate subsidiary.

One recent example of the impact of increased tort liability on corporate organization is the proposed reorganization of Philip Morris. The company has long held its tobacco interests and its other businesses in separate but wholly owned subsidiary firms. However, Philip Morris has recently proposed spinning off its tobacco subsidiary into a separate, partially held corporation, because of concern that its tobacco business might eventually be found legally responsible for the deaths of tobacco consumers. Such a legal reorganization would effectively reduce the likelihood that the parent firm would be found responsible for any future tort liability judgments against the tobacco subsidiary.[12]

### 3.5. Economies of Scope in Corporate Groups

Although corporate groups may reduce or eliminate the negative effects of diversification, they also have their costs: economies of scope may be lower within a corporate group than within a simple corporation. In a simple corporation, managers' power to specify and enforce agreements is largely unconstrained; consequently, coordination costs are minimized (Masten 1988, Williamson 1991). In a corporate group, managers' power to specify and enforce agreements with and among subsidiary firms may be more circumscribed.[13] If a subsidiary is wholly owned, increases in coordination costs may be relatively modest because the parent firm's management can elect the subsidiary's board of directors and appoint its executives, and there are no outside shareholders whose interests must be protected. If a subsidiary is partially owned, however, the interests of minority shareholders are protected by law, so some types of coordination arrangements are infeasible. Finally, if a subsidiary is minority owned, a parent firm may have no more power than any other shareholder to mandate the terms and conditions of transactions.

Reductions in economies of scope may influence the optimal legal organization of a diversified firm by affecting protection costs. Recall that most economies of scope accrue to residual claimants rather than to fixed claimants who manage the firm. Hence, reductions in economies of scope are unlikely to have a direct effect on whether or not managers want to diversify. However, consideration of economies of scope can be expected to influence the degree to which residual claimants will oppose diversification within one legal organization or another, or oppose nondiversification. For instance, in the case of risk-reducing diversification, if losses of economies of scope are high in a corporate group compared with the value of conserving revenue variance, the optimal legal organization of the diversified firm from the point of view of residual claimants may still be a simple corporation. In this case, protection costs stemming from diversification would be higher in a corporate group, than they would be in a simple corporation.

PROPOSITION 6. *The optimal legal organization of a diversifying firm depends, ceteris paribus, on the economies of scope that can be earned in a corporate group in relation to the economies of scope that could be earned within a simple corporation.*

One interesting implication of Proposition 6 is that the level of "relatedness" between the lines of business of a diversified firm may be a choice variable. That is, given a maximum potential level of economies of scope between two businesses, the realized level of economies of scope may depend on the costs and benefits to fixed and residual claimants of exploiting the economies of scope versus the costs and benefits to fixed and residual claimants of changes in revenue variance or changes in priority. In some circumstances, the first-best choice may be to maximize economies of scope within a simple corporation. In other circumstances, however, the first-best choice may be to minimize changes in revenue variance or priority within a corporate group, with the result that economies of scope earned will be lower than their maximum potential level.

Consider once again the bicycle and skateboard firm. Assume the firm can exploit economies of scope in production, advertising, and distribution. Yet, fully integrating the operations of its two businesses to exploit these economies of scope—which can be accomplished only within a simple corporation—would cause each business to become liable for the tort liabilities of the other. Recall that the skateboard business is assumed to be more likely to experience tort liability suits than the bicycle business, which is the original business of the firm. After diversification, then, the owners of the outstanding claims on the bicycle firm will experience a loss in priority of their claims unless the new skateboard business is separately incorporated and is operated as an independent firm. Such an arrangement, however, would shift the administration of the shared assets of the firm from a pure hierarchical mode of governance to a more costly "hybrid" mode (Williamson 1991). As a result, economies of scope will

be eroded, so the corporate group's implemented strategy will be less "related" than would be the case were the two businesses organized as a simple corporation.

A second implication of Proposition 6 is that a corporate group is likely to be formed when a new line of business offers relatively low potential economies of scope; that is, when the acquisition is not highly related. In this case, losses of potential economies of scope in a corporate group will be relatively lower. Hence, we would expect to observe more corporate groups among firms pursuing unrelated or weakly related diversification strategies than among firms pursuing highly related diversification strategies. Similarly, we would expect unrelated or weakly related acquisitions to be internalized in the form of subsidiary firms, whereas we would expect highly related acquisitions to be internalized into the current corporate structure of the acquiring firm.

### 3.6. Other Methods of Minimizing Protection Costs

Forming a corporate group is not the only solution to resolving differences of economic interests between fixed and residual claimants. An alternative solution is to align the interests of fixed and residual claimants by creating combined or "hybrid" claims. Because hybrid claims have both fixed and residual components, owners of such claims both gain and lose when a firm diversifies. One common example of creating hybrid claims is awarding managers or other employees residual claims in the form of stock bonuses, stock options, or vested interests in employee stock ownership plans. Such arrangements reduces managers' incentives to diversify at residual claimants' expense (Amihud and Lev 1981). Contracts for the supply of capital to the firm, such as preferred stock, convertible debentures, and equity warrants, also have fixed and residual components (Lehn and Poulsen 1991). The owners of these hybrid financial claims are less likely that pure bondholders, but more likely than shareholders, to favor variance-reducing diversification.

Despite their incentive-alignment benefits, hybrid claims increase the costs of a firm because risk-bearing is no longer perfectly specialized between fixed and residual claimants. Without hybrid claims, fixed and residual claimants bear different types of risk and are paid for the risk they bear (Fama and Jensen 1983). Residual claimants bear the uncertainty of payoffs from their equity investments, but can diversify firm-specific risk away by investing in a portfolio of stocks (Sharpe 1963). Fixed claimants bear more firm-specific risk because they make more firm-specific investments than residual claimants, but receive a more certain payoff stream in return. With hybrid claims, however, claimants who make firm-specific investments are exposed to more risk than pure fixed claimants, without the protections that portfolio diversification offers. For instance, managers and other employees who are paid partially with stock options exchange part of their fixed salary for more risky claims. However, employees cannot diversify away their risk in the stock option. As a result, the implicit cost of equity and stock options owned by managers and employees is higher than it would be otherwise. Alternatively, managers, employees, and other claimants may reduce their level of investment in firm-specific capital when they face increases in firm-specific risk; this will also reduce the value of the firm (Titman 1984, Aron 1988).

Instituting hybrid claims has other costs. First, it is difficult to perfectly align claimants' interests using hybrid claims. To be completely effective in deterring diversification (or nondiversification) that harms residual claimants' interests, managers' gains must be to be zero. However, this may not be feasible because managers make significant investments in firm-specific human capital whose risk is difficult to offset with other firm-specific claims. In addition, hybrid claims cannot protect either fixed or residual claimants from changes in priority; these costs of diversification can be remediated only through changes in legal organization. Consequently, in many instances, creating hybrid claims will be both more costly and less effective in resolving differences in interests between classes of corporate claimants than adjusting legal organization. This will be particularly true when changes in legal organization can eliminate differences in interests without foregoing economies of scope. However, creating hybrid claims may be a useful complementary mechanism where adjustments to legal organization cannot completely eliminate protection costs. We leave detailed consideration of this issue to future research.

## 4. Discussion

### 4.1. Summary and Implications

In this paper, we present a theory that explains why many diversified firms are organized as corporate groups. We show that under some circumstances, the value of a diversified firm will be higher if it is organized as a corporate group than if it is organized as a simple corporation. This is because costs that might be borne by some current stakeholders of a firm if it diversifies within a simple corporation can be reduced or eliminated if diversification takes place within a corporate group structure. As a result, adopting a corporate group form of legal organization may significantly economize on transaction costs.

Our theory provides several insights about the relationships between diversification strategy, legal organization,

and firm value. The first, and by far the most important one in our view, is that the value of a diversified firm is related to its legal organization. Management scholars have long recognized that the internal organization of diversified firms has a significant impact on their value. However, no theories of internal organization to date have incorporated legal organization, nor have empirical studies controlled for this factor. Indeed, there may be important connections between a firm's legal organization, its internal organization, and its value. For instance, there has been a long-lived theoretical and empirical debate about the optimality of the multidivisional or "M-form" organization in diversified firms. Chandler (1962) and Williamson (1975) have argued that the M-form organization is more efficient for administering a diversification strategy than other, more centralized forms of internal organization. Hoskisson (1987) and Hoskisson et al. (1993) have argued in contrast that the M-form organization results in a sacrifice of both short-term coordination benefits (economies of scope) and more long-term gains from innovation. Empirical evidence on this issue is mixed. Some evidence supports the view that adoption of the M-form structure increases corporate performance (Armour and Teece 1978). Other evidence supports the view that more centralized divisional firms outperform M-form firms (Hoskisson 1987, Hill 1988).

Our arguments indicate that one reason for the mixed empirical evidence may be that existing tests of the "M-form hypothesis" have not controlled for the legal organization of the firm. In terms of our theory, corporate groups will necessarily have an M-form internal organization. Functional or hybrid organizations, and even centralized "CM-form" organizations, are not feasible within a corporate group structure because each subsidiary in a corporate group is required to maintain separate accounts for the benefit of its claimants, and to operate relatively independently of the parent firm. Hence, one advantage of the M-form organization is that it can accommodate a corporate group form of organization with its attendant benefits. However, economies of scope will be lower in a corporate group. We therefore would expect to observe M-form organization in a diversified firm with lines of business in "high-liability" industries and in industries that offer fewer potential economies of scope. The overall value of these M-form corporate groups may be lower than the value of more centralized firms, as shown by Hill (1988). Nonetheless, according to our theory, the value of *these specific* firms would be even lower yet if they were organized as more centralized firms, because they would forego the benefits afforded by a corporate group.

A second, associated insight stemming from our theory is that the value of any specific diversification event should depend, inter alia, on the legal organization within which it takes place. This may explain why the results of the large literature on the stock market valuation of diversifying acquisitions are somewhat inconclusive. Whereas some empirical findings suggest that related acquisitions earn higher total returns than unrelated acquisitions, other findings do not support this conclusion.[14] Our theory suggests that differences in legal organization may be one reason for these mixed findings. For example, if managers elect to acquire a new business that reduces cash flow variance, the outstanding shareholders of the firm may value this acquisition more highly if, at the time of acquisition, the diversifying firm is reorganized into a corporate group with partially-held subsidiary firms. Consequently, a firm that fails to make this type of organizational adjustment at the time of the acquisition will have its shares discounted to account for shareholders' actual and expected losses from variance reduction. Similar considerations apply to the stock market's valuation of divestitures. For instance, a divestiture may involve either a partial spinoff—an "equity carve-out"—or a complete selloff of a line of business. Where tort liability threat is high, shareholders may value the selloff more highly than a partial spinoff because expected tort liabilities are zero for a completely non-owned firm, even though no postdivestiture economies of scope can be earned under this organizational arrangement.[15]

A third insight stemming from our theory is that the "relatedness" of a given diversification strategy may be a choice variable for managers, because it is more difficult and costly to exploit economies of scope in corporate groups. One issue that has long puzzled strategy researchers is why there should be such large observed differences between theoretical levels of relatedness (as derived, for example, from SIC codes) and observed levels of relatedness. For instance, Nayyar (1992) found that external and internal measures of diversification strategy were congruent in only half of a sample of 80 service firms that he studied. He remarks ". . . . it is possible that at least some of these firms may either be unable to, or may have chosen not to, exploit any relatedness among their businesses." Nayyar's findings can be explained by the theory we present here. Specifically, managers may have been unwilling to exploit economies of scope within a simple corporation because of the high associated protection costs; within a corporate group structure instead, they may have been unable to exploit them.

A fourth and final insight provided by our theory is that corporate restructurings, especially spinoffs and divestitures, may result from changes in the costs of diversification or changes in the distribution of its costs and benefits between fixed and residual claimants. Because our

theory argues that the optimal legal organization of a firm depends on economies of scope, cash flow variance, and the priority of claims, changes in any of these factors can be expected to change the optimal legal organization of a firm and even, its overall scope. For example, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), passed by Congress in 1980, greatly increased corporations' liability for cleaning up their toxic waste. Our theory suggests that corporations in lines of business affected by CERCLA should have spun off these lines of business into partially owned subsidiaries, or divested them altogether. Similarly, courts have increasingly found firms liable for consumer damages (Huber 1988). In the case of product liability, 48 states now hold firms "strictly liable" for their products, which means firms are "responsible for any product-related injuries, regardless of negligence" (Viscusi 1991).[16] Again, our theory predicts that firms should increasingly spin off or divest lines of business affected by these laws. Consistent with this prediction, Barney et al. (1992) show that firms are significantly less vertically integrated in industries where product liability exposure is high. We know of no study that has examined the relationship between spinoffs and liability; however, anecdotal evidence supports such a relationship. For instance, in 1992, Manville Corporation spun off its forest-products division from its asbestos-related businesses "to separate the operation from the specter of continued asbestos-related litigation" (*Wall Street Journal,* December 10, 1992, p. A5). Similarly, Kimberly-Clark (a manufacturer of cigarette paper and sheets of pressed, reconstituted tobacco for cigarettes), which was recently named a defendant in a one-billion-dollar tobacco liability suit, is considering spinning off its tobacco operations (*Wall Street Journal,* April 10, 1995). Increases in corporate tort liability exposure might therefore help to explain why diversification created value during the 1960s, whereas refocusing created value during the 1980s (Comment and Jarrell 1995, Markides 1995, Matsusaka 1993).

Our theory also contributes to a better understanding of why purchases of large blocks of stock may be followed by corporate restructuring, as witnessed in many large United States corporations during the 1980s (Holderness and Sheehan 1985, Pound 1992). According to our theory, residual claimants are more likely to undertake variance-increasing diversification than fixed claimants, and to maximize economies of scope by organizing the firm as a simple corporation. Consequently, block share purchases, which increase the influence of residual claimants on managerial decisions, can be expected to be followed by changes in a firm's legal organization and scope to accommodate residual claimants' interests. This observation can be generalized: the legal organization of a diversified firm can be expected to be related to that firm's ownership structure, and to be responsive to changes in ownership structure that essentially transfer managerial decision rights from fixed to residual claimants, such as LBOs. Note, however, that if shareholders manage the firm, their actions may harm fixed claimants, who will then seek to protect their own interests—a mirror image of the argument we have presented. For example, workers may form new unions, or sue shareholder-managers under federal laws that protect workers' financial interests.[17] Bondholders may write more restrictive covenants into loan agreements, and may sue under security laws that require firms to issue prospectuses and disclose planned restructurings when they issue new debt (Smith and Warner 1979, McDaniel 1988).[18] Therefore, if shareholders manage the firm they will also have incentives to reduce protection costs, and to adjust the legal organization of the firm accordingly.

Finally, we would expect changes in legal organization and changes in firm scope to follow changes in the costs of protective activities and/or in claimants' ability to impose protection costs on other claimants. For instance, in December 1995, Congress passed legislation making it more difficult for shareholders to institute legal proceedings against corporate directors unless malfeasance can be clearly demonstrated (*Wall Street Journal,* December 26, 1995, p. A2). This law increased shareholders' costs of self-protection and reduced their ability to impose protection costs on managers. As a result, we would expect managers to show less accommodation of shareholders' interests through adjustments to legal organization following the passage of this law.

### 4.2. Provisos

Several provisos apply to our theory. First, the model is admittedly a simplified one. For instance, we consider only a firm's first diversification step. For firms that are already diversified, however, the legal-organizational sequelae of diversification can be expected to be similar to those we discuss. For example, a firm can avoid tort liability exposure by creating a new subsidiary, regardless of how many lines of business it already has. Moreover, there is no legal limit on the number of partially held or wholly owned subsidiaries a firm can have. Indeed, the fact that so many large, diversified firms have large numbers of subsidiaries (Blumberg 1983, 1986; Tricker 1984), and the fact that frequently, a diversified firm arranges the legal organization of its subsidiaries in a variety of different ways, suggest that firms do indeed fine-tune their legal organizations to suit the exigencies of the different businesses in which they are involved.

In addition, we do not consider burden-shifting among the classes of fixed claimants and among the classes of residual claimants in our model. In particular, managers may be able to shift some of the costs they might otherwise bear from diversification onto other employees. For example, in 1986, the managers of Varity Corporation encouraged employees to invest their pension funds in the stock of one of its subsidiaries, Massey Combines Corporation. This subsidiary was essentially bankrupt at the time. As a result, the managers of Varity increased the value of the parent firm (and their own claims on it) at the expense of its workers' and retirees' wealth. In March 1996, the Supreme Court ruled that Varity's managers had acted fraudulently, and ordered them to pay compensation (*Wall Street Journal*, March 20, 1996, p. A3). In this case, workers had legal redress. However, our theory predicts that the prospect of such behavior can impose protection costs on the firm. For instance, workers who feel they are being exposed unduly to additional bankruptcy risk (such as those at Varity) may demand higher pay, go on strike, or institute legal proceedings to protect their outstanding pension and other claims. Hence, we would expect manager-shareholders to protect existing workers' interests at the time that variance-increasing diversification takes place by adjusting the legal organization of the firm. In addition, managers may need to provide legally enforceable assurances to workers about the particular legal entity with which their employment contracts are to be written, and about the assets on which workers pension rights are to be secured.

A second proviso is that our study is not the first to examine the role of tort liability in the formation of corporate groups. In particular, a number of theoretical and empirical studies in the legal literature examine the impact of tort liability on business organization (Posner 1976, Meiners et al. 1979, Halpern et al. 1980, Blumberg 1983, 1986, Roe 1984, Easterbrook and Fischel 1985, Schwartz 1985, Barney et al. 1992). In general, these studies suggest that corporate groups will emerge where lines of business are exposed to significant tort liability risks. We do, however, provide new insights on this issue. Most importantly, we show that tort liability is only one of the several costs of diversification that must be considered in deriving a firm's optimal legal organization. We also show that economies of scope may well reverse the desirability of forming a corporate group, and extend the tort liability argument to the more general concept of changes in the priority of corporate claims.

A third proviso is that some aspects of our theory are specific to the legal and institutional context of the United States. For instance, as pointed out in Assumption 2, regulations in the United States tend result in specialization among corporate claimants between fixed and residual claims. In Germany and Japan, some types of hybrid claims—especially equity ownership by banks—are more commonly observed. In addition, cross-ownership of shares between subsidiary firms is somewhat restricted by security regulations in the United States, while cross-ownership is common in large industrial groups in Europe and Japan (Tricker 1984, Gerlach 1993).[19] Many other legal and institutional factors can also be expected to cause differences in legal organization in other countries, such as differences in prioritization, in tort liability exposure (which is exceptionally high in the United States), and in the rights of fixed and residual claimants to influence firm policies. Nonetheless, the corporate form (and many of the protections that it confers such as limited liability) is now widespread throughout developed economies. Our arguments therefore can be extended, with some refinement, to many other settings. We leave this issue to future research.

Finally, we note that other explanations have been given for the formation of corporate groups. For instance, firms may create separate subsidiaries when operating overseas. Such subsidiaries may be necessary for local tax and regulatory reasons, regardless of their impact on protection costs and the priority of corporate claims. Nonetheless, foreign subsidiaries may also shield a parent firm from changes in priority, so their formation does not lie entirely outside the scope of our theory.[20] Alternatively, Tricker (1984) has argued that some corporate groups are formed to leverage the voting power of certain shareholders. By "pyramiding" ownership through a vertical array of subsidiary firms, a single individual or family can gradually concentrate its ownership of a large number of different firms. Accordingly, one would expect the ownership of parent firms in corporate groups to be concentrated, while the ownership of subsidiary firms is more widely-held. However, in most large United States corporations, parent firm ownership is relatively diffuse. Thus ownership concentration does not appear to be the primary motivation for the formation of corporate groups in the United States. Tricker's argument may be relevant, however, to the "family capitalism" and "group capitalism" systems of countries such as Korea, Japan, and India.

### 4.3. Concluding Remarks

To date the legal organization of firms has been largely neglected by organization scholars. Yet, the subject is important because of the potential impact of legal organization on the overall value of diversified firms, and because of the economic importance of these firms in the United States and other developed economies (Montgomery 1994). We take a first step here towards

incorporating legal organization into the literature on strategy, structure, and performance. Much work remains. In particular, many refinements and extensions of our basic theory should be pursued, such as incorporating burden-shifting and corporate cross-holdings directly into the model. In addition, many of our propositions can be tested empirically. We hope these issues will be addressed in future research on this important topic.

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## Appendix 1. Revenue Variance and the Value of Residual and Fixed Claims: A Numerical Example

Consider a firm whose only asset is a one-year loan of $1,000 to the United States Government. Let us assume that the government has promised an 8% return on the money. Hence, the firm's expected income at the end of the year will be $80, and it will also receive the $1,000 of principal that it loaned the government. Because the income and principal amount of the loan are guaranteed by the full faith and credit of the United States Government, the variance of the firm's revenue is zero. Let us also assume that the firm has fixed claims against its revenues of $800. Therefore, with complete certainty, fixed claimants will receive $800 at the end of the year and residual claimants will receive $280 ($1,080 − $800 = $280).

Alternatively, the firm can invest $1,000 in a high variance return casino. The payoff at the end of the year will either be $2,160 with a 50% probability or zero with a 50% probability, thereby generating expected income of $80 (50% * $2,160 + 50% * $0 = $1,080). The firm continues to have $800 of fixed claims against its revenues. Fixed claimants will therefore receive either $800 if the casino generates income of $2,160 or will receive nothing if the casino fails. Hence, fixed claimants expect to receive $400 on average (50% * $800 + 50% * $0 = $400). Residual claimants, however, expect to receive $1,360 ($2,160 − $800 = $1,360) if the casino is successful and nothing if it fails. Residual claimants therefore expect to receive $680 (50% * $1,360 + 50% * $0 = $680) on average. Clearly, fixed claimants are worse off and residual claimants are better off when revenue variance rises, if expected income is held constant.

## Appendix 2. Summary of the Gains and Losses to Fixed and Residual Claimants from Diversification, and Identification of Areas of Disagreement Over Diversification Policy

### A.1. Summary of Gains and Losses to Claimants from Diversification within a Simple Corporation

*A.1.1. Economies of Scope.* If diversification generates economies of scope of $(1 + \gamma)\,E$, residual claimants earn $E$ and fixed claimants earn only a fraction of this benefit, $\gamma E$, where $0 \leq \gamma < 1$.

*A.1.2. Changes in Cash Flow Variance.* If diversification reduces cash flow variance, ceteris paribus, fixed claimants gain $S$ and residual claimants lose $S$.

If diversification increases cash flow variance, ceteris paribus, fixed claimants lose $S$ and residual claimants gain $S$.

*A.1.3. Changes in the Priority of Outstanding Claims.* If diversification reduces the priority of outstanding claims with total losses to outstanding claimants of $(1 + \phi)T$, residual claimants lose $T$ and fixed claimants lose a fraction of this amount, $\phi T$, where $0 \leq \phi < 1$.

*Total Effects of Diversification within a Simple Corporation.*

Fixed claimants will lose from diversification when $\gamma E - / + S - \phi T < 0$.

Residual claimants will lose when $E + / - S - T < 0$.

### A.2. Areas of Disagreement over Diversification Policy Between Fixed and Residual Claimants

Fixed and residual claimants will disagree about diversification under the following conditions.

*A.2.1. When Diversification Decreases Cash Flow Variance.*

- Fixed claimants will favor diversification so long as $\gamma E + S - \phi T > 0$ and residual claimants will oppose it when $E - S - T < 0$. These conditions exist for some $E$, $S$, and $T$.[21]
- Fixed claimants will oppose diversification so long as $\gamma E + S - \phi T < 0$ and residual claimants will favor it when $E - S - T > 0$. These conditions exist for some $E$, $S$, and $T$.[21]

*A.2.2. When Diversification Increases Cash Flow Variance.*

- Residual claimants will favor diversification so long as $E + S - T > 0$ and fixed claimants will oppose it so long as $\gamma E - S - \phi T < 0$. These conditions exist for some $E$, $S$, and $T$.[21]
- Residual claimants will oppose diversification so long as $E - S - T < 0$ and fixed claimants will favor it when $\gamma E - S - \phi T > 0$. These conditions exist for some $E$, $S$, and $T$.[21]

*A.2.3. When Diversification Has No Effect on Cash Flow Variance.*

- Fixed claimants will favor diversification and residual claimants oppose it when $\gamma E - \phi T > 0$ and $E - T < 0$ respectively. These conditions exist for some $\gamma$ and $\phi$.[21]
- Fixed claimants will oppose diversification and residual claimants favor it when $\gamma E - \phi T < 0$ and $E - T > 0$ respectively. These conditions exist for some $\gamma$ and $\phi$.[21]

## Endnotes

[1]See, for example, Posner (1976), Meiners, et al. (1979), Halpern et al. (1980), Blumberg (1983), Easterbrook and Fischel (1985), and Schwartz (1985). This issue is discussed in detail in section 2.5. Empirical evidence reported by Barney et al. (1992) shows that firms are significantly less vertically integrated in industries where product liability exposure is high. However, we know of no empirical research that has investigated the degree to which tort liability exposure leads to the formation of subsidiary firms.

[2]Before the Tax Reform Act of 1986, subsidiary partnerships could earn significant tax loss benefits. These reforms, however, eliminated most partnership-related tax benefits, making tax gains an unlikely explanation for recently-formed partnership subsidiaries.

[3]A few large, public United States corporations are managed by major shareholders. They include Microsoft (Bill Gates), Berkshire Hathaway (Warren Buffet), Sharon Steel (Irwin Jacobs), American Financial Corporation (Carl Lindner), and Nucor Steel (Ken Iverson). We focus on the more common case in which managers are fixed claimants. However, we recognize that differences in ownership, and changes in ownership, may affect the optimal legal organization of a firm. See Section 4.1 for a discussion.

[4]Managers' right to allocate the resources of a firm is legally embodied in the charter of the United States public corporation, and is commonly known as "The Business Judgement Rule." This right has been upheld in several key court cases, most notably in Smith vs. Van Gorkom, 488 A.2nd. 858 (Del. Supr. 1985). Under the Business Judgement Rule, nonmanagerial claimants of a United States public corporation have a legal right to be directly involved in management decisions only in situations where managers have behaved egregiously (e.g., if managers have embezzled the firm's assets, broken contractual commitments, or abrogated constitutional provisions), or in bankruptcy. The charters of public corporations in other countries differ, but managerial discretion is a key feature of public corporations in Japan, the United Kingdom, and Germany.

[5]It is important to distinguish between a financial option (such as equity) that describes a payoff regime for an investment and a "strategic option." In the latter, a firm makes an initial investment in the real economy that earns it a choice in the future as to whether or not to make a subsequent investment in the real economy (Bowman and Hurry 1993). A financial option contract merely defines the conditions under which downside losses are limited and upside gains can be made. For an example of the relationship between revenue variance and the value of claims, see Appendix 1.

[6]In Galai and Masulis' (1976) model, such transfer of wealth can be remedied by changing the capital structure of the firm at the time of diversification. For example, increases in revenue variance can be reduced by replacing debt with equity capital. However, this solution is not "incentive-compatible." That is, if managers can gain a wealth transfer from shareholders by reducing revenue variance through diversification, they have no incentive to recapitalize, because recapitalization would restore revenue variance to its previous level.

[7]The geographic diversification argument applies also to overseas subsidiary firms. Such firms may be subject to political risks that could result in expropriation of their assets (Phillips-Patrick 1991).

[8]Again, the ability of both fixed and residual claimants to incur protection costs depends on institutional context. In comparison with other countries, shareholders in the United States have relatively broad constitutional and legal rights. Where claimants' ability to incur protection costs and impose them on other claimants is lower, we would expect to observe fewer changes in legal organization designed to accommodate the interests of nonmanagerial claimants.

[9]In terms of preserving revenue variance alone, this will usually be the case. This is because when residual cash flows are pooled within a parent firm, coinsurance results, which can reduce the total variance of the pooled cash flows. Coinsurance is reduced by creating a partially-held subsidiary, because some residual cash flows of the subsidiary escape pooling by being paid out directly to shareholders. However, as we argue below, forming subsidiary firms entails a loss of economies of scope. Thus, the net benefit to residual claimants of this arrangement may be lower.

[10]Disney's earnings from television and cartoon movies are still much less variable than its earnings from major motion pictures. Fora recent report, se Kim Masters, "Where's there smoke. . . . ," *Vanity Fair*, March 1996, pp. 110–121.

[11]Protection of a parent corporation from the liabilities of a subsidiary corporation also applies in many other countries, although the degree of protection and/or restrictions on such protection varies. Legal protections in the United Kingdom are essentially identical to those in the United States. In Japan, parent corporations can also obtain relief from subsidiaries' obligations.

Note that limited liability applies only to subsidiary *corporations*, not partnerships or other legal entities for which the rules about beneficial owners' financial responsibilities differ. There are also circumstances in which limited liability does not apply to a corporate parent: (1) if the subsidiary has acted as a "agent" for the parent firm (i.e., the two are essentially inseparable from a managerial point of view); (2) the parent firm has perpetuated a concealment or misrepresentation which gave rise to estoppel; or (3) if the parent firm has fraudulently conveyed the assets of the subsidiary firm to its shareholders, to avoid meeting the legal obligations of the subsidiary firm. For details, see Blumberg (1983, 1986). A recent case in which the responsibility of the parent corporation for a subsidiary's torts was under dispute concerned Union Carbide's responsibility for the Bhopal disaster. Union Carbide would have been bankrupted, if found legally liable in the United States for damages. The firm successfully argued in court, however, that only its Indian subsidiary should be found responsible for damages.

[12]For details, see the *Wall Street Journal*, May 2, 1994, p. B9. RJR-Nabisco and Kimberley-Clark, two other firms with tobacco interests, have also recently considered spinning off their tobacco businesses from their other activities. However, if it can be shown by litigants that the companies were aware of the harm caused by tobacco before such a reorganization, reorganization would constitute a fraudulent transfer of assets by the firm—a removal of assets that otherwise would be used to pay an outstanding claim on the firm. See Blumberg (1986).

[13]For instance, managers may want to impose transfer pricing policies that align the incentives of producer and user divisions. See, for example, Argyres (1996).

[14]See, for example, Singh and Montgomery (1987), Lubatkin (1987), and Morck et al. (1990).

[15]Of course, once the liability has been incurred (i.e., the firm has been found liable in a case), spinoff or divestiture is no longer feasible, as it would constitute a fraudulent transfer of assets by the firm—a removal of assets that otherwise would be used to pay an outstanding claim on the firm. See Blumberg (1986).

[16]Over the past few years, business and insurance interests have argued that strict liability is excessive and unfair (Huber 1988). In response, the legislatures of almost all states have recently reformed tort legislation by imposing monetary caps on liability awards, or by imposing procedural limits on noneconomic and punitive damages (Priest 1991). These new laws have reduced the tort liability exposure of some businesses. Consequently, according to our theory, we would expect to see a reduction in the formation of wholly-owned or partially-owned subsidiaries to accommodate these businesses following these rulings, and increased diversification into them.

[17]Such laws include the Bankruptcy Act, the Uniform Fraudulent

Transfer Act and the Uniform Fraudulent Conveyance Act. For example, in 1988 the U.S. Circuit Court agreed to consider whether Irwin Jacobs violated fraudulent conveyance statutes by transferring assets out of Kaiser Steel Corporation. Kaiser employees and retirees contended that Kaiser was insolvent at the time of Jacobs' leveraged buyout and that Kaiser's creditors—including employees and retirees—were therefore entitled to the proceeds of the sale (*Business Week*, August 5, 1991, pp. 74–75).

[18]For example, when Marriott Corporation issued new debt in 1992, it failed to notify lenders of a planned restructuring that would effectively split the corporation into two entities. This restructuring would have forced outstanding bondholders (lenders) to become creditors of Marriott's highly risky real estate subsidiary. In response, Marriott's bondholders sued (*Wall Street Journal*, October 20, 1992, p. A7C).

The practice of offloading risk during corporate restructuring is apparently quite widespread. A J.P. Morgan study of 77 spinoffs found that credit ratings were downgraded in 60 of these spinoffs (*Wall Street Journal*, June 15, 1995, p. C1). These findings are consistent with the argument that it is virtually impossible to specify loan provisions so that claimants are protected from all future increases in risk (Halpern et al. 1980, Coffee 1986, McDaniel 1988).

[19]Our theory suggests that cross-holdings between two partially held subsidiary firms may be optimal when the parent firm wants to offload liability or risk onto partially held subsidiary firms, and when cross-holdings can mediate the production of scope economies between these subsidiaries.

[20]Again, the example of Union Carbide and the Bhopal disaster illustrates the role played by a subsidiary firm in shielding the parent from liability claims.

[21]Proofs of existence can be done by the reader using some simple calculations and are not elaborated here.

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