On the Economics of Limited Liability

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I. Introduction

Limited liability is a standard feature of the reigning corporate organizational form. Any party who becomes a creditor of a limited liability firm does so acknowledging that the debt can be paid only from the assets of the firm itself. The liability of the shareholders is limited to their interest in the firm.

Most of the explanations for the prevalence of limited liability appeal to risk-aversion. For example, Henry Manne (1967) argued that limited liability allows individuals to participate in risky ventures "without risking disastrous loss" and without it "Wealthy individuals would never make small investments in a corporation". Richard Posner (1976) also argued that one reason why limited liability prevails is that the creditors of a firm may be less risk-averse than the equityholders. Kenneth Arrow (1971) attributes the existence of limited liability to the failure of insurance markets, specifically markets in which firm owners with extended liability could buy insurance against downside risks: "The law thus steps in and forces a risk shifting not created in the market place."

For the small, closely held firm, indeed risk-aversion may motivate limited liability. But I shall argue that for the large, publicly traded firm, for which limited liabiltiy is ubiquitous, risk-aversion is neither necessary nor sufficient to explain the presence of limited liability. The explanation lies rather in the lower information and transaction costs associated with limited liability.

That the explanation for limited liability lies in transaction and information costs has been suggested by others. Unlike the risk-aversion arguments referred to above, which are developed and elaborated, the previous ideas on transaction costs are truly mere suggestions. Ekelund and Tollison (1980) in their paper "Mercantilist Origins of the Corporation" argue that the feature of the joint-stock company that made it such a raging success was transferable shares, a contention with which I heartily agree. In a footnote in this paper they state that "a general argument developed by Demsetz (1967) and Jensen and Meckling (1976) -- quite similar to our own in spirit -- is that the advantage of a limited liability provision is not that it exposes the investor to less risk, but that it reduces certain relevant transaction costs for the investor (such as monitoring the course of copartners' net wealth and their commitments on behalf of the firm)".

Demsetz argues "limited liability considerably reduces the cost of exchanging shares by making it unnecessary for a purchaser of shares to examine in great detail the liabilities of the corporation and the assets of other shareholders." Jensen and Meckling conclude "limited liability does not eliminate

...risk, it merely shifts it. The argument [for limited liability] must ultimately rest on transaction costs."

I believe these suggestions do contain the seeds of a fuller understanding of limited liability. When an investment project is so large or so risky that it can only be undertaken by the pooling the resources of many individuals, transferable shares are called for. Transferable shares plus an active secondary market confer liquidity upon shares in lumpy, indivisible investment projects, and allow for the separation of production and consumption decisions which is made a centerpiece in virtually every intermediate microeconomic textbook. Saleability of the firm's shares allows production decisions to be made in ignorance of the shareholders' consumption preferences; it also enables the holders of identical claims to be unanimous on the issue of investment policy while heterogeneous in their desires for income at different dates and for risk-taking.

Thus, the point that has been missed in previous discussions is the connection between limited liability and transferability of shares. Any extention of liability beyond the assets of the firm to the personal (extra-firm) assets of the shareholders must, in order to be enforceable, restrict the terms on which a share-holder can sell shares to others. Consider a firm with unconditionally saleable shares which tries to extend liability to the shareholders (where the liable party is the holder of the share at the time request for resources is made). Were bankruptcy to threaten such a firm, any shareholders with assets worth the creditor's pursuit could simply sell their shares rather than pay up. The only willing buyers of the shares would be those whose wealth is too small for the creditors to bother pursuing. Thus whenever the creditors try to reach beyond the assets of the firm to the other assets of the shareholders, the shareholders will be found a group with no assets worth the cost of pursuit. If the shares are unconditionally saleable and liability extends only to the current holder of the share, extended liability simply cannot be enforced. The presence of an anonymous secondary market leads to a kind of Gresham's Law of stockholder solvency.

Thus, an easy answer to why limit liability is that freely transferable shares lead to de facto limited liability. Making limited liability explicit saves transaction costs associated with the scramble of transfers which yield this result.

But between the extremes of perfectly transferable shares and perfectly inalienable shares (wherein shareholders could not escape specific liability) is an array of increasing restrictions on transfer which could make extended liability feasible, but also might make the shares less valuable. Some, such as minimum net wealth requirements, restrict the set of potential buyers and lower the demand price. Others, such as mandatory insurance, generate additional transaction costs associated with share transfer and ownership.

Most important, any effective extension of liability makes the cash flows to creditors and to shareholders depend on the personal wealth of each shareholder, creating incentives on the part of both creditors and shareholders not just to invest in information about the shareholders, as Demsetz suggests, but also to make side contracts in an attempt to control each others' behavior. Limited liability, by eliminating the dependence of firm credit on shareholder wealth, can lower the transaction and information costs for all parties connected with mutual investment projects, especially those with numerous shareholders.

Limited liability entails costs as well as benefits. The costs of limited liabilty are borne in the form of agency costs which arise when equityholders do not bear the full consequences of their decisions, as the equityholders of an indebted, limited liability firm do not. A careful consideration of the costs of extending and limiting liability will explain 1) why the small and closely held firms, where risk-aversion will motivate limited liability, frequently relinquish it, and 2) why the publicly traded firms (where I will argue risk-aversion cannot be the motivation for limited liability) all limit liability.

The next section explores and assesses the transaction and information cost consequences of limited and of extended liability for contracting creditors, tort creditors, and equity holders, and shows that the transaction cost motivation for limited liability prevails even when all agents are indifferent to risk. Section III identifies some aspects of the organization of modern firms that can be explained by the transaction cost motivation for limited liability, but not by risk-aversion. Section IV presents some implications of this view for parent/subsidiary liability limitations.

II. Limited Liability and Debtor-Creditor Relations

Limited liability does not eliminate risk, it merely reassigns it. Whether this reassignment can be mutually beneficial depends on whether the creditors are those to whom a risk has been assigned knowingly -- contracting creditors -- or those who are the unwitting bearers of risk -- the non-contracting or tort creditors (who become creditors through an accident or injury) of a firm. The issue turns on whether or not the creditors can be compensated for the risks they bear through limited liability, ex ante and on average, by specifying the terms on which they do business.

II.A Limited Liability and the Contracting Creditors

With respect to contracting creditors, (for example, bondholders, suppliers, employees, and customers) limited liability is an explicit agreement between creditor and debtor. The contracting creditors will make forecasts of the payoffs of doing business with a limited liability firm, and the terms that they offer will reflect these forecasts. So long as the forecasts are unbiased, the creditors will be on average compensated for the risk they bear through limited liability.

Using the argument that equity holders must on average compensate creditors, Meiners, Mofsky, and Tollison (1977) conclude that whether or not a firm has limited liability probably doesn't make much difference. The essence of their analysis is that if transaction and information costs are zero, the value of a firm will not be affected by any particular partitioning of its contingent claims, including the assignment of liability. If the regime were changed from extended liability to limited liability, and parties were to recontract, the present value of the higher financing charges demanded by creditors (either implicitly or explicitly in the terms they offer) would exactly offset the liabilities shareholders transfer to them. There are no effects from differences in risk aversion because creditors and equity holders alike can reshuffle holdings of contingent claims to suit their risk tastes. Shareholder wealth, the value of the firm, and the allocation of resources are all unaffected. Clearly, a theory of liability assignment is not to be found in the paradigm with information and transaction costs of zero.

Once we admit positive information and transaction costs, motivations for both extended and limited liability arise. In fact, information and transaction costs can form the basis of an entire theory of organizations.[1] But here I shall confine my discussion to the nature and magnitude of the motivations for liability assignment and to how these are related to whether the firm and its creditors are companies with publicly traded shares. I consider each combination separately.

(1) Publicly Traded Firms with Publicly Traded Creditors

Limited liability can be motivated solely by transaction and information costs in the case in which all firms are publicly traded. To see why risk aversion is not an issue, consider the consequences of a bankruptcy when these costs are absent. Suppose all investors have the same beliefs and consequently hold market portfolios of risky securities. If a firm with limited liability were to go bankrupt, the liabilities not met by the firm's own assets will be borne by its creditors (in which the shareholders of the bankrupt firm also own shares). Shares of the bankrupt firm will fall to a price of zero, and the prices of shares in the creditor firms will fall to reflect the change in anticipated receipts.

If the bankrupt firm had extended liability instead, the price of its shares would still go to zero, but the price of creditor firm shares would remain unchanged. The amounts owed to the creditor would be met with funds provided by the shareholders, (who could sell some of their stock in the creditor firms) assuming they willingly pay. Thus, the effect of a bankruptcy on the shareholders' wealth is the same regardless of the liability rule. Whether a firm has limited liability or not does not affect the portfolio return distributions. Risk-avoidance hence cannot be a motivation for limited liability here.

(a) Costs of Extending Liability to Shareholders

The magnitude of the costs of extending liability to shareholders depends on the specific nature of the shareholder's responsibilities.[2] The most extreme form of extended liability is one which worried the shareholders of the first joint-stock companies. They were afraid that by becoming investors in one of these new organizations, they would not merely each be responsible for all of the debts of the firm itself, but for each others' personal debts as well.[3] More commonly the shareholders were regarded as jointly and severally liable for the debts of the firm. If the firm was unable to meet its debts, each shareholder was initially responsible for a fraction of the debts proportionate to his shareholdings, but if the other stockholders were unable to meet their obligations, each remaining shareholder could be held responsible for the obligations of the others. A milder form of extended liability holds shareholders responsible for only a fraction of firm debts proportionate to their shareholdings, leaving those debts unmet by individual shareholders on the creditors, not the other shareholders. An even milder form (referred to in legal discussions as assessability), which prevailed on some U.S. bank shares even into the twentieth century, holds shareholders liable only for a specified amount per share.

All of these extended liability rules give rise to costly activity associated with enforcement and with anticipating enforcement. After a bankruptcy, shareholders owe creditors the difference between assets and liabilities. Other things equal, they would like to escape paying. But the creditors prefer to be paid, and will pursue the shareholders for what is due them. The resources creditors will expend pursuing each shareholder will of course depend on what they anticipate they can recover. Under strong rules, such as joint and several liability, rich shareholders will be pursued more vigorously than they will be with weaker rules such as assessability. Shareholders themselves will have no motivation to pursue each other with a proportionate liability or assessability rule. With joint and several liability, however, the rich shareholders (who are most likely to be pursued by the creditors) will pursue poorer ones for their share.

Prior to and in anticipation of a bankruptcy, creditors and shareholders alike are motivated to examine and assure the solvency of each shareholder, regardless of the form of the extended liability. When shareholders are liable for a firm's debts, every stockholder's wealth influences the firm's credit. Even if the liability rule is just assessability (liability only for a specified amount per share), the prospect of each shareholder to meet his assessment affects the firm's credit and the wealth of all other shareholders. Thus, the creditors (in order to assess the firm's credit) and the shareholders (in order to determine the firm's value) have incentives to invest real resources to secure information about the amount and composition of shareholder wealth -- information unrelated to the firm's productive activities.

For example, if a wealthy shareholder sells to someone who has no transferable wealth other than his shares, the inability of the new owner to meet the debts of an extended liability firm worsens the terms the firm receives from its creditors, and consequently lowers the wealth of the other shareholders. That this transaction might take place is thus of interest to both creditors and to other shareholders. Likewise, a wealthy shareholder's extra-firm wealth may consist of Treasury Bills which he could trade for a highly infungible sailboat. This transaction also affects the firm's credit and is hence of interest to the other shareholders.

The interest in shareholder wealth which accompanies extended liabilty also motivates shareholders and creditors to invest in making side contracts with one another to resolve the conflicts of interest that extended liability creates. One way to prevent a wealthy shareholder from selling to an impecunious one is to restrict the set of potential owners of the stock to those with at least some minimum wealth. This may improve the firm's credit, but it could also lower the demand price for the firm's shares and make the cost of capital higher. Another solution is to require any shareholder who could not bond wealth of a particular amount and composition to carry insurance. The investigation to determine the insurance premium and the enforcement of the purchase of insurance are themselves costly. Yet another suggestion is that the firm carry insurance on behalf of the shareholders.

This would not, however, resolve all conflicts of interest, as poor shareholders and rich shareholders would not agree on the level of insurance that ought to be carried. If the firm buys the insurance the rich shareholders and poor shareholders bear equally the cost of the insurance. But the rich shareholders have more assets to protect from extended liability than do the poor ones, and will likely desire a higher level of coverage. Even if the shareholders are unanimous on the probabilities of various states of the world, and consequently, how much should be invested in, say, finding oil, they will still not agree on the level of liability insurance to be carried because of their different personal situations.

The idea that limited liability prevails because of a failure of insurance markets was advanced by Arrow (1971), developed by Halpern Trebilcock, and Turnbull (1980) and further promoted by Easterbrook and Fischel (1984). This idea is wrong for two reasons. First, it takes as a premise that the motivation for limited liability is risk-aversion, which is incorrect. Second, it implies that insurance solves all of the problems which limited liability solves, which is also not true, because conflicts of interest among shareholders remain on just how much insurance should be carried, not because of differing degrees of risk-aversion, but because of the externalities among shareholders.

Shareholders could also be prevented from escaping liability through selling shares by holding liable those who owned the shares when the liability was created rather than those who own it when the bankruptcy occurs. Essentially this makes the potential debts created during one's tenure of ownership inalienable. This assignment of liabilty would open the way for new shareholders, who control the firm, to appropriate wealth from former shareholders by managing old liabilities in a more risky way. This assignment of liability makes the new shareholders the owners of a "call" on the firm's assets, with the old shareholders the "writers" of the call. Increasing the riskiness of the underlying assets makes the call more valuable without compensating the call writers. The former shareholders would have even less opportunity than the creditors, who at least have continuing transactions with the firm, to influence how assets are managed. It would seem that the former shareholders would charge a price for this liability assignment that the new shareholders would never be willing to pay.

Halpern, Trebilcock, and Turnbull (1980) also acknowledge that extended liability gives rise to information demands regarding shareholder wealth on the part of both creditors and shareholders. But the inference they draw from this is that "there will not be a single price for all shares of a particular company". Easterbrook and Fischel (1984) second the argument and conclude that "Because different investors would attach different values to shares, depending on their wealth, it would be impossible to conduct an organized liquid market".

These conclusions defy both the "law of one price" and the facts. The law of one price is simply that at the margin, all owners of an item attach the same value to it. Inframarginal valuations will in general be different, and this is not unique to extended liability. In the four hundred and some years of joint-stock company history the progress toward the transferable share, perpetual succession, limited liability company was gradual. There have been many companies with extended liability traded in secondary markets, even in the twentieth century, and it seems multiple prices in secondary markets have never been reported.[4] The question is: which liability rule will the price reflect? So long as the shares are transferable and can at any time go to the shareholder with the least to lose, the result will be de facto limited liability and the price will reflect the limited liability rule.

(b) Costs of Limiting Liability

Once we open the Pandora's box of positive information and transaction costs, we must look not only for the curses it releases upon extended liability, but upon limited liabilty also. Extended liability creates among shareholders conflicts of interest which are eliminated by limiting liability. But moving from extended to limited liability exacerbates the conflicts of interest between the firm and its creditors.

When a firm has a non-equity source of financing, the equity holders have an incentive to manage the firm's assets in a more risky way than if the firm were financed purely with equity. With pure equity, all profits and all losses fall directly on the equityholders. With some debt financing, losses beyond the initial equity are borne by the creditors (even with extended liability, as there is some chance shareholders cannot or will not pay the firm's debts). Creditors anticipate the incentives for the equity holders to take larger risks with borrowed money, and charge accordingly.[5]

If the creditors could easily monitor the activities of the firm and influence the decisions about how assets are managed, they would make contracts to guarantee that the assets would be managed the same way regardless of the financing arrangements. But monitoring is costly. If creditors monitored to this limit, the terms on which they offered credit would reflect the monitoring costs, and by this amount reduce the value of the firm. More generally, they will monitor to the point where the marginal cost of monitoring equals the marginal benefit, and the value of the firm will be reduced (compared to pure equity) partly by the cost of monitoring and partly by the lower value of the set of projects chosen by levered equity interests.[6]

Limiting liability increases the equity interests' motivation to manage assets in a more risky fashion, simply because creditors assume the burden of a larger share of the losses. We can thus expect the costs associated with conflicts of interest between creditors and stockholders to be higher with limited liability than with extended liability. This cost of limiting liability must be weighed against the costs of extending liability.

The more numerous the shareholders, the higher the costs of extending liability. The costs of limiting liability are not related to the number of shareholders, but rather how amenable the productive process is to effective monitoring, and of course to the level of debt. The firm whose riskiness and scale call for the full access to capital markets afforded by publicly traded shares is therefore more likely to limit liability than is a small firm, simply because, with a multitude of shareholders, it is cheaper.

(2) Publicly Traded Firms with Non-traded Creditors

When some of a firm's creditors are parties with inferior access to the markets in which risks are diversified, (for example, employees, customers, and suppliers) risk avoidance considerations still do not call for extended liability, but rather for insurance. Mayers and Smith (1982) suggest that one reason firms purchase insurance is that certain creditors with difficult-to-diversify risks will charge more for bearing these risks than will an insurance company. Mayers and Smith consider three alternatives for handling the risks of these creditors: first, the creditors could bear them; second, the creditors could buy insurance for themselves; and third, the firm could buy insurance. They suggest that economies of scale in insurance contracting and moral hazard, together with the superior ability of the insurance company to bear risk and diversify, often indicate the third option as desirable: the insurance company, contracted by the firm, is the superior bearer of risk.

Mayers and Smith take the liability rule as given and do not consider the possibility of the shareholders bearing this risk through extended liability. Still, given the choice between placing the risks of undiversified creditors with an insurance company versus placing them with equityholders through extended liability, the insurance company dominates, and dominates for the reasons Mayers and Smith argue -- not because of risk avoidance, but because of transaction costs, here including the already enumerated costs of extending liability to shareholders.

Indeed, the insurance solution to the problem of allocating creditors and equityholder's risks predates the modern corporation by many centuries. The original "sea loan" of the thirteenth century was a non-recourse loan to a shipowner engaged in trade.[7] From the lender's point of view, the loan was to a limited liability entity because if the ship were wrecked or looted by pirates, the lender received nothing; if the ship came in and the goods were delivered, the lender received principal plus "interest". In the early fourteenth century the Italians began making a market in these loans, and the liquidity of this market called for standardizing this instrument. The solution was to make the loans full-recourse loans, the fulfillment of which required the borrower to insure against shipwreck and piracy. The insurance was designed to allocate risk to an insurance company so as to reduce a source of heterogeneity (therefore enhancing the liquidity) among a set of instruments, although in this case it was to serve the liquidity of the bonds, not the equity.[8]

(3) Closely Held Firms

Those who have concentrated holdings may desire limited liability purely out of risk avoidance considerations, assessing the costs and deeming them worth the price.[9] Concentrated holdings often arise because an enterprise is exceedingly difficult to monitor, and hence demands a tight connection between ownership and management. They also may arise simply because the economies of scale are small and the costs of informing the public market are greater than the benefits conferred by dispersed ownership. In yet other cases they arise because the optimism of one individual causes him to be the highest bidder and hence the sole owner of its stock. In all three cases, the firm is likely to not be publicly traded.

If the non-traded firm's creditors are traded firms, they are better able to diversify the risk than can the non-traded firm itself, and hence are willing to bear the risk more cheaply than the equity holder. If the firm's creditor's are themselves also non-traded firms, limited liability still provides at least some diversification (and hence reduction) of the down-side risk as each firm takes a small piece of the (presumably non-perfectly-correlated) down-side risks in many other firms by extending credit to them.

Yet it is precisely among non-traded firms that limited liability is most frequently offset contractually. The owner or a major shareholder in a closely held firm often guarantees a loan to the firm and agrees to be personally liable for the loan. Often the loan contract will explicitly impair the alienability of the owners' interest in the firm, treating that interest as the primary collateral for the loan.

The qualities which predispose a firm to concentrated ownership -- substantial monitoring costs, small capitalization, optimism -- also imply the claims to its assets are already unlikely to be exchanged. Thus, extending liability will not be so costly for these firms, as other forces already preclude the volume of transactions and the dispersed ownership that make extended liability expensive. Where transferability has been inhibited by the nature of the investment project or the owners' beliefs, the transaction costs of extending liability are sufficiently small that it is feasible. And so despite the risk-avoidance afforded by limited liability, it is frequently relinquished by the owners of claims which are inherently not very liquid anyway.

2.2 Limited Liability and the Tort Creditors

For the tort creditors (the passer-by on whom a construction company inadvertently drops a brick, the pedestrian accidentally struck by a taxicab) limited liability can indeed mean failure of a corporation to compensate a creditor if the corporation's net assets are smaller than the damage done to the tort creditor. Contracting creditors can specify the terms on which they do business to reflect whether their debtors have limited liability or not, and charge for the risks they bear through limited liability. Clearly, the tort creditors cannot. Thus, firms have an opportunity to impose uncompensated costs (externalities) on tort creditors. We would expect that firms with greater than average potential tort claims would make a greater than average effort to escape these claims. Perhaps this is why taxicabs are often incorporated separately and why construction companies often incorporate each project independently.

The degree to which the limited liability corporation is able to satisfy the claims of tort creditors can be augmented by insurance. If correcting such externalities is a proper role of government, it is appropriate to require firms to carry liability insurance. Thus, Meiners, Mofsky, and Tollison argue that with respect to the tort creditor, the issue is not limited versus extended liability, but rather whether a firm is "adequately" insured, where adequacy can only be a question of public policy. Note that the issue remains in both the limited and extended liability settings. Even in the most insured of worlds, the possibility remains of an accident of such magnitude that the assets of the firm as well as its insurance company are exhausted. There is no such thing as unlimited liability.

With respect to relations between firms and contracting creditors, limited liability represents an efficient solution to the simultaneous problems of firm financing and shareholder allocation of consumption and risk-bearing. With respect to tort creditors, the problem of optimal risk-bearing is fraught with all the difficulties of any problem involving externalities. The issue of how and to what extent to provide protection for the potential tort creditors must logically include extended liability as an option. But for any given standard of liability, it seems unlikely that extended liability, with all the costly and meddlesome incentives it creates, would ever be cheaper than insurance. Moreover, once firms and contracting creditors have settled upon the institution of perfectly transferable shares, the potential tort creditors gain no protection by the extension of liability to shareholders. If shareholders can escape their debts by mere sale, insurance is the only route for extending protection for potential tort creditors.

III. Limited Liability in Non-conventional Corporations

Not only conventional corporations choose the limited liability form. Non-profit firms, which in an important sense have no owners, are often limited liability organizations. It seems reasonable that their donors are the only party other than the creditors to whom liability could be extended. These donors would, at some price, desire to insure against the possibility that their charitable activities resulted in additional debts. But it is also the case that extended liability would generate some of the same kinds of costs in this setting as it would for ordinary corporations. Each donor's wealth would be affected by the personal credit of fellow donors. Donors and creditors would be motivated to expend resources gathering information and making contracts to control each other's behavior. The role of alienability is subtle here, as it is not immediately obvious how a firm with no owners has any claims to sell. In fact, even non-profit firms face some chance of having liabilities exceed assets. Limited liability sells the contingent claims on these states of the world to the creditors, providing separation of donation and donors' other activities. It does not strain the imagination that the costs of assigning and enforcing liability to parties other than the creditors could be more costly than simply paying the creditors to bear this risk.

In professional corporations, the owners of the firm are also employees. They, too, avoid the costs of acquiring knowledge and control of each other's wealth and extra-firm activities by choosing to limit liability. Co-operatives and mutuals, whose owners are also customers, also avoid the same costs through limited liability. In professional corporations an option has been taken not to separate ownership from employment, and in mutuals and cooperatives, not to separate ownership from consumption. But limited liability does separate the extra-firm activities of individuals, including their financial dealings, from their dealings with their professional, co-operative, or mutual firm.

IV. Implications for Parent/Subsidiary Relations

Is it appropriate to "pierce the veil" of incorporation and hold a parent responsible for the debts of its wholly-owned subsidiary? Posner (1976) and Landers (1975) lay out the two opposing views. Landers believes that a parent and its subsidiary are in reality a single economic enterprise, operated to maximize a joint income, and should be treated as such by the law. As a general rule, he would pierce the veil. Posner would not. He relies on the competitive market to protect the creditors of the subsidiary. The creditors have an incentive to be informed, and by choosing to do business with a wholly-owned subsidiary they demonstrate their willingness to assume the risk of being able to recover only from its assets. Posner argues that what is, (and is voluntary) is efficient: a policy of piercing the veil between parent and subsidiary "...would probably be an uneconomical rule because it would prevent a type of risk shifting (from shareholders to creditors) that is apparently highly efficient, judging by its prevalence."[10]

The view of limited liability presented in this paper argues that the motivation for limitations placed by a publicly-traded corporation on its liability, including liability for its subsidiary, is not risk avoidance. But since the subsidiary is wholly owned, the secondary market seems to play no role in guiding liability limitation, and hence it is difficult to argue that alienability is the reason why companies operate some activities as wholly owned subsidiaries rather than as divisions.

One explanation offered by Posner is that the creditors are better monitors of these risks than is the parent firm. General Motors, for example, could organize Frigidaire either as a wholly-owned subsidiary or as a division. The difference in these two forms lies in the assignment of the down-side risk. The parent corporation assumes the burden of the debts of a division, but not of a wholly-owned subsidiary. The wholly-owned subsidiary's debts are the problem of the creditors. Unlikely though it seems, the parent corporation may judge itself to be inferior at being informed about and controlling this risk and hence choose to make the entity a wholly-owned subsidiary. Alternatively, perhaps alienability is more of a consideration than it appears, and with some frequency wholly-owned subsidiaries are re-sold whole.

But given the voluntary nature of dealings involving contracting creditors, no interest is served by a policy of piercing the veil for contracting creditors. Only in the case of the tort creditors can the case be made. Moreover, extending liability on behalf of the tort creditors to the parent corporation of a of a wholly-owned subsidiary is much more feasible than extending it to dispersed shareholders because the obligated party is easily identified and sued. Since the tort creditors represent the only opportunity a firm has to enrich itself at the expense of its creditors through limitations on liability, it may prove good public policy to pierce the veil on their behalf.

V. Conclusion

Nature has endowed us with a number of productive opportunities whose large scale and risky nature require amassing the resources of many individuals. The pre-eminent institutional form for exploiting such opportunities is the transferable share, limited liability corporation. The advantage of transferable shares is evident: differences in individual desires for consumption over time can be indulged, and changes in individual preferences, wealth, and beliefs about the future can be accommodated by revisions of individual portfolios that need not affect the productive decisions of the corporation itself.

The advantage of limited liability has been generally misconceived. The appeal of limited liability for the multi-shareholder firm lies not in its capacity to shift risk away from equity holders, but rather in the ability of limited liability to accommodate alienability of the firm's shares. Extending liability to shareholders makes the terms offered by creditors depend on the personal wealth of the shareholders and hence motivates creditors and shareholders alike to invest in information unrelated to the project itself. This inter-dependence gives rise to conflicts of interest. Creditors, and again shareholders also, have incentives to lower the cost of enforcing extended liability through a myriad of costly contracts. The imposition of standards on shareholder wealth, or mandatory insurance, plus either of these together with restrictions on sale, would assure new shareholders met the requirements also and that no one would escape debts through mere sale.

With limited liability, no shareholder need be concerned with who the other shareholders are, nor need the creditors of the firm be concerned with who the shareholders are. The management of the firm can turn its attention to maximizing firm value, confident that any shareholder discontent with the selected risk profile or the timing of cash flows can simply sell to one who is not. It is the saleability of all of the interest in a firm, facilitated by limited liability, which endows the firm with a life of its own and allows the separation of consumption, risk-bearing, and production decisions so rightfully celebrated in economic theory.

Footnotes

[1] The importance of information and transaction costs in shaping firm organization was developed by Alchian and Demsetz (1972) and discussed with specific application to firm claimholders by Jensen and Meckling (1976).

[2] I thank Henry Manne especially for discussions about the importance of the different gradations of extended liability and their resulting differences in degrees of transferability. He persuaded me that there is still one significant impediment to full transferability of shares on common stock in the U.S.: registered ownership.

[3] The old guild members had extensive responsibilities for one another, and rights also, even including the option to choose marriage partners for guild members.

[4] The first joint-stock company was established in 1553. It did not have limited liability. There were many companies established between 1553 and 1720, and most of them did not have limited liability even though all had transferable shares and many were traded in the organized secondary markets which arose in 1693. Even into the twentieth century there were shares in banks which carried potential assessability of two times the par value of the stock (explaining this vestigial feature of equity shares) and assessments on some banks were actually collected from shareholders during the bank failures of the great

depression. See W. R. Scott for the details on the early joint stock companies.

[5] See Smith and Warner (1979) for a more thorough discussion of these issues.

[6] The issue arises here why publicly traded firms are not almost entirely equity financed given the agency costs they assume with debt financing. One very powerful answer is the tax deductibility of interest (since interest is implicitly charged on receivables, the deduction is simply taken as "cost of goods sold"). Firms trade-off the agency costs of debt against its tax advantages. For firms which have very large economies of scale but assets that are very costly to monitor, I would expect to see publicly traded shares and thus limited liability, but very little debt.

[7] See de Roover, Eleanor (1945)

[8] A similar reduction on the array of contracts for sale accompanied enhanced liquidity of the remaining contracts when the secondary options markets were opened in 1974. Prior to this time, option contracts were written with the exercise price at whatever the common stock price was at the time the contract was written, and hence a large number of non-identical contracts were outstanding at any time. By reducing the possible set of exercise prices and maturity dates, the contracts were stamdard-ized and made more liquid.

[9] This follows simply from the argument that individuals will buy insurance (but not insure fully) at unfair odds. The publicly traded firm, set in a market dense with tradeable assets and rich with opportunities for diversification, is subject to the full force of the implications of portfolio theory. It will not buy insurance, debt finance, or limit liability from the motive of risk avoidance. But closely held firms will do all three, simply to avoid risk. There may be other reasons also, but risk aversion alone can suffice.

[10] See Posner (1976) p. 509

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