

# Economic Issues in Bankruptcy and Reorganization

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## Abstract

*This paper examines current issues in bankruptcy and reorganization. Bankruptcy is an area of high research interest because of its implications for corporate financial decisions and because of the increased occurrence of financial distress in the U. S. economy. The paper discusses the role of bankruptcy in the economy and examines the efficiency of current bankruptcy laws and practices.*

## I. Introduction

Research in bankruptcy and reorganization has grown rapidly in recent years. This increased interest is a natural response to the high levels of financial leverage employed by corporations in the 1980s and the correspondingly higher risk of financial distress. Furthermore, we believe that research in bankruptcy represents a natural progression in finance. The general area of bankruptcy is strongly related to almost every other aspect of finance, e.g., the agency problem and corporate control, optimal firm investment, cost of capital, capital structure, security design in financing investment, financial market efficiency, etc. The narrow view of bankruptcy as an isolated process relevant only to poorly performing firms is outdated. Bankruptcy should be viewed as having an essential role in the efficiency of a productive economy. In practical terms, this means that we should not focus exclusively on the costs of bankruptcy. Rather, we also should consider the positive aspects of bankruptcy and explore ways to enhance the efficiency of the bankruptcy process. Other things equal, a more efficient corporate bankruptcy system will lead to a more productive economy.

This paper is designed to provide an overview of the current research issues in bankruptcy and reorganization. We break the paper into four general areas. The first section defines the role of bankruptcy in the economy. Section two details the options for firms in financial distress. The third section discusses problems in the bankruptcy process while the final sections offers suggestions for future research.

## II. The Role of Bankruptcy in the Economy

We begin by discussing the importance of the bankruptcy process in a productive economy. A necessary first step is to define insolvency (initially, at least, the

terms bankrupt and insolvent may be used interchangeably). Both the theoretical and practical aspects of corporate bankruptcy are complicated by problems in defining firm insolvency. In general, we can define an insolvent firm as one that is unable to meet its financial obligations. These obligations may include liabilities to employees, government, suppliers, and creditors as well as realized or potential damages from lawsuits. However, to effectively evaluate the bankruptcy problem, we must distinguish between short-term and long-term insolvency.(1)

Short-term insolvency occurs when a firm has insufficient cash flow to meet its current liabilities. Long-term insolvency occurs when the value of a firm's assets is less than its total financial obligations. Short-term insolvency is the less serious of the two and is easily identified. In this case, the firm has a positive economic net worth but suffers from a lack of liquidity. The solvency of a firm in the long-term is a much more difficult matter to assess and is one reason that the bankruptcy process is costly. To confound the problem, note that there is not necessarily a relationship between short-term and long-term solvency/insolvency. A particular firm may be classified as either i) solvent, ii) short-term insolvent but long-term solvent iii) short-term solvent but long-term insolvent, or iv) both short-term and long-term insolvent.

Higher levels of leverage increase a firm's financial obligations and, other things constant, its risk of bankruptcy. If bankruptcy was a costless process, a higher risk of bankruptcy would be of no particular concern to the debt and equityholders of the firm. If bankruptcy occurred, the firm would be liquidated at its market value and the proceeds would be distributed to the security holders according to the specified priority of

claims. Any losses suffered by the security holders would be strictly a result of factors that negatively influenced the value of the firm's assets. However, since bankruptcy and reorganization create legal, administrative, and opportunity costs, there is an incentive to avoid bankruptcy by keeping financial leverage low.

Until recently, most financial research assumed that the only value increasing aspect of leverage was a result of the tax deductibility of interest as specified by Modigliani and Miller (1963). However, Jensen's (1986) free cash flow theory suggests that higher levels of leverage increase firm value by reducing agency costs. Specifically, managers of firms with free cash flow (cash flow in excess of investment needs) may overinvest in negative NPV projects (e.g., investments in growth and diversification that decrease firm value). By incurring additional financial obligations through leverage, managers have less free cash flow at their discretion and agency costs are reduced. Jensen also suggests that the increased risk of bankruptcy provides managers with an incentive to operate the firm in a more efficient manner so as to avoid failure which reduces their worth in the managerial labor market.<sup>(2)</sup> In a related manner, an actual default on debt forces the firm to make a value-maximizing decision to either reorganize or liquidate (Titman (1984), Jensen (1989), Wruck (1990)). This is important for firms with a negative economic net worth who would have continued to operate and lose value unless the default had occurred and forced an end to the costly operations.

Many studies have been conducted to test for efficiency gains resulting from higher leverage. The most direct test is to examine changes in operating performance after leveraged buyouts (see Palepu (1990) for a thorough review of the earlier studies). Recent studies by Kaplan (1989), Muscarella and Vetsuypens (1990), Smith (1990), and Opler (1992) all note improvements in cash flow for the average LBO. In an interesting case study, Baker and Wruck (1989) document specific value creating organizational changes that occurred in O. M. Scott as a result of an LBO. These changes included operational constraints imposed by the high leverage, as well as improvements in the compensation, monitoring, and advisement of management.

In contrast to these studies supporting the benefits of higher leverage, Bruner and Eades (1992) study the 1986 Revco LBO and concluded that the buyout left the firm with "an extremely low probability of successfully servicing its liabilities." However, in another study of Revco, Wruck (1991) concluded that "Revco's LBO capital structure does not seem inappropriate."

These studies suggest the importance of additional research in bankruptcy and reorganization. It appears that higher leverage does produce efficiency gains in

corporations (Jensen (1991), Miller (1991)). However, at the same time, bankruptcy risk is increased. We need to develop better estimates of the total costs of bankruptcy so that the optimal degree of leverage may be identified.

We also must examine the bankruptcy process so that we may identify and correct inefficient practices. For instance, White (1989) suggests that, since current bankruptcy laws offer a choice between liquidation and reorganization, managers of bankrupt firms are provided with incentives to make inefficient investment decisions in reorganizations. And Jensen (1991), among others, criticizes the bankruptcy process as being too lengthy and expensive and one that encourages conflicts among the various claimants. These authors argue that bankruptcy law can be structured to allow the aggregate economy to utilize resources in a more efficient manner.

### III. Options for Firms in Financial Distress

With the onset of financial distress, firms initially have two options to pursue; an attempted private workout or a formal declaration of bankruptcy. In a private workout, existing liabilities may be exchanged for new securities or the terms of existing liabilities may be altered. A successful workout requires unanimous consent of all impaired creditors.

As set forth in the Bankruptcy Reform Act of 1978, firms may file for bankruptcy under either Chapter 7 or Chapter 11 (the firm's creditors may also petition the courts for bankruptcy). Either filing protects the firm from creditors' claims while the case is being resolved. The stricter, and less frequently used, Chapter 7 empowers a trustee to liquidate the firm's assets and distribute the proceeds by the absolute priority of claims. The highest claims are held by secured creditors who have legal rights to specific assets that were used to secure loans. Other claims and expenses are dispensed as follows: legal and administrative bankruptcy costs, certain types of business expenses, claims of unsecured creditors, and, finally, equity holders. Under Chapter 7, the absolute priority of claims is always followed, i.e., each level of claims must be paid in full before a lower claim is compensated.

Firms filing under Chapter 11 normally are allowed to operate under existing management (referred to as the debtor-in-possession) while the firm prepares a plan of reorganization. The debtor-in-possession is granted an automatic stay of 120 days in which to prepare the reorganization plan, and this period may be extended by the bankruptcy judge. After this period is over and, if the plan has not been accepted, creditors may file their own plan of reorganization. Unlike a workout which requires unanimous consent, a Chapter 11 reorganization only requires approval from a majority of each class

of claimants. If it is the judge's opinion that a plan can not be agreed upon but that reorganization is a better choice than liquidation, the judge may force a cram-down. In these situations, the judge determines the terms of the reorganization and must ensure that each class receives at least as much value as they would under a liquidation. Cramdowns are rare in practice, in part because they require a lengthy and costly valuation of the firm to assist the judge's decision.

#### IV. Problems in the Resolution of Financial Distress

The choice of the process by which financial distress is resolved is influenced by several factors. These include the value of the firm, the costs and benefits of the alternative methods of resolution, and conflicts of interest among the different levels of claimants. At least theoretically, the most important consideration should be the economic worth of the firm. In a perfect market situation, a general rule would be to reorganize firms with a positive equity value and to liquidate those firms with an equity value of 0. In most situations, financial economists rely on market values as indicators of the firm's fundamental value or economic worth. However, because of specific problems in the resolution of financial distress, the use of market values by themselves can not lead to the most efficient outcome.

A simple example illustrates the problem. Assume that an existing firm is long-term insolvent, i.e., the firm has a negative economic net worth. The financial claims would exceed the value of the firm's assets, and the equity of the firm should be worthless. From an economic efficiency standpoint, the firm should be liquidated and the proceeds should be distributed according to the firm's creditors via the absolute priority of claims. However, as a result of information problems, the market value of the equity is positive. Therefore, we can not rely on the market value of equity to signal the economic net worth of the firm. The reorganization decision becomes a bargaining process between parties with conflicting interests, each presenting their own estimates of the firm's assets. The remainder of this section discusses factors that contribute to the valuation and efficiency problems in the bankruptcy process.

##### A. Bankruptcy Costs

In order to make efficient bankruptcy and reorganization decisions, we need to be able to estimate bankruptcy costs. Total bankruptcy costs to financially distressed firms include direct and indirect costs. Direct costs include all legal and administrative costs incurred during the reorganization or liquidation. Indirect costs arise because the firm can not operate optimally as a result of financial distress. Three sources of indirect costs generally are cited. The firm's bargaining power with customers and suppliers is lessened as the firm's

future becomes more uncertain. Also, the firm may be unable to undertake some positive NPV investments because management time is devoted to bankruptcy problems (however, Wruck (1990) suggests that this may not be a true cost if this time is spent on productive changes forced by financial distress). Finally, firms in Chapter 11 must seek court approval for major business decisions. Gilson (1991) suggests that this effectively gives bankruptcy judges a major role in the management of the firm. This transfer of control may be damaging if judges are less skillful at running the firm than existing management.

Haugen and Senbet (1978, 1988) make a further distinction between bankruptcy and liquidation costs. They argue that bankruptcy costs should include only those costs associated with the reorganization of the firm's securities. Liquidation costs include any declines in value as a result of increased risk that the firm will have to undergo an inefficient liquidation process.<sup>(3)</sup> This distinction has important consequences in measuring bankruptcy costs as the following example illustrates. Assume a levered firm incurs an exogenous shock that decreases its cash flow stream. The value of the firm declines as a result of three separate effects. These effects are i) total future cash flows are reduced, ii) an increase in expected bankruptcy costs, and iii) an increase in expected liquidation costs.

These effects point out the problems of measuring bankruptcy costs. To obtain a relative measure of bankruptcy costs, we need a measure of firm value as well as estimates of the absolute costs of bankruptcy. In measuring direct costs, an absolute measure of legal and administrative costs is readily observable. However, the difficulty occurs in measuring firm value. As firms approach bankruptcy, the market value of the firm declines by increasing amounts as the expected costs of bankruptcy and liquidation rise. We suggest that a true relative measure of bankruptcy costs should use the market value of the firm adjusted upward to compensate for expected bankruptcy and liquidation costs.<sup>(4)</sup> This value is difficult to estimate. Most empirical studies use a measure of firm value determined at some specified period prior to bankruptcy. This method creates some degree of cross-sectional error as a result of i) varying levels of bankruptcy risk across firms in the initial measurement period and ii) changes in the firms occurring between the initial period and the bankruptcy. This conclusion is supported by the variation of empirical estimates of direct costs which range from 2.8% to 24.9% of firm value (see Weiss (1990) and Wruck (1990) for discussions of these studies).

The indirect costs are even more difficult to estimate because they are not directly observable. Two recent efforts have focused on the individual bankruptcy cases of Texaco (Cutler and Summers (1988)) and Federated

Department Stores (Kaplan (1989)). As might be expected, since these are individual cases with attendant measurement problems, the studies yield different results. Cutler and Summers find evidence of significant indirect costs (approximately 9%) in the Texaco case while Kaplan concludes that Federated suffered no significant indirect costs, at least in the short-term.

Lang and Stulz (1993) test for indirect costs of bankruptcy by examining the returns of competitors of bankrupt firms. They hypothesize that if bankrupt firms are prevented from making optimal investments as a result of indirect bankruptcy costs, the competitors of the bankrupt firm should benefit. Further, the degree of competition within the industry should affect the magnitude of the benefit to a particular firm. In highly competitive industries, the loss of one firm should not be of great significance. However, in less competitive industries, the positive benefit to competitors should be greater. Although Lang and Stulz provide evidence to support the existence of indirect costs, they are unable to estimate the magnitude of these costs.

In an important extension to the question of bankruptcy costs, Jensen (1989, 1991), Gilson, John, and Lang (1990), and Gilson (1991) suggest that private workouts are, on average, less costly than Chapter 11. The higher costs of Chapter 11 mainly are attributable to the greater administrative and legal costs of the court process. As expected, Gilson, John, and Lang conclude that costs of private renegotiations are significantly less than Chapter 11 cases. They estimate the direct costs of exchange offers, the most frequently used method in private workouts involving publicly traded debt, to be less than 1%. Gilson (1991) suggests that the total costs of private workouts may be as little as 10% of Chapter 11 costs.

While the studies mentioned above suggest that corporate bankruptcy is inefficient, Easterbrook (1990) suggests that it is more efficient than other available alternatives. He specifically argues that corporate bankruptcy may be less costly than auctioning the firm and distributing proceeds according to the priority of claims. Although he provides no firm evidence to support his contention, Easterbrook argues that if auctions were more efficient, they would replace bankruptcy in the long run.

### *B. Information and Incentive Problems*

Efficiency problems created by the disparate incentives of alternative claimants are discussed in detail by Brown (1989), Giammarino (1989), White (1989), Weiss (1990), Wruck (1990, 1991), Gertner and Scharfstein (1991), Gilson (1991), Jensen (1991) and Daigle and Maloney (1992). We have indicated earlier that a major problem in the bankruptcy process is the uncertainty

over the economic worth of the firm. Unfortunately, this initial uncertainty, combined with the current state of the bankruptcy system, ultimately leads to a greater degree of uncertainty and a less efficient bankruptcy process.

Part of the uncertainty problem is attributable to informational asymmetries between different parties. Management has access to inside information and should be the best informed. However, as a result of the costs and procedures of monitoring firm performance, other asymmetries exist. For instance, because of closer monitoring, we would expect private creditors to have better information than public debtholders. The empirical results of Brown, James, and Mooradian (1993) support this hypothesis. In a study of equity for debt exchange offers, they find a positive return to equity when the exchange is made to private creditors and a negative return to equity when the exchange is made to public debtholders. These results indicate that management is able to take advantage of its information asymmetry with public debtholders.

Other sources of uncertainty are related specifically to the bankruptcy laws. Much of the inefficiency results from the reorganization voting procedures. Recall that successful private workouts require unanimous consent from all impaired creditors while a Chapter 11 reorganization requires majority acceptance of all claimants within a particular class.

In the negotiating process, each class of claimants has incentives to present biased information that will maximize their bargaining position. Creditors are likely to suggest that the firm is in poor condition so as to minimize the value of the share of the firm accruing to equityholders. For the opposite reason, equityholders are induced to present information depicting the firm in a more favorable position. Managers, claiming knowledge of inside information, may further cloud the picture since their primary concern may be to save their jobs. Therefore, the structure of the current bankruptcy system may actually increase, rather than decrease, uncertainty about the value and economic viability of the firm. This result can be viewed as one characteristic of a judicial system that stresses fairness over economic efficiency.

Empirical evidence suggests that conflicts of interest between claimants is a significant problem. Daigle and Maloney (1992) examine financially distressed firms to find evidence of asset shifting, the redirection of assets from bondholders to equityholders. In 33 of 41 cases, they found evidence of either stock repurchases, dividends, insider trades that benefited equityholders, fraud, or project switching to allegedly riskier lines of business. The authors suggest that these practices create agency costs because of the conflicting interests between

equityholders and bondholders.

Gilson, John and Lang (1990) study the problem in a different manner. As noted earlier, they present evidence that the total costs of private workouts are significantly less than Chapter 11 reorganizations. Their sample of 169 firms that suffered financial distress from 1978-1987 revealed that 80 firms successfully restructured their debt privately while the other 89 entered Chapter 11. Of the 89 Chapter 11 firms, 62 attempted some form of private restructuring that failed. Gilson, John, and Lang attempt to identify factors that may cause private workouts to fail. They suggest that all claimants are collectively better off in a workout than a formal bankruptcy because of lower deadweight costs. They conclude that conflicts of interest force many firms into the costlier bankruptcy process.

A similar argument is provided by Wruck (1991), who states that claimants have two ways to maximize the value of their claims. They can either work together to ensure that total firm value is maximized or they can try to transfer wealth from other claimants. So, aside from the problem of biased information, the bankruptcy process also leads to a holdout problem. In private workout negotiations, claimants may try to improve their position by using the threat of forcing the firm into Chapter 11 and dragging out the costly court process.

The holdout problem also decreases the chance for a successful exchange offer to restructure public debt. In these offers, a package of reduced claim securities are exchanged for the original bonds. The exchange is voluntary, and the firm may regain solvency if only a portion of the existing bonds are exchanged. If enough bonds are exchanged to make the firm solvent, the value of the original bonds is greater than the value of the new securities. Therefore, the reduced claims offered by the new securities provide an incentive for bondholders to hold out. Additionally, the Gilson, John and Lang (1990) study indicates that the greater the number of creditors involved in the financing of the firm, the more significant the holdout problem becomes.

The biased information and holdout problems increase bankruptcy costs. Potential solutions to the biased information problem have been proposed by Jensen (1991), Wruck (1991), and Merton (1991). Jensen suggests implementing an auction process open to insiders and outsiders to obtain bids for the control of the firm. The winning bidder would have the right to retain or replace existing management as there would be no automatic stay for the debtor-in-possession. Jensen argues that this would be a more economically efficient process primarily because control of the firm would be in the hands of individuals with a financial stake in maximizing firm value rather than in the hands of the bankruptcy court. The auction also would lessen the

incentives to provide biased information, since claimants' estimates of value would have to be backed up with their own money. Wruck suggests that the process may be made more efficient by hiring independent workout specialists whose professional reputation is dependent on providing unbiased information regarding firm value. Each of these proposals provides financial incentives for accurate information to replace existing incentives for biased information. Merton (1991) proposes the use of debt financing that can unilaterally be converted to equity upon default as a way to align equity and debt-holder incentives.

Wruck (1991) also suggests that the severity of the holdout problem may be reduced by employing a simpler financial structure that reduces divergent incentives for different claimants. One example would be the use of strip financing where investors purchase securities consisting of both debt and equity, thereby reducing conflicts of interest. Firms also might consider streamlining their debt to include a smaller number of creditors.

Gertner and Scharfstein (1991) suggest that the conflicts of interest in the bankruptcy process also cause the firm to make inefficient investment decisions. One example results from the automatic stay granted in Chapter 11. The authors suggest that the automatic stay encourages firms to overinvest in negative NPV projects because i) cash is more readily available with the suspension of interest and principal payments and ii) equity value may be increased because creditors bear the risk of the investment. If a firm is insolvent, management's only chance of survival may be to undertake risky investment that may return the firm to solvency in the future. The authors extend their model to show how other features of bankruptcy law as well as the claim structure of a firm's debt affect investment efficiency.

### *C. Violations of Absolute Priority*

The discussion of conflicting claimholder incentives leads to another source of inefficiency in the Chapter 11 process, the violation of absolute priority. In general, a violation of absolute priority occurs when one level of claimants receives compensation before a higher level of claimants is fully compensated. In practical terms, most violations of priority are actually changes in the terms of contracts between a firm and its creditors that are detrimental to the creditors. As such, they raise the firm's cost of capital and detract from economic efficiency.

Franks and Torous (1989), Eberhart, Moore, and Roenfeldt (1990), Weiss (1990, 1991), and Wruck (1990) suggest that violations of priority result from a number of factors relating to bankruptcy law. First, the Chapter 11 automatic stay delays creditors' claims while allowing

equity holders to remain in control of the firm. This is especially significant if the firm is long-term insolvent. In this situation, the firm should be liquidated and equity should receive no compensation. At the end of the automatic stay, debtor-in-possession management presents the initial plan for reorganization. Since management is pro-equity, it is reasonable to assume that the reorganization plan may be biased in favor of equity. Creditors may accept the plan to avoid further deadweight costs of a lengthy court process. The court also may give more credence to management's plan since, to some extent, it is based on estimates of firm value developed with superior inside information.

Also, in the voting process, a majority of equity holders, in addition to impaired creditors, must approve the reorganization plan. Therefore, equity receives an equally important role in the voting procedure even though their claims are worth less than the creditors' claims. Equity holders likely use this advantage in the bargaining process to transfer value from creditors.

Secured creditors may accept lesser claims in a reorganization to avoid losing unpaid interest and/or to avoid losses in the value of secured assets. While bankruptcy law is designed to protect the interests of secured creditors, there is some debate over its ability to do so. Finally, Weiss (1991) suggests that bankruptcy judges sometimes exceed their legal bounds in allowing bankrupt firms to continue to operate that are deemed to be in the public interest. Weiss notes that the public is not a claimant in the bankruptcy proceedings and disputes the ability of bankruptcy judges to determine what is in the public's best interest.

Jensen (1991) argues that violations of absolute priority create two harmful effects. First, since priority violations are allowed by the courts, lower level claimants will expend more efforts to transfer value from higher level claimants. This reinforces the conflicts of interest and makes the bankruptcy process more costly. Second, significant deviations from priority will make debt more costly as creditors' claims are not upheld in bankruptcy courts. The higher cost of debt will increase the firms' cost of capital and cause corporations to employ lower levels of debt in their capital structures. Jensen's argument suggests that this will result in i) fewer profitable investment opportunities for the firm and ii) higher agency costs from the reduction in debt.

As violations of priority reduce the value of creditors' claims, they also increase the value of equity's claims. Therefore, as the violations cause the cost of debt to increase, they also should cause the cost of equity to decrease. However, we suggest that these two effects do not exactly offset each other. The total effect should be to increase the corporate cost of capital as a result of the greater degree of uncertainty regarding the value of

claims for both debt and equity purchasers. The net effect should be a reduction in economic efficiency.

Empirical studies indicate that violations of priority occur on a frequent basis. Franks and Torous (1989) find priority deviations in 21 of 27 cases studied. They suggest that creditors settle for reduced claims in order to avoid additional costs associated with a lengthy court battle with residual claimants. Weiss (1990) finds deviations in 29 of 37 cases. Weiss also presents evidence that suggests that different bankruptcy courts do not act uniformly in applying the rule of absolute priority. These inconsistencies may lead to additional uncertainty in debt contracting. Both studies conclude that the cost of debt should increase as a result of these deviations.

Eberhart, Moore, and Roenfeldt (1990) find deviations in 23 of 30 bankruptcy cases. They also find evidence to suggest that equity prices, at least around the bankruptcy announcement dates, respond to expectations of deviations from absolute priority. We may infer from this result that the firm's cost of equity is affected by these expectations, although the magnitude of this effect is not known.

Daigle and Maloney (1992) examine how violations of priority are related to the conflict of interests problem. The authors find that the degree of equity's control of the firm influences the outcome of the reorganization. In firms where equity has greater control of the assets, the ultimate share of the reorganization going to equity is higher.(5)

## V. Areas for Further Research

Future research should be directed at efforts to improve the efficiency of the bankruptcy system. Although, as Easterbrook (1990) suggests, the current system may be the most efficient alternative now available, existing research indicates that the process may be modified to improve economic efficiency.

One traditional barrier to bankruptcy research, small sample sizes, is being removed. In their study of O.M. Scott, Baldwin and Mason (1983) suggest that our ability to conduct effective research will improve as default in larger firms becomes more common. The recent default experience of large corporations enables research to progress from individual case studies to large sample studies that allow for better control of unsystematic factors.

In terms of specific research interest, several areas warrant further development. We need to develop a better understanding of management's role in financial distress. We have indicated that higher leverage produces efficiency gains in the corporation. Therefore, we

would expect to see good managers using high levels of leverage and bad managers using low levels of leverage. Since leverage increases the risk of financial distress, we may infer that not all bankrupt firms are run by bad managers. Yet, managers are penalized when the firm enters financial distress. We need to be better able to identify management quality so that good managers will not be penalized for taking on higher leverage. As Kaplan (1989) notes in his study of Federated Stores, financial distress does not necessarily mean that value was destroyed.

Additional research is needed to improve the quality of information regarding the value of financially distressed firms. Proper valuation of the distressed firm's assets is a necessary step in making efficient reorganization and liquidation decisions. We have suggested earlier that there are two sources of error in making efficient bankruptcy decisions. The first comes from general uncertainty regarding firm value including the effects of expected bankruptcy and liquidation costs. The second source of error comes as a result of problems in the bankruptcy system.

We have discussed how firm value is affected as firms increase leverage and approach financial distress. Several factors are at work that influence how the market values the firms' assets. On the positive side, there are tax benefits as well as reduced agency costs as a result of lower free cash flow and the increased threat of bankruptcy. On the negative side, there is the increase in expected bankruptcy and liquidation costs. Furthermore, the relative impact of each of these factors is not constant across firms. To make efficient reorganization and liquidation decisions, claimholders and bankruptcy judges need to know the value that the firms' assets may be expected to provide assuming a reorganization takes place and the assets are managed in an optimal manner. If more was known about the magnitude of the costs and benefits of financial distress, this value would be more readily identifiable.

Specifically related to this, more work should be done on examining the post-reorganization performance of firms. Are firms that reorganize privately more or less successful than those reorganized in Chapter 11? And, what is the likelihood that these firms will again become financially distressed? Previous efforts to study post-reorganization performance have been very limited.

In regard to the bankruptcy process itself, we must further evaluate the causes and consequences of the biased information and holdout problems. Continued work in the design of securities that align the interests of the claimholders is likely to be a most productive research area. Also, we need further empirical evidence on the efficiency of alternative bankruptcy systems in other industrialized countries.

Finally, we need to examine the total effects of violations of absolute priority on the costs of both debt and equity to the firm. Also, any losses of efficiency must be weighed against bankruptcy judges' reasoning for allowing violations of absolute priority. Priority deviations may be considered a form of insurance for residual claimants that the aggregate economy pays for. The cost of the insurance is the inefficiency created in financial markets. The benefit is the value of claims that go to residual claimants to soften the consequences of bankruptcy. Violations of priority obviously have costs, but we must evaluate the significance of these costs in relation to the insurance benefits. ❁

#### \*\*\*Endnotes\*\*\*

1. We use the terms short-term and long-term insolvency for simplicity. Previous authors have defined the problem differently. For instance, Wruck (1990) defines insolvency on either a stock or flow basis. Others make the related distinction between financial and economic distress.
2. Gilson (1989, 1990) provides evidence to indicate that senior management and company directors are significantly penalized in terms of lost job opportunities when firms enter financial distress.
3. Johnson, Wolfe and Lynch (1992) present evidence in support of Haugen and Senbet's distinction between bankruptcy and liquidation costs.
4. Another problem is that, as we noted earlier and will soon expand on, the market value of equity is not a good measure of the economic worth of equity as the firm approaches bankruptcy.
5. We should mention another group of studies including Morse and Shaw (1988), Benesh and Press (1992), and Betker, Torous and Franks (1993) that examine security returns during bankruptcy and default. These studies are largely descriptive in terms of firm performance and are indirectly related to each of the areas we have mentioned above.

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