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PATTERNS IN THE BANKRUPTCY REORGANIZATION OF LARGE, PUBLICLY HELD COMPANIES*

Lynn M. LoPucki † & William C. Whitford ††

Several recent articles contend that Chapter 11 of the Bankruptcy Code does not provide efficient procedures for redressing the financial distress of large firms.¹ The authors of these articles argue that the creditors of a financially distressed firm would fare better if the corporation's problems were resolved in some other way.² The argument has proceeded principally on a theoretical level, since it is virtually impossible to know for certain how firms

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¹ E.g., Barry E. Adler, *Bankruptcy and Risk Allocation*, 77 CORNELL L. REV. 439 (1992); Douglas G. Baird, *The Uneasy Case for Corporate Reorganizations*, 15 J. LEGAL STUD. 127 (1986) [hereinafter Baird, *Uneasy Case*]; Michael Bradley & Michael Rosenzweig, *The Untenable Case for Chapter 11*, 101 YALE L.J. 1043 (1992); Douglas G. Baird, *Revisiting Auctions in Chapter 11*, Law & Economics Working Paper No. 7, Second Series, University of Chicago Law School (1992) (forthcoming in J.L. & ECON.) [hereinafter Baird, *Revisiting Auctions*]. For a response to Bradley & Rosenzweig, see Lynn M. LoPucki, *Strange Visions in a Strange World: A Reply to Professors Bradley and Rosenzweig*, 91 MICH. L. REV. 79 (1992).

² Two basic alternatives to current Chapter 11 procedures have been suggested. Perhaps the best known suggestion is for an expeditious auction of the firm as a going concern shortly after the filing of a bankruptcy petition. See THOMAS H. JACKSON, *THE LOGIC AND LIMITS OF BANKRUPTCY LAW*, ch. 9 (1986); Baird, *Uneasy Case*, *supra* note 1; Baird, *Revisiting Auctions*, *supra* note 1. We have criticized this idea in Lynn M. LoPucki & William C. Whitford, *Corporate Governance in the Bankruptcy Reorganization of Large, Publicly*

that have been in Chapter 11 would have fared under a different procedure.³

We recently completed an extensive empirical study of forty-three Chapter 11 cases involving large, publicly held firms. The names of the debtor companies and their asset sizes at filing are shown in Appendix One. These cases constitute the universe of cases filed under the Bankruptcy Code by publicly held companies reporting at least \$100 million in assets at filing in which a plan of reorganization was confirmed before March 15, 1988.⁴ In this Article we report what has happened to the corporations and businesses involved in these cases, both during reorganization and thereafter. This account of the outcome of these cases cannot establish whether the result of the cases would have been more or less favorable if a different procedure had been used. Nonetheless, any critique of Chapter 11 should begin with an understanding of what is actually occurring in the cases.

We describe the outcomes of Chapter 11 cases by referring to several variables used in the literature or in conversation. We do not believe that all of these variables provide sensible criteria for a normative evaluation of the "success" of Chapter 11. However, one purpose of this Article is to provide information for others to use in their evaluations.

Held Companies, 141 U. PA. L. REV. 669 (1993) [hereinafter LoPucki & Whitford, *Corporate Governance*].

Another idea is to repeal corporate bankruptcy law entirely, allowing the claimants of a financially distressed corporation to resort to their state law remedies. See, e.g., James W. Bowers, *Whither What Hits the Fan? Murphy's Law, Bankruptcy Theory and the Elementary Economics of Loss Distribution*, 26 GA. L. REV. 27 (1991); Bradley & Rosenzweig, *supra* note 1, at 1078-88.

³ Bradley & Rosenzweig, *supra* note 1, purport to have indirect proof that Chapter 11 is inefficient, but their proof is methodologically flawed. See, e.g., Elizabeth Warren, *The Untenable Case for Repeal of Chapter 11*, 102 YALE L.J. 437 (1992); LoPucki, *supra* note 1. Perhaps the best attempt at comparing the outcomes of actual reorganization cases with what might have been is the effort of Eisenberg and Tagashira to compare reorganization outcomes in Japan with the liquidation values estimated by Japanese examiners. See Theodore Eisenberg & Shoichi Tagashira, *Estimating the Benefits of Business Reorganizations: An Empirical Study of Japanese Compositions* (Aug. 23, 1992) (unpublished manuscript, on file with the authors).

⁴ Details of sample selection and data collection are reported in Lynn M. LoPucki & William C. Whitford, *Bargaining Over Equity's Share in the Bankruptcy Reorganization of Large, Publicly Held Companies*, 139 U. PA. L. REV. 125, 134-37 (1990) [hereinafter LoPucki & Whitford, *Bargaining Over Equity's Share*]. For each of the 43 cases, we collected information from the reorganization plans and disclosure statements, annual financial statements contained in SEC Form 10K reports or annual reports, secondary literature about the case, and extensive interviews with the principal attorneys participating in the cases. Other articles published as a part of this study include Lynn M. LoPucki & William C. Whitford, *Venue Choice and Forum Shopping in the Bankruptcy Reorganization of Large, Publicly Held Companies*, 1991 WIS. L. REV. 11; Lynn M. LoPucki & William C. Whitford, *Preemptive Cram Down*, 65 AM. BANKR. L.J. 625 (1991); LoPucki & Whitford, *Corporate Governance*, *supra* note 2.

Bankruptcy lawyers and commentators sometimes consider a reorganization case to be successful if a plan of reorganization has been confirmed.⁵ For that reason, we provide information about confirmation rates. We do not report data about ultimate payments in the cases we studied.⁶ From the perspective of assessing benefits received by creditors, there is a more direct measure of success in these cases because the market values of the promises are distributed at confirmation. We reported these values in an earlier article.⁷

Another test of the success of a reorganization case used in conversation among practitioners is whether the business or firm survived.⁸ Survival can mean two different things. From the perspective of corporate law, the firm survives if it emerges from reorganization as the same corporation, even though the assets it owns have changed radically. We call this "entity survival," and report its rate. From the perspective of suppliers, customers, and employees of the firm, it may be more important that the core operating business rather than the corporate entity remains intact. For example, consider a manufacturing operation that is sold to a third party who produces the same product. From the perspective of the employees, customers and suppliers, nothing significant may seem to have changed, even though from the perspective of the debtor entity, the case was a complete liquidation. We call this "business survival," and estimate its rate.

For many commentators, a better measure of the success of a Chapter 11 case than mere survival is the extent to which the finan-

⁵ See Lynn M. LoPucki, *The Debtor in Full Control—Systems Failure Under Chapter 11 of the Bankruptcy Code?*, 57 AM. BANKR. L.J. 99, 106 (1983).

⁶ Jensen-Conklin has argued that confirmation rates are not a meaningful measure of success because "[a] successful plan is one that will be consummated, that is, all required distributions and provisions of the plan will be completed." Susan Jensen-Conklin, *Do Confirmed Chapter 11 Plans Consummate? The Results of a Study and Analysis of the Law*, 97 COM. L.J. 297, 298 (1992) (finding that debtors performed in accord with their plans in about fifty-eight percent of the cases in Poughkeepsie, New York Bankruptcy Court).

⁷ Because the cases we studied were large, there was usually post confirmation trading in the stocks, bonds, notes and other property distributed pursuant to the plan. We determined the market values of these distributions for the cases in our study and reported them in LoPucki & Whitford, *Bargaining Over Equity's Share*, *supra* note 4, at 141-43, 164-68. We think those values are better evidence of the "success" of the proceeding than data on the debtor's performance or nonperformance of the promises themselves. First, where the promises have a trading value, that value is a meaningful measure of the benefit that creditors receive from the plan. Second, the rate of performance or nonperformance of the promises would be affected by post confirmation events, and hence the "success" rate that they indicate would not be a function solely of the Chapter 11 proceeding.

Because there is no market for the kinds of distributions made in cases like those studied by Jensen-Conklin, *supra* note 6, she could not employ the method we employed. To determine, as she did, whether debtors actually performed under their plans, was probably the best measure of creditor benefit in her study.

⁸ LoPucki, *supra* note 5, at 106-07.

cial performance of the company improved. One measure of this kind of success is whether the surviving entity remained out of bankruptcy after confirmation. Another measure is whether the surviving entity emerged from bankruptcy with less debt and/or improved profitability. We use both measures in analyzing the "financial success" of the reorganizations that we studied.

We also examine the extent to which the asset size of the company was reduced during Chapter 11. An expeditious auction of assets is the most frequently suggested alternative to Chapter 11.⁹ Yet we show that asset sales are already a common feature of Chapter 11 cases. Finally, we examine the extent to which control of the companies changed during Chapter 11. While few would argue that maintenance of a current management or controlling shareholder group's power is a legitimate objective in bankruptcy, several commentators have argued that, in practice, such an end has become a primary motive for the filing of a Chapter 11 case.¹⁰

I

CONFIRMATION RATE

Confirmation of a reorganization plan was a requirement met by all of the cases included in our principal study. In a satellite study, we identified additional cases that met the criteria for inclusion in our principal study except that a reorganization plan had not been confirmed before our cut-off date of March 15, 1988.¹¹ There were twenty-nine such cases. By February 1, 1993, there had been confirmation in twenty-six of these cases. Two had been converted to Chapter 7, and one had been dismissed.¹² If these twenty-nine cases are added to the forty-three cases in our principal study, we can document confirmation of a plan in sixty-nine of the seventy-two (96%) cases filed by large, publicly held companies within the eight and one-half year study period. Clearly, confirmation of a reorgani-

⁹ See authorities cited in *supra* note 2.

¹⁰ See authorities cited *infra* note 46.

¹¹ These cases were identified principally from lists of publicly held companies filing bankruptcy cases that are maintained by the SEC. In all of these cases the petition was filed after the effective date of the Bankruptcy Code (October 1, 1979) but before March 15, 1988 (our cut-off date), and the debtor company reported assets of at least \$100 million in its petition.

¹² The two cases that were converted to Chapter 7 are Continental Steel and Wedtech. Steiger Tractor was dismissed. The 26 cases that had plans confirmed are: A.H. Robbins, Allegheny Int'l, Allis-Chalmers, American Healthcare, Basix, Beker Industries, Buttes Gas & Coal, Care Enterprises, Eastmet, Global Marine, Heck's, Hunt Brothers, Kaiser Steel, LTV Corp., McLean Industries, Michigan General, Pettibone Corp., Public Service of N.H., Radice Corp., Texaco, Todd Shipyards, UNR Industries, (The) Western Co., Western Preferred, Wheeling-Pittsburgh, and Worlds of Wonder.

zation plan is commonplace in Chapter 11 cases involving large, publicly held companies.

These findings contrast with the conventional wisdom that in the large majority of Chapter 11 cases, generally involving smaller companies, plans are not confirmed.¹³ Practices with respect to confirmation in the large cases sharply diverge from that pattern. This was not noted by some of the commentators advocating the repeal of Chapter 11 for large firms, causing them to advance some misleading arguments.¹⁴

II ENTITY SURVIVAL

A reorganization plan can provide for the elimination of the filing entity. Typically, in such cases, all assets of the filing company are sold during the proceeding, with the proceeds of the sale distributed to claimants under the reorganization plan. After consummation of the reorganization plan, the company has no assets and ceases to exist. In five of the forty-three (12%) cases that we studied that is precisely what happened.¹⁵

In the thirty-eight remaining cases, some form of entity survived the Chapter 11 case. In six instances, an entity with few tangible assets was preserved primarily in order to take advantage of Net Operating Loss Carryovers (NOLs).¹⁶ The hope was that the surviving entity would earn future profits that would then be rendered tax free by the NOLs.¹⁷ Absent tax considerations, it is likely that only

¹³ Jerome R. Kerkman, *The Debtor in Full Control: A Case For Adoption of the Trustee System*, 70 MARQ. L. REV. 159, 205-06 (Chart II) (1987) (showing that confirmation occurred in only 12 of 48 cases studied (25%)); LoPucki, *supra* note 5, at 122-23 (data showing confirmation rate of 43%); Ed Flynn, *Statistical Analysis of Chapter 11*, at 10-11 (1989) (unpublished manuscript, cited in Bradley & Rosenzweig, *supra* note 1, at 1075 n.75) (estimating that for Chapter 11 cases filed after 1987, no more than 30% will result in confirmed reorganization plans and that, for cases filed prior to 1987, only 17% had resulted in confirmed plans as of July 1989).

¹⁴ *E.g.*, Bradley & Rosenzweig, *supra* note 1, at 1075 n.75. The authors cite the low confirmation rate for plans in Chapter 11 as evidence that firms that file Chapter 11 petitions do not survive. They fail to note the distinction between large and small companies that file petitions. We show in the next section that survival of large companies that file under Chapter 11 is nearly as commonplace as is confirmation of reorganization plans.

¹⁵ Amarex, KDT Industries, Pizza Time Theatre, Sambo's Restaurants, and Saxon Industries.

¹⁶ Air Florida (which emerged from reorganization renamed Jet Florida), FSC (renamed Trilos), McLouth Steel (renamed MLX Corp.), Seatrain Lines, Technical Equities, and White Motor Co. (renamed NEOAX). It is not always possible to transfer NOLs by sale. *See* I.R.C. § 382 (West 1988). In these cases reorganization may have been the only way to preserve the value of the NOLs for the claimants to the estate.

¹⁷ The normal strategy for making future profits was to acquire profitable firms. Since the surviving entity would not need to pay taxes on the profits resulting from the

thirty-two of forty-three (74%) cases would have produced a surviving entity.

When a debtor entity survives through confirmation, the plan distributes shares in the surviving entity to holders of claims or interests. An expeditious auction of all assets is one of the most prominent of the currently proposed radical reforms of Chapter 11.¹⁸ If this reform were accomplished by requiring a Chapter 7 type of liquidation, there would be no shares in a surviving entity available for distribution. In this respect, the reform would change the current practice.

III BUSINESS SURVIVAL

When a company sells assets to a third party, the assets do not disappear but are usually put to some business use. In that sense, the business use of assets usually survives even a piecemeal liquidation. In this Section, however, we consider a business to have survived only if the core business at filing remained intact in a single entity through confirmation. We considered the core business at filing to have remained intact if a major portion of the assets remained under common ownership and were fundamentally committed to the same business purpose, whether that ownership was maintained by the same entity or not.

The alternative to business survival is what we call "shattering." Shattering means that a large portion of the company as it existed at filing was sold off in discrete units to different buyers. In some instances, units of a shattered company may simply have been shut down for lack of a buyer.

The principal criterion we used in deciding whether a core business survived was reduction in asset size during the case. If, without sale of the core business, a company's assets fell by more than 50% during the period of the case,¹⁹ we usually considered the company to have shattered.²⁰

In twenty-two of the forty-three (51%) cases studied, we judged that the core business survived. In fifteen of these twenty-two (68%) cases the core business survived within the same entity struc-

acquisition, it could offer a higher price for an acquisition likely to yield future profits than could a competing firm lacking this tax advantage.

¹⁸ See, e.g., Baird, *Uneasy Case*, *supra* note 1; Baird, *Revisiting Auctions*, *supra* note 1.

¹⁹ The data we used in making these judgments is described *infra* notes 28-29 and accompanying text.

²⁰ In three instances, a revaluation of assets rather than asset sale caused asset size to drop dramatically. All three companies were oil companies that filed during the dramatic collapse of oil prices during the mid-1980s. We determined that the core business survived in these cases (Crystal Oil, MGF, Oxoco).

ture. In the other seven cases the core business was transferred as a unit to a third party.²¹

In three cases the company emerged from bankruptcy with its core business intact, but a decision had been reached to shatter the company—i.e., to liquidate the assets by selling many discrete units. However, it was thought more efficient to conduct the asset sales outside of bankruptcy.²² In eighteen other cases, we determined that the shattering occurred while the company was in bankruptcy. Thus, in nearly half (twenty-one of forty-three) of the cases studied, the company either shattered before confirmation or was expected to shatter shortly thereafter.

There are several reasons why one evaluating Chapter 11 might be interested in whether businesses survive.²³ Among them is that a business may provide its employees, suppliers, and customers with a sense of community and security. Many people find that by participating in a collective human endeavor they greatly enrich their enjoyment of life; this explains much of the enthusiasm that people have for team sports, for example. Participation in a business can provide similar enjoyment.²⁴ Moreover, a large business often provides its employees and suppliers with a feeling of economic security (another intangible enhancement of the quality of life) because its very size can imply permanence. When a business shatters, these

²¹ Appendix Two lists the 15 core businesses that survived as the same entity. The seven core businesses that we considered to have survived after transfer to a different entity are: Air Florida (sale to Midway), Amarex (sale to Templeton), Energetics (distribution to ITR under the plan), McLouth (sale to Tang Industries), Pizza Time Theatre (sale to Show Biz), Saxon Industries (sale to Alco), and White Motor (sale to Volvo).

The distinction between sale of an entity and sale of its assets to a third party is a technical one, as any corporate acquisitions lawyer knows. In some cases an outside party offered the reorganizing company cash and other assets in return for a controlling block of shares. We categorize these cases as survival of an entity, even though the entity became a subsidiary of the acquirer. Where the assets (rather than shares) were purchased directly, however, there was no entity survival.

²² This strategy was chosen in order to escape bankruptcy jurisdiction over the sales. See 11 U.S.C. § 363(b)(1), § 1129 (West 1988). The three cases referred to in the text are HRT Industries, Marion, and EPIC.

²³ Where the business is small, the owner may be a manager whose sense of career success and self-worth is dependent on survival of the business. A defender of corporate reorganization may believe that the owner-manager(s) is (are) entitled to a second chance, given the hidden emotional costs associated with career failure. For large companies, managers may have similar concerns, but because of the size of potential losses to creditors and others, such considerations presumably weigh less in any normative evaluation of Chapter 11.

²⁴ A classic study emphasizing the loss of community as a separate item of loss is KAI ERIKSON, *EVERYTHING IN ITS PATH* 186-245 (1976). Erikson studied the losses suffered by the survivors of the "Buffalo Creek Disaster," a dam failure in a West Virginia hollow that destroyed several towns. Popular books written about business failures often emphasize a similar loss when a business with which employees have identified is closed down and its assets are sold. One example, based on a case in our study, is JAMES NANCE, *SPLASH OF COLORS* 376-96 (1984) (concerning Braniff Airways).

intangible benefits may be lost²⁵ as assets are transferred to several different entities.²⁶ Of course, the mere existence of such losses does not mean that shattering is an inappropriate outcome for the particular Chapter 11 case. In a normative evaluation of contemporary Chapter 11 practices, these losses should be weighed against any gains that result from the redeployment of assets when a company shatters.

Survival of a core business will only preserve intangible benefits if it continues to survive after confirmation. We were able to obtain information about post-confirmation performance for twelve of the fifteen cases in which the core business survived within the same entity.²⁷ In five of the twelve cases, the company refiled under Chapter 11 sometime after confirmation and before publication of this article. In the other seven cases, however, the company has survived, appears to be financially healthy, and has not further reduced its asset size. In most of these seven cases there has actually been growth in asset size since confirmation.

IV REDUCTION IN ASSET SIZE

The total value of the company's assets commonly declined during Chapter 11, even when the core business survived. We could not obtain comparable data about asset size precisely at filing and at confirmation.²⁸ However, we have compared those assets reported in the last annual financial report prepared by the company before filing with the assets reported in the first annual financial

²⁵ While it is often possible for employees and suppliers to find alternative sources offering these intangible benefits, the transaction costs in doing so can be large. There is, therefore, still a loss from shattering.

²⁶ We report later that reduction in asset size was a common feature of our cases, even if the core business survived. As assets are sold off while the core business is retained, employees and suppliers may experience some loss of community or economic security. We assume, however, that when core businesses survive, the loss of these intangible benefits is diminished.

²⁷ We often could not obtain reliable post-confirmation information where the core business was sold. Usually the acquiring company did not report financial information about the acquired assets separately from information about other parts of the company. For more information about the data we collected on post-confirmation performance of the companies studied, see *infra* note 43 and accompanying text.

²⁸ Asset size is listed on the Chapter 11 petition. However, there is no requirement that the company publicize financial information at confirmation. The disclosure statement accompanying a proposed reorganization plan usually estimates asset size at confirmation. Because confirmation typically occurs several months after preparation of the disclosure statement, however, and a particular estimate might or might not take into account major changes projected to take place at or shortly after confirmation, we did not regard the disclosure statement estimates as a consistently reliable source of data.

statement prepared after confirmation.²⁹ Since annual financial reports are prepared at the end of the company's fiscal year, there is usually a gap of several months between the last pre-filing report and the date of filing, and another gap between the date of confirmation and the first post-confirmation report. Therefore, all of the asset size reduction revealed by these data did not necessarily occur during the Chapter 11 case.³⁰

The data we collected are reported in Appendix Two and summarized in Table One below. In Appendix Two, we report separately for surviving and shattering companies. Table One combines the categories and shows the relationship between last pre-filing asset value and first post-confirmation asset value. Both Appendix Two and Table One exclude companies that sold their core business,³¹ or were scheduled to shatter, shortly after confirmation.³²

Table One shows that reduction in asset size is almost a universal feature of Chapter 11 cases involving large, publicly held corporations. Bankruptcy analysts often characterize particular bankruptcy cases as reorganizations or liquidations.³³ This distinction is of limited usefulness with respect to large, publicly held companies. Nearly all of them liquidate some assets and a few liquidate all assets. Most of the companies included in Table One cut their

²⁹ These financial reports are available from a variety of public sources, including SEC 10-K filings and the annual reports of the companies. SEC 10-K filings are public documents available from a variety of sources and annual reports can generally be obtained by contacting the company. Many business school libraries have the annual reports for large, publicly held companies.

³⁰ Our data on reduction in asset size are based on accounting statements prepared by the debtor companies. These reductions reflect partly the sale or retiring of assets, as well as "write downs" of the value of retained assets according to accounting standards. Where the asset reduction resulted from write downs, the true reduction in value—as measured by what the assets could be sold for in a market transaction—may have occurred in some time period other than the period in which the reduction was recognized by accountants.

³¹ This exclusion was necessary because we were unable to obtain reliable information about the value of the assets sold. The acquiring company often did not provide a separate valuation for the assets acquired in its next annual financial report. When this information was included, we could not determine whether changes in accounting methodology rendered the figure incomparable to the data we had about the value of the selling company's assets before filing. We also did not obtain reliable information about the purchase price of the assets.

³² See *supra* note 22 and accompanying text. We were not able to obtain data about four other cases, as shown in Appendix Two. These cases are not shown in Table One. The usual difficulty was that some firms did not publish annual financial reports or make SEC 10-K filings after confirmation.

³³ For example, Bradley and Rosenzweig rely heavily on this distinction in their analysis. They "refer to the choice between liquidation and reorganization as the Chapter 11 dilemma." Bradley & Rosenzweig, *supra* note 1, at 1051. They conclude that "existing bankruptcy rules encourage corporate managers to reorganize under Chapter 11 when liquidation might make more sense economically, thus generating significant bankruptcy and near-default costs." *Id.* at 1078.

TABLE I
DEGREE OF SHRINKAGE DURING CHAPTER 11

Table shows the number of companies emerging from Chapter 11 at a particular size in relation to the company's size before filing.

Emerging company over 90% size of filing company	Emerging company 51% to 90% size of filing company	Emerging company 10% to 50% size of filing company	Emerging company under 10% of filing company	Total number of companies
2	9	11	7	29

size by more than half. The meaningful distinction is among various degrees of liquidation, not between liquidation and reorganization as discrete categories.

V

FINANCIAL SUCCESS

A bankruptcy reorganization may be able to resolve two distinct kinds of financial problems for a troubled company. First, a company may be incurring substantial operating losses that are not merely the product of temporary market conditions. In these cases, the company normally considers selling losing parts of its overall business and cutting costs through the adoption of more efficient methods. Second, the company may have incurred too much debt and become unable to meet its obligations at any reasonably foreseeable level of operating revenue. One solution is to reduce the amount of debt through bankruptcy discharge.

Mark Roe, a critic of Chapter 11, argues that the bargaining dynamics of bankruptcy reorganization cause firms to leave Chapter 11 with debt levels so high that they threaten the future financial success of the emerging companies.³⁴ If true, Chapter 11 is not helping companies meet the second kind of financial problem identified above. Such a result would be a serious indictment of Chapter 11 as it is currently constituted.

³⁴ Mark J. Roe, *Bankruptcy and Debt: A New Model for Corporate Reorganization*, 83 COLUM. L. REV. 527, 536-48 (1983). Roe's thesis is that it is very hard to confirm a plan that provides nothing for equity holders, even though the company is insolvent. He believes that cramdown is impractical, and hence the only way to confirm a plan is to get the consent of all classes entitled to vote on the plan, including equity holders. To obtain that consent, each class must be provided something. Roe's hypothesis is that creditors meet this imperative by agreeing to provide some shares in the reorganized company to previous equity holders, while loading the reorganized company with so much fixed debt (to be distributed to creditor interests under the plan) that the reorganization shares have little value. Large fixed debt ensures that the future profits of the company will go to holders of debt instruments.

To test Roe's hypothesis, we worked from the amounts of debt and equity shown on the emerging companies' annual financial reports for the first reporting dates after confirmation.³⁵ From these statistics we calculated debt/equity ratios for twenty-six of the forty-three companies in our study.³⁶ From a published source, we found the average debt/equity ratio for companies of comparable size in the same businesses as each of these twenty-six debtors.³⁷ We refer to this industry average as the "benchmark" ratio for each of our emerging companies.

For nineteen of the twenty-six companies (76%) in our study, the actual debt/equity ratio exceeds the benchmark ratio. The percentage of these twenty-six companies with debt/equity ratios above the average for their industry is statistically significant.³⁸ From this, we conclude that some factor or factors caused some of these companies to have above average debt/equity ratios at the time of their first post-confirmation financial statement. One factor could be a

³⁵ Unfortunately, we could not measure directly whether debt loads were too high precisely at confirmation. Our data concerning a company's debts came principally from disclosure statements accompanying the plan of reorganization. If the reorganization plan left secured debt unimpaired, as was often the case, the disclosure statement frequently did not provide information on the amount of this debt. Moreover, disclosure statements do not provide complete information about current short-term debt resulting from ongoing operations. Such debt is post-petition debt and theoretically an administrative expense. It is often paid in the ordinary course as it becomes due. At best, disclosure statements prepared several months before confirmation provide only estimates of short term debt at confirmation. See *supra* note 28. Frequently they fail to do even that.

³⁶ The debt/equity ratio we use compares the value of debt to the value of debt and equity combined. If the value of the equity is negative, because the company's debt exceeds the value of its assets, then the ratio will be greater than one. Ratios are expressed in percentages, in accordance with normal usage. The most common reason we were unable to obtain data for 17 of the 43 companies studied was the unavailability of a post-confirmation financial statement, sometimes because the company ceased to exist after confirmation.

³⁷ Typical debt/equity ratios vary widely by industry. In calculating a benchmark rate for each of our companies, we first identified the SIC code for the company's primary business after confirmation. In some cases we identified two primary businesses for the company. We then obtained the average debt/equity ratio reported by LEO TROY, *ALMANAC OF BUSINESS AND INDUSTRIAL FINANCIAL RATIOS* (1987), for companies of comparable asset size with businesses in the same SIC Code grouping. If we identified two primary businesses for a company, we averaged the debt/equity benchmark ratio we associated with each business to obtain a benchmark ratio for that company.

³⁸ To test for statistical significance, we established a null hypothesis that half of the companies would have a debt/equity ratio above the benchmark ratio (i.e., the average for their industry or industries). Using the z-score method, the probability that as many as 19 companies would have debt/equity ratios greater than the benchmark rate is .015 (one tail test). This is less than the .05 probability used as the standard measure of statistical significance in social science research. See J. FREUND & R. WALPOLE, *MATHEMATICAL STATISTICS* 429-31 (4th ed. 1987).

tendency³⁹ to emerge from Chapter 11 with more debt than is financially provident, as hypothesized.⁴⁰ The debt/equity ratios and benchmark rates for these twenty-six companies are provided in Appendix Three.

We have other data suggesting a tendency for companies to emerge from Chapter 11 with too much debt. A surviving entity remained after confirmation in thirty-eight of the forty-three companies in our study.⁴¹ In twelve of those thirty-eight cases (32%), the emerging entity filed another bankruptcy petition before July 1, 1992.⁴² This is a strikingly high refiling rate.⁴³ Moreover, a review of contemporary news accounts indicates that at least four of the twelve refilings were significantly caused by financial problems still existing at the time of confirmation.⁴⁴ The Bankruptcy Code re-

³⁹ The dynamics of the bargaining process apparently do not inevitably yield a reorganization plan providing for excessive indebtedness; a number of our companies had debt/equity ratios at the time of the first post-confirmation financial report that were lower than customary for companies with similar businesses.

⁴⁰ We stress that our data are based on the first financial report published after confirmation, a period that ranged for the 26 cases from zero to twelve months after confirmation and averaged four and a half months. During this post-confirmation period, many of the companies entered into significant transactions that affected their debt/equity ratios. Though we have no reason to think so, it is possible that companies that emerge from Chapter 11 have a tendency to take on too much debt post-confirmation and that this accounts for the statistical tendency we have observed.

⁴¹ *Supra* text accompanying note 15. In some cases more than one entity survived reorganization, because a subsidiary was reorganized as a separate concern. In those cases we followed the performance of only the principal surviving entity. We also attempted to follow the financial success of companies that bought the core assets of a company in Chapter 11, but this was impractical because the acquiring companies did not usually publish financial information pertaining only to the acquired assets.

⁴² Anglo Energy, Braniff Airlines, Continental Airlines, Cook-United, HRT, Lionel, Penn-Dixie (renamed Continental Steel), Phoenix Steel, Salant, Tacoma Boatbuilding, Towle Manufacturing, Wilson Foods.

⁴³ In 1990, there were 16,123 companies that were required to file reports with the Securities & Exchange Commission. See SEC. & EXCH. COMM'N, Directory of Companies Required to File Annual Reports with the Securities & Exchange Commission (September 30, 1990). In that same year, the Securities & Exchange Commission reported that 85 publicly held companies filed petitions under Chapter 11. SEC. & EXCH. COMM'N, PUBLIC COMPANIES FILING CHAPTER 11 PETITIONS (on file with authors). Thus, only about one half of one percent of all public companies file petitions in a given year.

⁴⁴ Anglo Energy (INSTITUTIONAL INVESTOR, July, 1989, at 84); Phoenix Steel (1033 FOCUS 26 (1989)); Tacoma Boatbuilding (SEATTLE TIMES, Dec. 18, 1991, at D8); and Towle Manufacturing (*Towle in Chapter 11*, N.Y. TIMES, Aug. 26, 1989, at L31). Two other companies were incurring operating losses at confirmation and did not remedy the problem before refiling. Cook-United (CHI. TRIB., Apr. 24, 1987, at C5); Penn-Dixie (CHI. TRIB., Nov. 26, 1985, at C1).

Four of the refilings were caused in part by business decisions reached subsequent to confirmation and may have had little to do with the company's financial condition at confirmation. Continental Airlines (debt created by acquisitions and investments) (28 AIR TRANSP. WORLD 48 (1991)); Laura Liebeck, *Deja Vu All Over Again: Lionel Re-Visits Chapter 11*, DISCOUNT STORE NEWS, July 8, 1991, at 1, 41 (citing expenses in resisting a takeover); *Salant Files For Chapter 11*, N.Y. TIMES, June 28, 1990, at D4 (citing debt cre-

quires that, before a plan can be confirmed, the court must find that "confirmation of the plan is not likely to be followed by the . . . need for further financial reorganization."⁴⁵ The rate of refiling suggests that some courts are not taking this charge as seriously as they should.

We were able to collect information about the post-confirmation financial performance of twenty of the twenty-six surviving companies that did not refile for bankruptcy. Of the twenty companies, exactly half suffered net operating losses in the year before filing.⁴⁶ Six of these ten companies experienced significant increases in asset size and operating income in the three years after confirmation.⁴⁷ Two of the other four companies experienced steady financial performance during these years.⁴⁸ From this information we conclude that Chapter 11 has sometimes been useful in dealing with the first of the financial problems identified above—the failure to earn operating profits.

In summary, evidence about the ability of large, publicly held companies to resolve their financial problems in Chapter 11 is mixed. Shortly after confirmation, a statistically significant majority of the companies we studied had greater indebtedness than is customary for their industry. In some cases that extra indebtedness led to a future bankruptcy filing. Moreover, the general refiling rate for companies that have emerged from Chapter 11 is extraordinarily high. On the other hand, while in Chapter 11, a number of companies were able to correct whatever problems were causing their net operating losses and conduct successful business after confirmation. In terms of the financial rehabilitation objective with which it is commonly identified, Chapter 11 has had some successes.⁴⁹

ated by acquisition); and Wilson Foods (debt from takeover) (CHI. TRIB., Mar. 6, 1990, at C2).

⁴⁵ 11 U.S.C. § 1129(a)(11) (1988). Even though all classes have voted in favor of the plan, the court must still make the finding in all cases.

⁴⁶ We obtained data about net operating income or loss from annual financial reports for the last complete fiscal year before filing. We calculated our own estimate of net operating income or loss in order to exclude interest payments and income tax benefits or expenses. Since half of the companies for which we obtained post-confirmation financial data had net operating profits before filing, it seems likely those companies chose to file Chapter 11 petitions primarily to deal with excessive debt load, though the companies may have used the time in Chapter 11 to solve other problems as well.

⁴⁷ The six companies that experienced operating losses before filing but experienced a growth period after confirmation were AM International, PHL Corp. (successor to Baldwin-United), Nucorp, Storage Tech, NEOAX (successor to White Motor), and Wickes Companies.

⁴⁸ The companies experiencing operating losses before filing and a steady financial performance post-confirmation were Crystal Oil and Energetics.

⁴⁹ Of course, it is entirely possible that financial rehabilitation could have been achieved even more successfully or at lesser cost by some other procedure, but that conclusion would be difficult to establish empirically.

VI
CHANGES IN CONTROL

Some commentators assert that managers or controlling shareholders use Chapter 11 to maintain control of corporations.⁵⁰ Under this view, maintenance of control is a measure of the success of Chapter 11.

We have reported elsewhere that a significant number of managers were not able to stay in office throughout the Chapter 11 process in those cases that we studied. In thirty-one of the forty-three cases (70%) there was at least one change in CEO either during the pendency of the Chapter 11 case or in contemplation under the reorganization plan.⁵¹ Other studies confirm rapid corporate manager turnover in Chapter 11 reorganizations of publicly held companies.⁵² For the managers of publicly held companies, Chapter 11 is not the safe harbor that some have assumed.⁵³

The ownership of shares also usually changes dramatically because of the terms of the reorganization plan. Appendix Four reports the percentage of shares retained under the reorganization plan by holders of pre-filing shares (i.e., old equity) for the thirty-eight entities in our study that survived Chapter 11. The following table summarizes these data. As might be expected, reorganization plans were much more likely to permit existing shareholders to retain their shares when the company was solvent at confirmation.⁵⁴

⁵⁰ See LAURENCE H. KALLEN, *CORPORATE WELFARE: THE MEGABANKRUPTCIES OF THE 80s AND 90s*, at 468 (1991) ("Often . . . one must wonder just what has happened [in a Chapter 11 case]. The answer is simple: the jobs, salaries, and perks of those in the executive suite . . . have been 'saved.'"); Michael Bradley & Michael Rosenzweig, *Time to Scuttle Chapter 11*, N.Y. TIMES, Mar. 8, 1992, at F13 ("[W]e believe that the principal beneficiaries of Chapter 11 are corporate managers . . . Chapter 11 . . . in fact serves mainly to protect managers' jobs.").

⁵¹ LoPucki & Whitford, *Corporate Governance*, *supra* note 2, at 726. In a period beginning eighteen months before filing and ending six months after confirmation, there was at least one CEO change in 39 of the 43 cases. *Id.* at 723-26.

⁵² Stuart C. Gilson, *Management Turnover and Financial Distress*, 25 J. FIN. ECON. 241, 247 (Table Three) (1989); Brian L. Betker, *Management Changes, Equity's Bargaining Power and Deviations from Absolute Priority in Chapter 11 Bankruptcies*, at 8 (October 1991) (unpublished manuscript).

⁵³ We do not doubt that Chapter 11 enables some managers to retain their jobs longer than they would in its absence. In fact, we have argued elsewhere that Chapter 11 provides "soft landings" to managers by enabling them to negotiate their exits, and explained the role that soft landings play in triggering reorganizations. See LoPucki & Whitford, *Corporate Governance*, *supra* note 2, at 756-58. But this role falls far short of making Chapter 11 a device that "serves mainly to protect manager's jobs." Bradley & Rosenzweig, *supra* note 50.

⁵⁴ We considered a company solvent at the time of confirmation if the value of the properties distributed under the plan to unsecured creditors and shareholders exceeded the estimated unsecured claims. See LoPucki & Whitford, *Bargaining Over Equity's Share*, *supra* note 4, at 141.

For insolvent companies, however, it was rare for existing shareholders to retain a majority of the reorganization shares.⁵⁵

TABLE 2
RETENTION OF OWNERSHIP BY PRE-FILING SHAREHOLDERS

	Prefiling shareholders retained less than 10% of voting shares	Prefiling shareholders retained more than 10% but less than 50% of voting shares	Prefiling shareholders retained 50% or more of voting shares
Solvent companies	0	4	10
Insolvent companies	18	7	2
All companies	18	11	12

We conclude that Chapter 11 has not been a vehicle by which insiders have retained control of large, publicly held companies. Changes in control are regular occurrences in the Chapter 11 reorganizations of these companies.

CONCLUSION

This account presents a mixed picture of what happens to large, publicly held firms in Chapter 11. There are "successes," regardless of which definition of success is used. Most significantly, there are companies that retain their core businesses in Chapter 11 and become financially successful after confirmation.⁵⁶ These Chapter 11 experiences confirm the popular conception of Chapter 11 as a place where the company with remediable financial problems has an opportunity to make necessary changes. Chapter 11 is not a complete failure.

Nonetheless, there are problems with Chapter 11. Particularly disturbing is the evidence that many large, publicly held companies emerge from Chapter 11 with too much debt and refile for bankruptcy at a strikingly high rate.⁵⁷

Two consistent patterns emerge from the forty-three cases we studied. First, a reduction in asset size is an almost uniform feature

⁵⁵ The old shareholders of an insolvent filing company received a majority of the shares of the emerging company in only two of the cases we studied. In Dresco Energy, 61% of the shares were issued to the old shareholders. In Energetics, the company surrendered all but \$3 million of its assets to a secured creditor and then reorganized around the remainder. In both cases, a cohesive group of individuals held a controlling block of shares at the time the company filed its petition. Such a cohesive control group existed in only a few of the 43 cases we studied. We suspect that the existence of such a group makes it more likely that the old shareholders will be able to retain control of a large, publicly held company as it reorganizes.

⁵⁶ *Supra* text accompanying note 27.

⁵⁷ *See supra* notes 35-41 and accompanying text.

of the Chapter 11 experience when a large, publicly held company is involved.⁵⁸ Though few companies cease to exist entirely, nearly all engage in some form of liquidation. The distinction commonly drawn between reorganizations and liquidations is misleading. Second, those formerly in control of a corporation ordinarily lose their position during a Chapter 11 case.⁵⁹ Commentators who assume that Chapter 11 provides an easy way for managers or shareholders to maintain control of large, publicly held companies should re-evaluate their positions.

Apart from these consistencies, the data suggests that the chief characteristic of Chapter 11 is variety. There is no stereotypical pattern for a Chapter 11 case involving a large, publicly held company. In about half of the cases studied, the core business survived intact within a single entity. Sometimes the survival was in the same entity; sometimes it was as part of a sale to another company. In the other cases, the company "shattered."⁶⁰ When a company shatters it often liquidates, either totally or nearly so. In a number of cases, a shell of the original company emerged from Chapter 11 for the principal purpose of preserving and using accumulated NOLs.⁶¹

Proposals for reform of Chapter 11 should take this multiplicity of uses into account. Proposals designed to enhance some uses may hinder other uses. For example, in some circumstances Chapter 11 may be a better vehicle for liquidating a large, publicly held company than Chapter 7. The sale of a large block of assets may yield a higher price if the company is allowed more time to search for an appropriate buyer than is generally permitted under Chapter 7.⁶² In some cases there may be an inadequate market for parts of the company, and the claimants to the Chapter 11 estate will be better served if the filing company reorganizes around those parts, even if most of the company is liquidated.⁶³ A requirement that a company

⁵⁸ *Supra* notes 28-30 and accompanying text.

⁵⁹ *Supra* notes 50-55 and accompanying text.

⁶⁰ *Supra* notes 19-27 and accompanying text.

⁶¹ *Supra* notes 16-17 and accompanying text.

⁶² Prices may also be higher because, in Chapter 11, sales are not forced. A company can always choose to reorganize, and this option may provide the company the leverage needed to negotiate a more favorable price. See LoPucki & Whitford, *Corporate Governance*, *supra* note 2, at 759-65. This analysis assumes that it is desirable for the assets of a bankrupt company to be sold at the highest possible price. See *id.* at 752 n.264.

⁶³ An excellent example is the liquidation of Baldwin-United, one of the chapter 11 cases we studied. Baldwin-United was a conglomerate with many unrelated businesses. Even before its filing the principally interested parties agreed that the company should be liquidated. Victor Palmieri and Associates, who had wide experience in the liquidation of large companies, was retained to do so. After several years Palmieri and Associates concluded that certain of Baldwin-United's businesses were best retained and operated by a surviving entity. The conclusion was based on its assessment that none of

be auctioned shortly after filing—a commonly made reform proposal⁶⁴—may prevent some financially unwise reorganizations, but it may also foreclose liquidation in the most efficient manner. It is far from clear that bankruptcy would be a better institution if all cases were forced into a single mold.

the bidders for parts of the company were offering an appropriate price, largely because there were not many other companies that wanted to get into the businesses concerned. The largest of these businesses was a trading stamp company (S & H Green Stamps). The entity (PHL Corp.) that did survive on the recommendation of Palmieri and Associates has been financially successful. *See supra* note 47. The information reported in this footnote comes largely from interviews with attorneys representing key parties in the Baldwin-United case.

⁶⁴ *See supra* note 2.

APPENDIX 1
 VALUE OF ASSETS OF COMPANIES STUDIED (as of filing date)

Company Name	Assets at filing (in millions)
Air Florida	\$173
AM International	\$476
Amarex	\$373
Anglo Energy	\$230
Baldwin-United	\$9,004
Braniff Airlines	\$1,008
Charter Company	\$1,800
Combustion Equipment	\$178
Continental Airlines	\$1,066
Cook United	\$152
Crystal Oil	\$342
Dreco Energy	\$221
Energetics	\$126
EPIC	N.A. ⁶⁵
Evans Products	\$212
FSC	\$303
HRT	\$234
Itel	\$1,458
Johns-Manville	\$2,200
KDT	\$239
Lionel	\$207
Marion	\$246
McLouth Steel	\$436
MGF	\$188
Nucorp	\$731
Oxoco	\$101
Penn-Dixie Steel	\$176
Phoenix Steel	\$137
Pizza Time Theatre	\$130
Revere Copper and Brass	\$402
Salant	\$106
Sambo's Restaurants	\$401
Saxon	\$503
Seatrains Lines	\$571
Smith International	\$674
Storage Technology	\$1,158
Tacoma Boatbuilding	\$164
Technical Equities	\$101
Towle Manufacturing	\$148
Towner Petroleum	\$181
White Motor	\$898
Wickes Companies	\$1,705
Wilson Foods	\$295

Sources: Assets reported on the Petition in Bankruptcy. The SEC collects this information for publicly held companies.

⁶⁵ The symbol "N.A." means that the information was not available.

APPENDIX 2
REDUCTION IN ASSET SIZE OF SURVIVING ENTITIES

	Asset size in millions as per last report before filing	Asset size in millions as per first report after confirmation	Asset size after confirmation as a percentage of asset size before filing
A. Companies that retained their core businesses			
Continental Airlines	\$1,053	\$2,947	280%
Johns-Manville	\$2,298	\$2,513	109%
Wickes Companies	\$1,553	\$1,313	85%
Wilson Foods	\$285	\$237	83%
Salant	\$110	\$80	73%
Storage Technology	\$1,266	\$786	62%
AM International	\$546	\$330	60%
Revere Cooper and Brass	\$474	\$274	58%
Itel	\$1,410	\$758	54%
Anglo Energy	\$230	\$120	52%
Lionel	\$222	\$112	51%
Oxoco	\$114	\$35	31%
Crystal Oil	\$342	\$102	30%
MGF	\$277	\$53	19%
Smith International	N.A. ⁶⁶	\$372	N.A.
B. Companies that shattered			
Evans Products	\$803	\$363	45%
Penn-Dixie Steel	\$177	\$80	45%
Towle Manufacturing	\$136	\$59	43%
Dreco Energy	\$195	\$56	29%
Combustion Equipment	\$178	\$40	23%
Charter Company	\$1,814	\$312	17%
Braniff Airlines	\$1,008	\$107	11%
Nucorp ⁶⁷	\$507	\$30	6%
Tacoma Boatbuilding	\$278	\$18	6%
Technical Equities	\$201	\$12	6%
Baldwin-United	\$9,383	\$496	5%
Seatrain Lines	\$913	\$24	3%
FSC	\$303	\$0.5	0.2%
Cook-United	\$152	\$0	0%
KDT	\$240	\$0	0%
Sambo's Restaurants	\$269	\$0	0%
Phoenix Steel	\$137	N.A.	N.A.
Towner Petroleum	\$193	N.A.	N.A.

Sources: Annual financial reports were obtained either from SEC 10-K reports or from the company's annual reports. The reports show asset size at the end of a particular fiscal year.

⁶⁶ The symbol "N.A." means that the information was not available.

⁶⁷ Maverick Tube was a major subsidiary of Nucorp at filing. The court confirmed a separate plan for Maverick Tube. The plan awarded the shares of the emerging company to creditors of the subsidiary. We did not consider Maverick Tube a surviving entity of the company that filed, and we have not counted its assets (\$26 million at confirmation) as assets held after confirmation for the surviving entity. The reorganization plan created a new corporation, Pin Oak Petroleum, which got most of the company's remaining assets. Fifty-one percent of Pin Oak's shares were distributed to prepetition creditors of Nucorp, and the remainder went to Nucorp itself. We counted the assets of both Pin Oak and Nucorp as assets held by the surviving entity after confirmation.

APPENDIX 3
DEBT/EQUITY RATIOS OF EMERGING COMPANIES

Company Name ⁶⁸	(1) Debt/ Equity ratio after confirmation ⁶⁹	(2) Bench mark ratio for size and industry	(3) Excess of debt over bench mark column 1 minus column 2	(4) SIC Codes and categories for bench mark companies ⁷⁰
Seatrains Lines	885%	79%	+806	4700 Water transportation services
Technical Equities (Warco)	119%	50%	+69	3050 Manufacturing, mechanical rubber goods
Combustion Equipment	113%	50%	+63	3560 Manufacturing; general industrial machinery
HRT	80%	48%	+32	2345 Manufacturing, women's and children's clothing; 5600 retail trade; apparel and accessory stores
Salant	70%	44%	+26	2315 Manufacturing, men's and boys' clothing; 2345 Manufacturing, women's and girl's clothing
Air Florida	118%	93%	+25	4500 Air transportation services
AM Interuational	70%	46%	+24	3570 Office and computing machines; 3860 Photographic equipment and supplies
Charter Company	85%	62%	+23	5170 Wholesale trade, petroleum and petroleum products
Continental Airlines	91%	70%	+21	4500 Air transportation services
Itel Corporation	82%	61%	+21	5060 Electrical goods; 4700 Transportation services
Crystal Oil	90%	73%	+17	1330 Mining, crude petroleum and natural gas and gas liquids
Tacoma Boatbuilding	88%	71%	+17	3730 Manufacturing, ship and boat building and repairing
Storage Technology	70%	55%	+15	3570 Manufacturing, office and computing machines
Revere Copper & Brass	70%	56%	+14	3440 Manufacturing; fabricated structural metal products
Johns-Manville	56%	45%	+11	3298 Manufacturing, nonmetallic mineral products; 2625 Manufacturing, paper and allied products
Baldwin-United	97%	89%	+8	6352 Insurance
Evans Products	93%	87%	+6	5220 Retail trade; building materials dealers
Penn-Dixie Steel	56%	52%	+4	3440 Manufacturers, fabricated structural metal products
Wilson Foods	72%	71%	+1	2010 Manufacturing, foods and kindred products
Dreco Energy	57%	62%	-5	3530 Manufacturing, construction and related machinery
Energetics	74%	80%	-6	1380 Mining, oil and gas field services
Anglo Energy	52%	70%	-18	1380 Mining, oil and gas field services
Nucorp	47%	69%	-22	1330 Mining, crude petroleum and natural gas and gas liquids
Lionel	40%	66%	-26	5995 Retail trade, miscellaneous retail stores
McLouth Steel (MLX)	16%	54%	-38	3490 Manufacturing, miscellaneous fabricated metal products
Oxoco	25%	69%	-44	1330 Mining, crude petroleum and natural gas and gas liquids

APPENDIX 3
DEBT/EQUITY RATIOS OF EMERGING COMPANIES
CONTINUED

⁶⁸ The companies are ranked from highest to lowest according to the difference (as shown in column three) between the Debt/Equity ratios and the benchmark ratios.

⁶⁹ We calculated the debt to equity ratios shown here from the balance sheet contained in the first set of fiscal-year-end financial statements issued by the company after confirmation. Such accounting data do not necessarily reflect the true values of the equity. But we use the ratios derived for comparison with published average debt to equity ratios in the debtors' industries. Those ratios were calculated from accounting data.

⁷⁰ The SIC codes shown are for either companies in the debtor's size category in the industry in which the debtor was primarily engaged at the end of the fiscal year in which the debtor emerged from bankruptcy. If the debtor engaged substantially in more than one industry, we give SIC codes for the two industries in which the debtor's participation was greatest, and the benchmark ratio used is the average of the benchmarks for the two size/industry categories. We categorized the companies we studied based on the businesses and SIC codes reported for them in the Disclosure, Inc. database. The benchmark ratios are from Troy, *supra* note 37.

APPENDIX 4
PERCENT OF SHARES RETAINED BY OLD EQUITY

Company Name	Percent of reorganization shares allocated to old equity
A. Solvent Companies	
Continental Airlines	100%
Wilson Foods	100%
Salant	90%
Smith International	81%
Revere Cooper and Brass	77%
Charter Company	55%
Lionel	53%
Penn-Dixie Steel	49%
AM International	36%
Johns-Manville	27%
Storage Technology	15%
B. Insolvent Companies	
Energetics	100%
Dreco Energy	61%
Crystal Oil	43%
Anglo Energy	25%
Itel	18%
Wickes Companies	18%
White Motor	14%
Baldwin-United	12%
Braniff	12%
HRT	10%
Towle Manufacturing	10%
Combustion Equipment	8%
McLouth Steel	8%
Cook-United	7%
Tacoma Boatbuilding	6%
FSC	5%
Air Florida	0%
Evans Products	0%
Marion	0%
MGF	0%
Nucorp	0%
Phoenix Steel	0%
Seatrains Lines	0%
Technical Equities	0%
Towner Petroleum	0%

Sources: Disclosure statements accompanying the confirmed plan of reorganization.