

The Failure of Public Company Bankruptcies in Delaware and New York Revisited

Lynn M. LoPucki¹ & Joseph W. Doherty²

I. Methodology	5
II. Do Delaware's bankruptcies fail more often?	6
A. Measured by refileing	7
B. Measured by business failure	7
C. Measured by business performance	11
D. Measured by plan failure	13
E. Conclusions	15
III. Possible Failure Causes Exogenous to Delaware	15
A. What firm characteristics make reorganization difficult?	15
1. Degree of financial distress prior to filing	17
a. <i>Prefiling leverage.</i>	17
b. <i>Abnormal prefiling leverage.</i>	17
c. <i>Prefiling losses.</i>	18
d. <i>Recency of decline in prefiling profits.</i>	19
2. Size and complexity of capital structure	21
a. <i>Size.</i>	21
b. <i>Complexity of capital structure.</i>	22
3. Industry	24

¹ Lynn M. LoPucki is the Security Pacific Bank Professor of Law at the UCLA Law School. lopucki@law.ucla.edu. We thank the Council on Research of the UCLA Academic Senate and the UCLA Law School for the financial support that made this study possible. We thank Stephen Choi, Hulya Eraslan, Frances Foster, Matthias Kahl, Ken Klee, Harvey Miller, John Pottow, Bob Rasmussen, Alan Schwartz, David Skeel, Lynn Stout, Elizabeth Warren, Jay Westbrook, and participants in the Convergence on Delaware conference at the Vanderbilt Law School for comments on earlier drafts. We thank Jason Burnett, Steve Cademartori, Paul Ham, and Chris Wichrowski for assistance with research. The data used in statistical testing is posted at <http://www.law.ucla.edu/erg/pubs.html> along with the SPSS command file for the statistical tests reported.

² Joseph W. Doherty is Associate Director of the UCLA Law School's Empirical Research Group.

4. Multiple regression analysis	25
B. Are Delaware-reorganizing firms different?	27
C. Conclusions	27
IV. Is Delaware's failure rate efficient?	29
A. Framing the issues	29
B. Does Delaware have an offset?	30
1. From reorganizing a larger proportion of firms	31
2. From better results in complete liquidations	31
3. From better results in partial liquidations	32
4. From firms emerging privately	34
5. From savings on the direct costs of bankruptcy	35
6. From savings on the indirect costs of bankruptcy	36
C. Conclusion	38
V. Possible Failure Causes Endogenous to Delaware	39
A. Post-bankruptcy earnings	39
B. Post-bankruptcy leverage	41
C. Reduction in firm size	44
D. Prepackaging	45
E. Speed	48
F. Plan complexity	51
G. Conclusions	53
VI. Conclusions, speculations, and directions for future research	53

Before 1990, the United States Bankruptcy Court for the District of Delaware was a sleepy backwater. During the entire decade of the 1980s, Phoenix Steel – whose only plant was located in Delaware – was the only large, public company to file there. In 1990, two large, public companies – Continental Airlines and United Merchants and Manufacturers – filed in Delaware. They constituted 7% of the 29 large, public companies filing in the United States that year. From 1990, Delaware's market share steadily increased to 87% (13 of 15 cases) in 1996.³ In just seven years, Delaware had

³ See Lynn M. LoPucki, Bankruptcy Research Database, *available at* <http://lawlibfs.lawlib.ucla.edu/LoPucki/query1.asp>.

become the bankruptcy reorganization capital of the United States.⁴

In an article published last year in the *Vanderbilt Law Review*, Lynn M. LoPucki and Sara D. Kalin suggested that the Delaware bankruptcy court's spectacular success in winning market share may have been accompanied by an equally spectacular failure in the reorganizations the court processed during those years.⁵ Their suggestion was based principally on an empirical finding that by February of 2000, nine of the thirty companies emerging from bankruptcy reorganization in Delaware from 1991-1996 (30%) had filed bankruptcy a second time. Excluding New York – which had a refiling rate almost as bad as Delaware's (23%) – only four of the seventy-five large, public companies emerging from bankruptcy in other courts during the same period (5%) filed a second time.⁶

LoPucki and Kalin's study did not attempt to discover the reasons for Delaware's higher refiling rate. But as their findings on the disparity of refiling rates gained wide publicity,⁷ bankruptcy scholars, lawyers, and judges offered a variety of possible explanations. Most of those explanations sought to exonerate the Delaware court. Some argued that refiling is an inadequate measure of success because it ignores distressed debtors that fail without refiling.⁸ Some argued that the firms filing in Delaware might have been

⁴ See Theodore Eisenberg & Lynn M. LoPucki, *Shopping for Judges: An Empirical Analysis of Venue Choice in Large Chapter 11 Reorganizations*, 84 CORNELL L. REV. 967, 983-87 (1999) (describing the reasons for the shift in filings to Delaware).

⁵ Lynn M. LoPucki & Sara D. Kalin, *The Failure of Public Company Bankruptcies in Delaware and New York: Empirical Evidence of a "Race to the Bottom,"* 54 VAND. L. REV. 231, 236 (2001) ("Paradoxically, large public companies in need of bankruptcy reorganization seem to be flocking to the courts least likely to reorganize them successfully.").

⁶ *Id.* at 250.

⁷ See, e.g., Peter Aronson, *Study Faults Delaware Court*, NAT'L L.J., Sept. 18, 2000 (summarizing the LoPucki / Kalin study along with comments from lawyers); Jeff Feeley, *Companies Are Not Getting Proper Bankruptcy Help, Study Says*, BLOOMBERG NEWS, July 31, 2000 (same); Michelle Johnson, *Has the Market Misgauged Delaware's Efficiency?*, BCDNEWS AND COMMENT (reporting that LoPucki & Kalin's high refiling rate finding "has the academic community buzzing").

⁸ Robert K. Rasmussen & Randall S. Thomas, *Whither the Race? A Comment on the Effects of the Delawarization of Corporate Reorganizations*, 54 VAND. L. REV. 283, 294

more difficult to reorganize because they had more complex capital structures⁹ or more serious business problems.¹⁰ Others argued that Delaware's high refiling rate was economically efficient¹¹ implying that other courts should ease their standards and accept higher refiling rates. Still others argued that it was impossible to know whether Delaware was doing a worse job without knowing the individual reasons why each reorganization failed.¹²

This article reports the results of a study designed to confirm that Delaware's higher refiling rates indicate higher failure rates and to begin the

(2001) ("The first problem with focusing exclusively on refiling is that a recurrence of financial distress does not necessarily lead to a second bankruptcy proceeding."); David A. Skeel, Jr., *What's So Bad About Delaware?*, 54 VAND. L. REV. 309, 318 (2001) ("LoPucki and Kalin drop a firm from their study, for instance, if it merges with or is sold to another firm during or after bankruptcy. Yet a merger or sale may often be the best possible outcome for the creditors of the firm."); E-mail from Tom Salerno, partner in Squires, Sanders & Dempsey, to Lynn M. LoPucki (Sept. 22, 2001) (arguing that in jurisdictions other than Delaware and New York, "there are sale plans or cases with a dominant secured creditor such that if there's a plan default the secured creditor will foreclose").

⁹ See, e.g., Skeel, *supra* note 8, at 319 ("First, the firms that file in Delaware may have more complicated capital structures—such as more classes of debt and stock—than firms that take their cases elsewhere."); Michelle Johnson, *Chapter 22: Who's to Blame*, BCD NEWS & COMMENT, July 5, 2001 (quoting Harvard Business School Professor Stuart Gilson that it may be "a different and more complicated type of company that goes into Delaware with a larger, more complex capital structure. So it is not fair to indict Delaware courts for not doing their job.").

¹⁰ E.g., Skeel, *supra* note 8, at 320 ("Second, the firms that file for bankruptcy in Delaware may be the ones with the most serious business problems.").

¹¹ See, e.g., *id.* at 312 n.16 ("[I]t is also quite possible that the benefits of a quicker and less costly Delaware reorganization more than offset the greater likelihood of a second reorganization."). Rasmussen and Thomas agree with Skeel, but only with respect to prepackaged bankruptcies. See Rasmussen & Thomas, *supra* note 8, at 291 n.29 (arguing that prepackaged bankruptcies are just efforts to determine whether a full-blown Chapter 11 proceeding is necessary).

¹² See Aronson, *supra* note 7 (quoting Delaware bankruptcy attorney Mark Collins that "conclusions could only be drawn after the facts of each refiling are examined – but not based solely on the number of refilings"); Michelle Johnson, *What Other Legal Scholars Think of the LoPucki/Kalin Study*, BCD NEWS & COMMENTS, Aug. 10, 2000 (quoting UCLA Law Professor Ken Klee that "It's not valid to jump to the conclusion and say, 'Delaware must be bad.' You have to ask why the system in Delaware doesn't work as well as elsewhere if you're measuring success in terms of refiling statistics.").

inquiry into the reasons for those higher failure rates. Part I describes the universe of cases studied, the sources of data, and the method by which the data were gathered. Part II describes four criteria for evaluating the success of reorganized firms and uses them to determine whether Delaware and New York reorganizations are less successful than reorganizations in other courts. Part II concludes that in the five years after emerging, Delaware-reorganized firms refiled more often, failed to perform their plans more often, suffered greater losses, and even went out of business due to financial distress more often. Part III compares, on several criteria, the firms entering Delaware reorganization with those entering reorganization elsewhere, but finds no reason to believe that the Delaware-reorganizing firms differ in ways that would make them more difficult to reorganize. Part IV considers and rejects the claim that Delaware's high failure rate might be efficient.

Part V examines several differences in the bankruptcy process as it operates in Delaware and other courts, concluding that certain differences in Delaware's reorganization process appear to contribute to Delaware's high failure rates. Part VI offers some additional conclusions and speculations on other, as-yet untested features of Delaware reorganization that might also contribute to Delaware's high failure rates.

I. Methodology

This study included the reorganizations of all companies that (1) were large, public companies at the time they filed for reorganization in a United States bankruptcy court and (2) emerged from reorganization as operating public companies during the period from January 1, 1991 to December 31, 1996. We chose this period because the Delaware bankruptcy court began the period with no market share, built to an 87% market share, and ended the period "locked-in" as the preeminent reorganization court in the United States. Measured by the standard of the marketplace, it was a period of astonishing success for the Delaware bankruptcy court.

The universe of eligible firms was identified from Lynn M. LoPucki's Bankruptcy Research Database (BRD).¹³ The application of these criteria

¹³ Under BRD protocols, a company is considered "public" at filing if it filed a 10-K for a year ending within three years prior to its bankruptcy filing and the company did not take steps to go private more than one year before its bankruptcy filing. Lynn M. LoPucki, Protocols for the Bankruptcy Research Database, Aug. 31, 2001 draft (on file with authors).

identified 26 Delaware reorganizations, 16 New York reorganizations, and 56 reorganizations in other courts, for a total of 98 reorganizations.

We obtained most of the financial data for the five years prior to filing and the five years after the effective date of the plan¹⁴ from Compustat, a service that extracts that data from the firms' filings with the Securities and Exchange Commission. For a few of the firms, Compustat had no data. For many, Compustat's data did not cover all of the relevant years. For both groups of firms, we obtained some or all of the data directly from the firms' SEC filings. We obtained nonfinancial data principally from the BRD. The BRD data came ultimately from a variety of published and unpublished sources, including court files, SEC filings, newspapers, newsletters, and bankruptcy data services.

We report data for three categories of courts. "Delaware" indicates the United States Bankruptcy Court for the District of Delaware, which sits at only a single location: Wilmington. "New York" indicates the Manhattan division of the United States Bankruptcy Court for the Southern District of New York.¹⁵ "Other Courts" indicates all United States Bankruptcy Courts other than those meeting in Wilmington and New York City. The methodologies employed with respect to particular issues are explained below, in the sections addressed to those issues.

II. Do Delaware's bankruptcies fail more often?

A company is considered public at emergence if it filed a 10-K for a year ending within three years after confirmation of its plan. *Id.* Companies are considered "large" under those protocols if, on their last 10-K filed prior to bankruptcy, they report total assets in excess of \$100 million, measured in 1980 dollars (about \$216 million in 2001 dollars). Companies that otherwise met the requirements for inclusion, but whose plans provided for their gradual liquidation after bankruptcy, were excluded.

¹⁴ "Effective date of the plan" is a term of art referring to the date on which the plan of reorganization confirmed by the court becomes effective between the parties to the case. That date is usually shortly after "confirmation date" – the date on which the court entered its order confirming the plan of reorganization.

¹⁵ Cases in other court locations in the Southern District of New York are heard by a different panel of judges. With respect to venue and refiling, those cases more closely resemble the cases of Other Courts than the New York City cases. For that reason, they are included in the statistics for Other Courts.

A. Measured by refiling

The data show that during their first five years, firms emerging from Delaware bankruptcy court reorganizations refile more often than firms emerging from Other Court reorganizations. Specifically, firms emerging from Delaware reorganization were more than ten times as likely to refile (42%) during this period than were firms emerging from reorganization in Other Courts (4%), and more than twice as likely to refile as firms emerging from New York reorganization (19%) (Table 1). This difference in refiling rates is statistically significant at the .001 level.

	Bankruptcy Court			
Status	Delaware	New York	Other	Total
Not Refiling	58%	81%	96%	84%
Refiling	42%	19%	4%	16%
N	26	16	56	98

Pearson chi-square = 19.585, df = 2, p < .001

B. Measured by business failure

The plans for each of the 98 firms studied contemplated that the reorganized firms would remain in business indefinitely.¹⁶ In fact, only 70 (71%) remained in business for even five years after confirmation (Table 2).¹⁷

¹⁶ In a few cases, plans provided that the firms would emerge as public companies but would gradually liquidate after emerging. We omitted those firms from the study.

¹⁷ To determine whether a firm “remained in business” we applied the following criteria. Neither the fact that the emerging firm acquired the stock of another firm or that the emerging firm’s stock was acquired by another was alone considered sufficient to classify the firm as discontinued. That remained true even if the acquired firm was merged with an empty shell subsidiary of the acquirer. But if the firms merged in such a manner that the assets of acquirer and acquired were commingled in the ownership of a single entity (an “asset merger”) we considered the emerging firm to have been discontinued. We made two exceptions. First, if the emerging firm was clearly the dominant party in the transaction, we considered the emerging firm to remain in existence. Second, the emerging firm’s retention of its separate identity as a subsidiary immediately after acquisition was not

Table 2: Business Continuation Rates by Court				
	Bankruptcy Court			
Status	Delaware	New York	Other	Average / Total
Continuing	65%	75%	73%	71%
Not Continuing	35%	25%	27%	29%
N	26	16	56	98

Pearson chi-square = .653, df = 2, p= .721

Although the proportion of Delaware firms surviving for five years was lower than those for New York and Other Courts, the differences among them were not statistically significant. Delaware's lower survival rate may have occurred by chance.

Business continuation is, however, an imperfect measure of success. Mergers and liquidations, even when they occur within a few years after a plan that does not contemplate them, are not necessarily business failures. Even a successful firm might merge into a larger business, either because the deal is an attractive one or because a hostile takeover eliminated its options. In theory, at least, even a piecemeal liquidation might be a success from the standpoint of the firm's investors if the pieces sold for a sufficiently high price.

The particular firms we classified as "liquidated" after emerging were clearly failures of their earlier reorganizations. All were liquidated through bankruptcy refilings and all had negative total earnings from the time they emerged from the first bankruptcy until they filed the second bankruptcy. But many of the firms discontinued through merger had post-reorganization earnings exceeding those of firms continuing in business. On the whole, the post-reorganization earnings of firms discontinued by merger were lower than the post-reorganization earnings of continuing firms, but the difference was

sufficient to consider it continuing if at the time of the acquisition the acquirer expressed an intention to integrate the assets of the emerging firm into its business.

not even significant.¹⁸ We concluded that some of the mergers were distress mergers tantamount to the failure of the emerging firm's business, but others were successes, or something in between.

To take account of this difference, we divided the merger cases into two groups, classifying those with positive post-bankruptcy earnings to the date of merger as business "successes" (along with all firms continuing in business for five years after confirmation) and those with negative post-bankruptcy earnings to the date of merger as "failures" (along with all firms

¹⁸ We standardized profits by company size for purposes of comparing them. The profits are expressed as percentages of the firms' sizes, with size calculated as the average of a firm's total assets and sales. In this metric, the average profit after for merged firms was -.03% of firm size, which is insignificantly different from average profit after for continuing firms (-.01) (N=89, F = .584, df = 1, p = .447).

liquidating during the five years after confirmation).¹⁹ Using these classifications, Table 4 shows the distribution of business success and failure by reorganization court.

¹⁹ Of the 28 firms that discontinued operations 6 (21%) did so by liquidation; and 22 (79%) did so by merger into other firms in such a manner that they lost their separate existence. Table 3 shows what the data from Table 2 look like when the firms that “merged” out of existence are distinguished from the firms that “liquidated.” Theoretically, the distinction is an imperfect one. But the six liquidations in the cases studied were all financial disasters and all six occurred in subsequent bankruptcy cases. These liquidations – the more certain failures – tend to be concentrated in Delaware and New York, which in itself somewhat undermines the conclusion that Delaware and New York’s rate of business failure is no greater than that of Other Courts.

Table 3: Business Continuation Rates By Courts, Separating Mergers and Liquidations				
	Bankruptcy Court			
Status	Delaware	New York	Other Courts	Total
Continuing	65%	75%	73%	71%
Merged	23%	13%	25%	22%
Liquidated	12%	13%	2%	6%
N	26	16	56	98

Pearson chi-square = 5.088, df = 4, p = .278

Table 4: Business Failure Rate by Court				
	Bankruptcy Court			
Status	Delaware	New York	Other Courts	Total²⁰
Continuing or merged without distress	76%	75%	88%	82%
Liquidated or merged in distress	24%	25%	13%	18%
N	25	16	56	97

Pearson chi-square = 3.025, df = 2, p= .220

Our three-bin categorization of the courts does a poor job explaining business failure ($p = .220$). When we compare subsets, however, the differences are somewhat significant. The business failure rate between Delaware and Other Courts is significant at the .10 level.²¹ And when the Delaware cases are combined with the New York cases into a single category, the difference between that combination and Other Courts is significant at the .07 level.²² Businesses reorganized in Delaware and New York appear more likely to fail than businesses organized in Other Courts.

C. Measured by business performance

The purpose of a business is to earn profits; a business that does not do so can fairly be said to have failed. Profits reported on a firm's income

²⁰ Three firms emerged from reorganization twice during the period of this study. Both Memorex/Telex's reorganizations occurred in Delaware and the company failed within five years of the first emergence. Memorex/Telex is counted as only a single failure, because only a single firm failed. TWA emerged from one reorganization in Delaware and a second in Other Courts and continued in business for more than five years after the second emergence. TWA is counted as a success for Delaware and Other Courts. Lomas Financial emerged from one reorganization in New York and a second in Other Courts and continued in business for more than five years after the second emergence. Lomas is counted as a success for New York and Delaware.

²¹ Fisher's Exact $p = .10$ (one-sided).

²² Fisher's Exact $p = .07$ (one sided).

statement are admittedly an imperfect measure,²³ but they are nevertheless a useful one.

We collected two measures of profits for the first five full fiscal years after the firm emerged from bankruptcy: profit (loss)²⁴ and operating profit (loss) after depreciation.²⁵ The figure used for each firm was the average for as many of the five years as were available.²⁶ To control for the sometimes widely differing sizes of the emerging firms, the profits are expressed as percentages of the firms' sizes. The size of a firm for this purpose was the average of its total assets²⁷ and sales.²⁸

We calculated the averages and medians of the annual average post-bankruptcy earnings for the cases in each of the three jurisdictions. The average earnings for Delaware-reorganizing firms in the period after bankruptcy were negative in an amount equal to 9% of the firm's entire size – an astonishingly poor performance (Table 5). By contrast, firms reorganized

²³ Some consider particular kinds of businesses “successful” even though those businesses have not earned profits. One example is Amazon.com which, as of this writing, has not reported profits on its income statements, but is considered by many to have been a successful business. Another example is a business that provides tax benefits to its owners sufficient to provide a favorable rate of return even if the business were never profitable by accounting measures.

At least one commentator on this paper suggested that we should have used cash flows rather than profits as the measure of success. We rejected that measure because of the tendency for cash flow to become tautological for firms in financial difficulty. That is, a firm in financial difficulty is nearly always short of cash. The firm spends all the cash it can get and does not spend more only because the firm does not have it. Thus cash outflow tends to equal cash inflow.

²⁴ Compustat data number 172.

²⁵ Compustat data number 178. This measure is sometimes referred to as EBIT, earnings before interest and taxes.

²⁶ Many firms have short fiscal years immediately after their emergence from bankruptcy or before their merger or liquidation. These short fiscal years were ignored. Unless data were available for at least one full (12-month) fiscal year, the firm was treated as having no data available.

²⁷ Compustat data number 6.

²⁸ Compustat data number 12.

in Other Courts on average had positive earnings in amounts equal to 1% of their size. The median earnings for Delaware firms were negative in an amount equal to 4% of firm size each year, while the median Other Court firm had positive earnings of 1% of firm size. The differences in earnings between courts is highly significant ($p < .01$). Firms emerging from Delaware reorganization have consistently lower post-bankruptcy earnings than firms emerging from reorganization in New York or in Other Courts.

Table 5: Average Annual Profits During Five Years After Emerging, as a Percent of Firm Size						
	Operating Profits			Profits		
Court	Average of averages	Median of averages	N	Average of averages	Median of averages	N
Delaware	1%	0%	25	-9%	-4%	26
Other	7%	6%	49	1%	1%	54
New York	4%	3%	15	-3%	0%	15
Total	5%	4%	89	-2%	0%	95
	F=5.529, df=2, p=.006			F=6.852, df=2, p=.002		

D. Measured by plan failure

The criteria of refiling and business failure are separate measures of reorganization failure in that a firm's business can completely fail without the firm refiling and a firm can refile even though its business has not completely failed. Thus, each of these measures recognizes some failures not recognized by the other.

"Plan failure" is a criterion that recognizes both kinds of failures simultaneously.²⁹ That is, it treats a reorganization as a failure if the firm

²⁹ The name "plan failure" signifies that reorganizations that fail by this criterion either do not perform their plans or perform them only technically, in a manner financially disappointing to investors.

refiles, liquidates, or distress-merges³⁰ within five years of emerging.³¹ Under this criterion of failure, Delaware also fares poorly.

Table 6: Plan Failure Rate By Court				
	Bankruptcy Court			
Status	Delaware	New York	Other	Total
Succeeded	46%	69%	86%	72%
Failed	54%	31%	14%	28%
N	26	16	56	98

Pearson chi-square = 14.053, df = 2, p= .001

Fifty-four percent of the Delaware reorganization plans failed (Table 6).³² That compares with only 31% of New York plans and 14% of Other Court plans. The difference between Delaware’s plan failure rate and the plan failure rate in New York or Other Courts is statistically significant (p=.001). The failure rate in Delaware was three times the overall failure rate of New York and Other Courts combined (18%).

³⁰ Our criteria for classifying a merger as “distress” are discussed in note 17 and text accompanying note 19.

³¹ One additional kind of failure is possible: default under a plan followed by a workout agreement that enables the firm to remain in business. Only one of the firms, Amdura, engaged in such a workout. Because Amdura merged within five years, its reorganization was already counted as having failed.

³² Mergers are not necessarily failures in plan performance. In a typical merger, the creditors of the emerging firm are paid in full and the shareholders receive sufficient consideration to cause them to vote for the plan. But they are failures in the sense that the shareholders are in nearly all cases successors in interest of the former creditors of the reorganized firm. In a distress merger less than five years after emergence, those shareholders are unlikely to receive as much value as was assigned to their stock in the reorganization.

E. Conclusions

Delaware-reorganized firms were significantly more likely to refile, significantly more likely to go out of business as a result of their financial distress, and significantly less likely to perform successfully under their plans of reorganization. They also had significantly lower post-bankruptcy earnings. These findings warrant a conclusion that Delaware-reorganized firms emerging in the period 1991 to 1996 failed more often than firms emerging from reorganization in Other Courts.

III. Possible Failure Causes Exogenous to Delaware

The data presented in Part II demonstrate that Delaware reorganizations fail more often. But that fact alone does not prove Delaware's process faulty. Two other possibilities remain. First, Delaware's higher failure rate may reflect some differences among Delaware-reorganizing firms that make them more difficult to reorganize successfully. That is, characteristics of the firms choosing Delaware, rather than characteristics of Delaware's reorganization process, could be causing Delaware's high failure rates. Second, even if the firms filing in Delaware and Other Courts were equally difficult to reorganize, Delaware's higher failure rate might still be "efficient" if it resulted from the taking of risks that were justified by the potential returns.

Two propositions must hold for the difficulty of Delaware's cases to cause Delaware's higher failure rates. First, some category of cases must be more difficult to reorganize than others. Second, Delaware must have more cases from that category.³³

A. What firm characteristics make reorganization difficult?

A variety of characteristics might make a firm more difficult to reorganize successfully. The firm's financial distress may be more severe, its decline into distress more precipitous, or its managers less skilled. The firm may be in a depressed industry, a more competitive industry, or an industry

³³ The possibility that such a category exists is known as the problem of lurking variables. A lurking variable is a variable that causes a correlation between two other variables – here Delaware and failure. If the lurking variable is the true cause of Delaware's high failure rate, then Delaware is not the cause.

with no future prospects at all. It may be disadvantaged by the location of its plants, its poor relations with regulators, or the patent holdings of its competitors. The firm's lenders and suppliers may be unwilling to continue to deal with it. The firm's creditors and shareholders may be hostile or unreasonable. The firm may have alienated its customers.

Under a different theory, such factors might be expected to have no significant effect on the rate at which reorganizations fail. If the reorganization process functions well, participants can discover the debtor's problems and resolve them. Managers can be replaced, plants can be closed, and the objections of creditors, shareholders, and customers met. If the firm's leverage is excessive, the firm can reduce it. If the bargaining parties insist on unrealistic recoveries, the court can force them back to the bargaining table by refusing to confirm an unfeasible plan. If operating problems might prevent the firm from making substantial payments under the plan, the payments can be reduced, or eliminated almost entirely, through an all-equity plan. In the worst case – a firm incapable of paying even its operating expenses – the solution is to liquidate the firm in the initial bankruptcy case. Because the firm was not reorganized, there could be no “failure” of reorganization as that term is defined in this study.³⁴

To determine which of these competing theories best fit the data, we examined eleven factors that we suspected, or others suggested, might make firms more difficult to reorganize. For each factor, we tested for a relationship to each of three measures of failure: refiling, plan failure, and post-bankruptcy earnings. Only one of the suspected factors appears related to success and failure – complexity of capital structure. That relationship is not a strong one, and runs in apparently the wrong direction to explain Delaware's high failure rates. It appears that none of the other ten factors makes firms failure-prone and hence none of the eleven factors can explain or excuse Delaware's high failure rates. For presentation here, we have grouped the eleven factors examined under three headings.

³⁴ LoPucki and Kalin's data show that Delaware reorganized a smaller proportion of its caseload than did Other Courts. *See* LoPucki & Kalin, *supra* note 5, at 256 (showing Delaware reorganizing only 30 of 38 cases (79%), while Other Courts reorganized 99 of 117 cases (85%)). This suggests that if liquidations were taken into account, Delaware's failure rate would be even worse than we report.

1. Degree of financial distress prior to filing

Eight of the eleven factors tested were measures of the reorganizing firms' levels of financial distress prior to the firms' initial bankruptcy filings. Those measures are leverage before bankruptcy, abnormal leverage before bankruptcy, four measures of pre-bankruptcy earnings, and two measures of decline in earnings in the year prior to bankruptcy.

a. *Prefiling leverage.* "Leverage" is the ratio of a firm's liabilities to its assets. High leverage generally results in high interest expenses and the need to apply high amounts of cash to repayment of debt. If leverage is sufficiently high, the business cannot be profitable and cannot meet its obligations as they become due.

We calculated the prefiling leverage of each firm at the last fiscal year end prior to filing, by dividing the firm's liabilities by its assets as shown on the firm's balance sheet.³⁵

b. *Abnormal prefiling leverage.* Normal leverage ratios differ from industry to industry. To illustrate, in 1996, the average leverage for grocery stores³⁶ was 80%, while the average ratio for crude petroleum and natural gas businesses was 48%.³⁷ These differences probably reflect differing debt carrying capacities. Consequently, a leverage ratio of 80% might indicate deep financial distress for a crude petroleum business but no financial distress for a grocery store chain.

To control for these differences, we constructed a variable that indicates the leverage of each of the firms studied in relation to what is normal for the firm's industry. We first calculated the average leverage for all firms

³⁵ We rejected the alternative of using assets and liabilities as reported by the debtor in its bankruptcy filings (petition values) because (1) book values were easier to obtain; (2) petition values are often selected by the parties for strategic reasons, and hence may not be comparable from case to case; and (3) book values are available in more cases than petition values.

³⁶ Standard Industrial Classification Code 5411.

³⁷ Standard Industrial Classification Code 1311.

in each debtor's industry.³⁸ We then subtracted that average from the debtor's actual leverage to determine the "abnormal pre-filing leverage" for each of the firms studied. "Abnormal pre-filing leverage" for a firm is the excess of the firm's leverage over the normal level in the industry.

c. Prefiling losses. One might suppose that an unprofitable firm would be harder to reorganize.³⁹ Firms cannot continue to lose money indefinitely. The more money a firm is losing before bankruptcy, the greater the changes the firm must make to emerge successfully.

To test this seemingly obvious proposition, we examined four measures of the firms' profitability in the period prior to the filing of the bankruptcy case. They are (1) profits in the last full fiscal year prior to filing (profits in the year before filing); (2) operating profits in the last full fiscal year prior to filing (operating profits in the year before filing); (3) average annual profits for the last five full fiscal years prior to filing (profits in the five years before filing); and (4) average annual operating profits for the last five full fiscal years prior to filing (operating profits in the five years before filing).⁴⁰

Although all of the firms studied were large, some were much larger than others. Profits or losses in a particular dollar amount might have far greater consequences for a small firm than a large one. To control for the size

³⁸ The average leverage was calculated from Compustat data for the firms' fiscal year 1996. In some instances, Compustat reported no firms with four digit SIC Codes identical to those of studied firms, but did report categories for which the first three digits were identical and the fourth digit was "0" (valid SIC Codes do not end in "0"). If that category was of sufficient size, we used it for firms whose first three digits matched. For the remaining studied firms, we used all Compustat firms for which the first three digits of the SIC Code matched the first three digits of the studied firm's SIC Code.

³⁹ In a recent study of 78 emerging firms, Denning, Ferris, and Lawless found that greater firm profitability in the last year prior to filing was correlated with successful reorganization. See Karen C. Denning, et al., *Serial Bankruptcy: Plan Infeasibility of Just Bad Luck*, 8 APPLIED ECON. LETTERS 105, 108 (2001). The study included "all public serial bankrupt firms over the sample period of 1970-1996 . . ." *Id.* at 106.

⁴⁰ For some firms, data were available for some but not all of the five years prior to filing. We used only full fiscal years and annual average figures so that we could include these firms. Firms were included only if data was available for at least three of the five years and one of the three years was the year immediately prior to filing.

of the firm, we expressed the amounts of profits and losses as percentages of the sizes of the firms in which they were incurred. The size of a firm for this purpose is the average of its assets and sales in the last full fiscal year prior to filing.⁴¹

d. *Recency of decline in pre-filing profits.* A firm whose earnings declined immediately before bankruptcy may be more difficult to reorganize than a firm whose earnings declined earlier and then stabilized. We calculated recency of decline in two variables: the profits and operating profits. We defined recency of decline as the difference between average annual profits in the five years prior to bankruptcy and average annual profits in the year before bankruptcy, expressed as a percentage of firm size.

We tested each of these eight factors against each of three measures of success and failure: refiling, plan failure, and average annual profits.⁴² For none of the three measures of success was the difference between the successful cases and the unsuccessful cases in any of the eight factors statistically significant. The data provide no reason to believe that the financial condition of a firm prior to bankruptcy has any effect on its likelihood of reorganizing successfully.⁴³

⁴¹ The sales and assets of large firms are, on average, about equal. But in some industries, sales are much larger than assets while in others assets are much larger than sales. In a few cases, sales and asset figures were not available for the year prior to filing. In those cases we used the last available figures, but not figures for any date more than three years prior to filing.

⁴² A simple F-test was employed to analyze the relationship between the eight factors (leverage before, abnormal leverage before, profits, operating profits, average profits for five years preceding, average operating profits for the five years preceding, declining profits and declining operating profits), and our two binary measures of failure: refiling within five years and plan failure. None of the analyses resulted in a p-value smaller than .35. Pearson's r correlation was used to test the relationship between the eight factors and average annual profits after the plan. None of the p-values associated with this operation was below .31.

⁴³ These findings are consistent with those of Matthias Kahl. Matthias Kahl, *Financial Distress As A Selection Mechanism: Evidence From the United States* (Unpublished manuscript, October 2001). In a study of 102 firms in financial distress, Kahl found that "[t]he firm's leverage ratio at the onset of financial distress has no statistically significant effect on survival, as it should not in an efficient selection process." *Id.* at 3. He found "some weak evidence that size has a positive effect on short-term survival," *id.* at 3. But that finding is opposite that necessary to exculpate the Delaware and New York

To illustrate the manner of this testing, we found no important differences in pre-filing leverage, statistical or otherwise, between firms that refiled and those that did not. The mean and median pre-filing leverages for refiling firms were only slightly below those of firms that did not refile for bankruptcy within five years (Table 7).

Table 7: Leverage Before Filing (100% = Debt is equal to assets)			
	Average leverage before filing	Median leverage before filing	Number of cases
Refilers	108%	95%	16
Non refilers	110%	100%	82
Total	110%	100%	98

F=.036, df=1, p=.850

Adjustment for differences in leverage from industry to industry did not change the result. The mean and median values of the abnormal pre-filing leverage⁴⁴ follow the same pattern as reported for the unadjusted leverage before filing. There are no significant differences in the industry-adjusted leverage of firms that refiled for bankruptcy within five years and those that did not refile (Table 8).

bankruptcy courts. During the period covered by this study, the firms filing in Delaware and New York were somewhat larger than those filing in Other Courts. *See infra* Section III.B.

⁴⁴ The method by which we calculated “abnormal leverage” is explained *supra*, Section III.A.1.b.

Table 8: Above-Normal Leverage Before Filing (Cells are pre-filing leverages above industry average)			
	Average abnormal leverage before filing	Median abnormal leverage before filing	Number of cases
Refilers	42%	39%	16
Non refilers	50%	37%	82
Total	49%	37%	98

F=.315, df=1, p=.576

2. Size and complexity of capital structure

a. *Size.* Prior research has shown a strong relationship between size of the firm and success of the reorganization when success is measured by confirmation or consummation of the plan. Larger firms are more often successful than smaller firms.⁴⁵ One reason may be that a large firm has the option of closing unprofitable plants, divisions, or product lines while continuing the remainder of its business, while small firms may have only a single plant, division, or product line. None of those studies, however, deal directly with the issue addressed here: success over time of the businesses emerging from the reorganizations of large, public firms.

⁴⁵ *E.g.*, THEODORE EISENBERG, CREATING AN EFFECTIVE SWEDISH RECONSTRUCTION LAW (report prepared for the Center for Business and Policy Studies, Stockholm, 1995) (reporting that Chapter 11 confirmation rates decrease monotonically with firm size: the rate is 96% for firms with assets greater than \$100 million, 36% for firms with assets between \$100 million and \$1 million, and 20% for firms with assets less than \$1 million). Timothy C.G. Fisher & Jocelyn Martel, *Should We Abolish Chapter 11? Evidence From Canada*, 28 J. LEGAL STUD. 233, 244-47 (1999) (summarizing success rates under Chapter 11 of the U.S. Bankruptcy Code, measured by confirmation and consummation of plans, and concluding that success is substantially a function of size).

To address that issue, we tested each of six measures of size: (1) assets before bankruptcy,⁴⁶ (2) assets after bankruptcy,⁴⁷ (3) sales before bankruptcy,⁴⁸ (4) sales after bankruptcy,⁴⁹ (5) employees before bankruptcy,⁵⁰ and (6) employees after bankruptcy.⁵¹ against each of three measures of success and failure. For none of the three measures of success – refiling, plan failure, and post-bankruptcy earnings – was the difference between the successful cases and the unsuccessful cases for any of the six measures of size statistically significant.⁵² The data provide no reason to believe that within the population of relatively large cases studied, smaller or larger firms were more difficult to reorganize successfully.

b. *Complexity of capital structure.* In response to LoPucki and Kalin’s findings, Professor David Skeel suggested Delaware’s higher refiling rates may result from Delaware-reorganizing firms having more complex capital

⁴⁶ “Assets before bankruptcy” is the total assets of the firm (Compustat data item 6) at the last fiscal year end prior to the bankruptcy filing.

⁴⁷ “Assets after bankruptcy” is the total assets of the firm (Compustat data item 6) at the first fiscal year end after the effective date of the plan.

⁴⁸ “Sales before bankruptcy” is the sales or net revenues of the firm (Compustat data item 12) during the last fiscal year ending before bankruptcy.

⁴⁹ “Sales after bankruptcy” is the sales or net revenues of the firm (Compustat data item 12) during the first 12-month fiscal year beginning after the effective date of the plan.

⁵⁰ “Employees before bankruptcy” is the number of employees of the firm (Compustat data item 29) at the last fiscal year end prior to the bankruptcy filing.

⁵¹ “Employees after bankruptcy” is the number of employees of the firm (Compustat data item 29) at the first fiscal year end after the effective date of the plan.

⁵² To prevent outlying cases from dominating the statistical tests, we used the natural logs of assets, sales and employees in each of the analyses. As with the previous tests, the relationship between the size variables and refiling or plan failure was analyzed using a simple F-test. None of the tests produced a p-value smaller than .30, and we conclude that these relationships are not significant. Pearson’s r correlation similarly produced non-significant results. Average annual profits after emergence from bankruptcy is not correlated with any of the indicators of pre-bankruptcy size; none of the p-values fall below .20.

structures.⁵³ To explore the relationship between capital structure complexity and success further, we gathered data on the number of separate classes of claims and interests in the reorganizing firms' confirmed plans of reorganization.⁵⁴ The number of separate classes might be a measure of capital structure complexity because it indicates the number of types of claims or interests that differed in ways that required different treatment. The differences that result in separate classification and treatment are usually differences in the holders' rights against the reorganizing firm. Separate classes typically exist for unsecured debts of differing priority, for stock with different preferences, for claims against different members of a corporate group, and for secured creditors with different priorities or different collateral.

We tested the hypothesis that successful reorganizations are related to complexity by examining our data on plan classes in light of three measures of success. Under our two binary measures of success (refiling and plan failure) the mean number of plan classes is larger among firms that had successful reorganizations (Table 9). Of particular interest is the relationship between plan failure and the number of plan classes. Among firms whose plans were successful there were, on average, 16.8 separate classes in their reorganization plans; while among firms whose plans failed there were only 13.3 separate classes. The difference is statistically significant ($p=.027$). Even under a more conservative definition of failure (refiling) the differences among companies tend in the same direction; failed reorganizations are less complex (12.8 plan classes) than the successful ones (16.5 plan classes). This relationship is significant by conventional standards ($p=.051$). Finally, the relationship between the number of classifications and post-bankruptcy earnings (size adjusted) is also significant (Pearsons $R = .202$, $p=.052$).

⁵³ Skeel, *supra* note 8, at 319 (equating more complicated capital structures with "more classes of debt and stock").

⁵⁴ The numbers of classes were determined from the plan summaries prepared by the Bankruptcy DataSource, available at LEXIS, BKRTCY library, BDS file. We counted a group of claims or interests as a separate class if the property the group were to receive under the plan was determined differently from the property to be received by other groups. For example, if the plan created two classes of claims against the same entity and treated them identically, we considered them to be a single class. If the plan provided a separate treatment for unclassified claims (typically administrative expense and priority tax claims), we treated them as a class of claims. If the plan created separate classes for claims against or interests in different entities, we presumptively treated them as separate classes. But if the plan expressly joined the classes together in specifying identical treatment, we considered them a single class.

Table 9: Mean Number of Plan Classes⁵⁵ By Different Measures of Failure				
	Failure Measure			
	Refiling	N	Plan failure	N
Successful reorganizations	16.5	80	16.8	70
Failed reorganizations	12.8	16	13.3	26
Total	15.8	96	15.8	96

F=3.907, df=1, p=.051

F=5.054, df=1, p=.027

Measured by plan classes, capital structure complexity appears to be related to success and failure. The direction of the relationship – complex structures are associated with lower failure rates – is opposite the direction Skeel predicted: complex structures would be associated with higher failure rates. If we adhere to Skeel’s premise that simple structures make reorganization easier, we must conclude that Delaware has higher failure rates despite having an easier caseload. Alternatively, we could abandon his premise and conclude that complex capital structures make firms *easier* to reorganize successfully. We are not comfortable with either alternative, and so return to the issue in section IV.C., below.

3. Industry

In their study of large, public firms reorganizing from 1980 through 1996, LoPucki and Kalin found that manufacturing and retail trade firms were significantly more likely to refile than firms in other industries. Because the universe of cases we studied is a subset of the universe studied by LoPucki

⁵⁵ Plan class has a skewed distribution. It has two extreme outlying values of 69 and 93, with the balance of cases ranged between 5 and 34. We compensated for this distribution by using the natural logs of plan class; logging is a widely accepted linear transformation of data comprised of counts and amounts that often results in normally distributed values. We used these transformed values in our tests of statistical significance. The figures we report in the table are computed by raising Euler’s Constant to the mean of the logged variable.

and Kalin, we expected to find the same relationship. We did not. None of the most likely groups – manufacturers, retailers, or manufacturers and retailers combined – were significantly more likely than other firms to fail.⁵⁶

4. Multiple regression analysis

Table 10 shows the results of a multivariate analysis of the key factors tested in the section above, with the addition of court location. This analysis is motivated by the following proposition: *Delaware's record of plan failure is an artifact of difficult reorganizations. No single measure of difficulty adequately captures this phenomenon, but together these measures comprise an index of difficulty.* To test this proposition we built a model that estimates Delaware's exceptionalism while controlling for several exogenous factors that we considered most likely to significantly influence the success or failure of a reorganization plan: pre-filing leverage, pre-filing profits, industry (here represented by membership in either the manufacturing or retail industries)⁵⁷, firm size before filing (here represented by the book value of assets prior to the first bankruptcy), and the complexity of the reorganization (here represented by the number of plan classes). In order to further test the validity of our “plan failure” variable, we analyzed it in tandem with the more straightforward measure of failure.

⁵⁶ Manufacturers and retailers combined had a refiling rate of 21% (n=48), compared to 12% (n=50) in all other industries. The difference is not significant (F=1.390, df=1, p=.241).

⁵⁷ Analyzing data on a larger universe of cases and using single-digit SIC codes, LoPucki and Kalin found a weakly significant relationship between industry and refiling. Manufacturing and retail trade firms were more likely to refile. LoPucki & Kalin, *supra* note –, at 257. Our analysis using single-digit SIC codes showed no significant relationship between industry and refiling. See *supra*, note – and accompanying text.

Table 10. Multiple regression analysis of plan failure and refiling.		
Cell entries are logistic regression coefficients (standard errors in parentheses).		
	Plan Failure	Refiling
Leverage Before Filing <i>Mean = 1.100, sd = .462</i>	-.321 (.883)	-.745 (1.129)
Profits Before Filing (Averaged over 5 years preceding filing and adjusted for firm size) <i>Mean = -.055, sd = .097</i>	-1.843 (4.736)	-2.454 (6.376)
Manufacturing or Retail <i>Mean = .490</i>	.011 (.589)	.544 (.769)
Number of Plan Classes (natural log) <i>Mean = 2.760, sd = .468</i>	-.688 (.809)	-.505 (1.014)
Assets Before Filing (in millions, natural log) <i>Mean = 6.511, sd = .994</i>	-.275 (.327)	-.038 (.390)
Delaware <i>Mean = .265</i>	1.945** (.655)	2.792** (.909)
New York <i>Mean = .163</i>	1.188 (.795)	1.417 (1.107)
Constant	2.122 (2.417)	-1.073 (3.122)
N	84	84
Nagelkerke R²	0.25	0.33
Hosmer & Lemeshow Goodness of Fit	$\chi^2 = 10.820, p = .212$	$\chi^2 = 6.631, p = .577$
*** p < .001 ** p < .01 * p < .05		

If the proposition stated above is true then we should find a diminished or even insignificant relationship between court location and plan failure after controlling for the difficulty of the reorganization. Our analysis suggests that the proposition is false. Delaware reorganizations fail significantly more often than New York or Other Court reorganizations, controlling for exogenous

factors.⁵⁸ None of the other variables has an individually significant relationship to plan failure or refiling⁵⁹, which suggests that plan failure cannot be predicted from firm-specific conditions that existed before the petition arrived at the courthouse.

B. Are Delaware-reorganizing firms different?

We identified only one prefiling characteristic that made a significant difference in firms' abilities to reorganize successfully: capital structure complexity. That relationship was weak, and appears to run in the direction opposite that needed to explain Delaware's high failure rates. The ten other characteristics we investigated appeared not to be related to failure. Thus, no difference in those characteristic between Delaware-reorganizing firms and Other Court-reorganizing firms could explain Delaware's higher refiling rates.

In an abundance of caution, however, we tested to determine if the population of firms choosing Delaware (or Delaware's plus New York) was significantly different from the population choosing Other Courts in any of the eleven characteristics tested. Only two additional differences were statistically significant. Firms reorganizing in Delaware and New York (combined) had significantly higher average prefiling sales (\$805 millions) and prefiling numbers of employees (5,792) than firms reorganizing in Other Courts (\$488 millions and 2,839 employees) ($p=.035$ and $p=.063$, respectively). We found no other significant differences between the firms that chose Delaware for their reorganizations and the firms that chose Other Courts.

⁵⁸Other Courts are represented in the intercept term. Delaware's significant coefficient indicates that it is different from Other Courts, while New York's insignificant coefficient indicates that it is not different from Other Courts. From this we infer that Delaware is different from New York.

⁵⁹Exogenous factors also failed in two separate analyses that are not reported in the body of this paper. One was a block analysis, in which exogenous factors were entered into the model as a group. The goodness-of-fit measure Nagelkerke R^2 will change significantly if this group has explanatory power, even if no single variable within the group is statistically significant. The block did not increase the goodness-of-fit. The other analysis involved entering factor scores created from the exogenous variables. Factor scores are estimates of the shared variance of the variables, i.e. the "difficulty" a firm is experiencing. The factor scores did not improve the explanatory power of the model, nor did they render Delaware's correlation with plan failure insignificant.

C. Conclusions

Eight of the eleven prefilings firm characteristics we examined were measures of the firms' financial distress. None appear to be related to the success or failure of the firms' reorganizations. To put it another way, the likelihood of a successful reorganization appears not to depend upon the depth or suddenness of the reorganizing firm's prefilings financial distress.

Nor did we find any relationship between the sizes of firms or their industries and the firms' likelihood of successful reorganization. Earlier studies found such relationships in other contexts.⁶⁰ That, together with the relatively small size of the universe of cases we studied, causes us to be cautious in concluding that no such relationship exists among firms generally. But if such a relationship does exist, it is sufficiently subtle that it could not alone explain Delaware's high failure rates.

We did find a weak relationship between "complexity of capital structure," as measured by the number of classes of claims and interests distinguished under the firms' plans. We are, however, skeptical. First, the relationship runs in the direction opposite the direction expected: firms with more complex capital structures appear easier to reorganize successfully.⁶¹

⁶⁰ LoPucki & Kalin, *supra* note 5, at 258 (finding smaller firms more likely to refile); Denning, et al., *supra* note ?, at 108 (It was found that the coefficient for firm size is significantly positive, indicating that larger firm size increase the likelihood of a successful reorganization.").

⁶¹ Any inference from our plan class data that Delaware-reorganizing firms have simpler capital structures should be tempered by consideration of contrary evidence. The holders of claims and interests of different members of a debtor's corporate group have different legal rights. Those different rights constitute a complexity of capital structure. One would therefore expect that corporate groups composed of larger numbers of entities will tend to have more complex capital structures. Among the firms in the LoPucki and Kalin universe, the average number of entities in groups reorganizing in Delaware was slightly higher than the average number of entities in groups reorganizing in Other Courts. (The difference was not statistically significant.) Lynn M. LoPucki, *Can the Market Evaluate Legal Regimes?*, 54 VAND. L. REV. 331, 351 (2001) (Delaware-reorganizing firms had an average of 26.5 entities per group compared with an average of 24.6 per group for the firms reorganizing in Other Courts). That suggests that the capital structures of Delaware-reorganizing firms are slightly more, not less, complex than the capital structures of firms reorganizing in other courts.

Second, as we explain below, the number of classes in plans may be more a product of the reorganization process than of capital structure complexity.

Taken together, these data suggest that prefiling characteristics of the firms filing in Delaware cannot explain Delaware's high failure rates. Prefiling debtor characteristics appear to have little to do with the success or failure of reorganizations, and Delaware-reorganizing firms are not sharply different from Other Court-reorganizing firms.

IV. Is Delaware's failure rate efficient?

A. Framing the issues

LoPucki and Kalin presented data showing that firms emerging from Delaware reorganization refiled more frequently than firms emerging from reorganization in other courts. They acknowledged that “[r]elatively high refiling rates are theoretically defensible” because the refiling losses might be more than offset by gains from a higher rate of reorganization or greater magnitude in a jurisdiction's successes.⁶² LoPucki and Kalin did not think this defense saved Delaware, however, because Delaware did not have a higher rate of reorganization than other courts or obvious, dramatic successes.⁶³

In separate replies to LoPucki and Kalin, Rasmussen and Thomas and Skeel pressed the efficiency issue. Rasmussen & Thomas argued that measurement of success and failure should take both reorganizations and liquidations into account. They also argued that lower direct costs of reorganization might more than offset the cost of additional filings in Delaware. Both Skeel and a well-known but unidentified New York bankruptcy lawyer concurred in the latter argument. As the lawyer put it:

Very often the right solution is to do a fix that lasts for a period of time and, if it doesn't work, do it again. That's how the workout world works. When you're talking about big companies, it's just a workout under court protection. Why is that such a bad outcome? [Some] will say it's a bad outcome

⁶² LoPucki & Kalin, *supra* note 5 at 255.

⁶³ *Id.* at 255-56.

because that's not what the statute provides for. But a good outcome may be different than what the statute really requires. [The statute] doesn't contemplate incremental restructurings. A judge has to make a determination about plan feasibility, but if no one opposes [the plan] and it turns out not to work, what's wrong with using the same mechanism a second time?⁶⁴

The data show dramatically what is wrong with using the same mechanism a second time. Between the first and second bankruptcies, the refiling firms suffered huge losses. Our data fix those losses at 18% of firm size per year during the five years after emergence.⁶⁵ By comparison, firms that did not refile averaged profits of 1% of firm size per year. In a related study, LoPucki found that the nine Delaware-reorganized firms that refiled averaged operating losses alone that averaged 18% of the firms' pre-filing assets.⁶⁶ The losses associated with a failed reorganization are huge. The fact that Other Court-reorganized firms refiled at one tenth the rate for Delaware-reorganized firms suggests that the bulk of those losses were avoidable.

The mere fact of these avoidable losses does not alone prove Delaware reorganization inefficient. The possibility remains that they can be offset by advantages of the Delaware bankruptcy process. Six potential sources for such an offset can be identified: (1) Delaware might have saved firms that would have been liquidated in Other Courts, (2) Delaware might have liquidated firms more efficiently than Other Courts, (3) Delaware might have accepted more risk in reorganized firms to capture even greater gains from the partial liquidations of those firms before confirmation, (4) Delaware might have had more success among the firms that emerged as private firms than among the firms that emerged as public firms and so were included in our study, (5) direct costs of reorganization might have been lower in Delaware, and (6) indirect costs might have been lower in Delaware. Each of these potential sources will be considered separately.

⁶⁴ Michelle Johnson, *Chapter 22: Does it matter?* BCD NEWS AND COMMENT, August 1, 2001 at – (quoting unnamed “well-known New York bankruptcy attorney”). *But see, id.* (stating that “most turnaround professionals are completely outraged at an answer like that [of the unidentified New York bankruptcy attorney]”).

⁶⁵ *See infra*, Part V.A.

⁶⁶ *See* LoPucki, *supra* note 61 at 338.

B. Does Delaware have an offset?

The data presented in Part I showed that firms emerging from Delaware reorganization had significantly lower earnings and failed significantly more often in the ensuing five years. Our study was confined to the emerging firms. We did not examine complete or partial liquidations that occurred during the first bankruptcy, the costs incurred by the firms in their initial bankruptcies, or emerging private firms. Thus it is necessary to consider the possibility that Delaware's poor performance in the respects we did study misses a larger picture in which Delaware performed well. We think this possibility can be captured in these six potential sources for a comparative Delaware advantage.

1. From reorganizing a larger proportion of firms

Saving firms may yield much larger gains than liquidating them. If Delaware had a higher failure rate because it was attempting to save firms Other Courts would have liquidated, that higher failure rate might nevertheless be efficient. To illustrate, assume that four firms file in Delaware and an identical set of four other firms file in Other Courts. One firm in each set is certain to fail, one firm is certain to succeed, and two firms each have a 50% chance of success. Each firm is worth one if it liquidates (at bankruptcy or upon later failure), and three if it reorganizes successfully. Delaware reorganizes all of its firms except the one certain to fail. Other Courts reorganize only the firm certain to succeed.

On these facts, the expected failure rate for Delaware would be 33%. Delaware would attempt three reorganizations and, on average, two would succeed. Other Courts would attempt only the reorganization certain to succeed, giving them a failure rate of zero. But the expected value from the Delaware bankruptcy process would be eight (two successful reorganizations at three each and two liquidations at one each), while the expected value from the Other Court bankruptcy process would be only six (one successful reorganizations worth three and three liquidations worth one each).

No evidence exists, however, that Delaware is attempting to reorganize more marginal firms. To the contrary, LoPucki and Kalin found that the

during the period studied, Delaware reorganized a *smaller* percentage of the firms filing there than did Other Courts.⁶⁷

2. From better results in complete liquidations

Rasmussen and Thomas criticized LoPucki and Kalin for attempting to evaluate Delaware reorganization without taking Delaware liquidation into account. They implied that Delaware might have liquidated assets for higher prices than Other Courts did, thereby achieving a success that went unrecognized under LoPucki and Kalin's methodology and that will go unrecognized under ours as well.

Even if that is so, it in no way detracts from the validity of our finding that Delaware reorganizations fail more often. Complete liquidation and reorganization are mutually exclusive processes. A firm can do one or the other, but not both. No interrelationship has been suggested to exist between the two that might, for example, cause a court's reorganization success rate to fall because its liquidation success rate rises. Thus, it makes sense to study the success of reorganizations separately from the success of liquidations.⁶⁸ If Other Courts have a better reorganization process, no reason exists why Delaware could not copy it without impairing any advantage Delaware may have in liquidations.

3. From better results in partial liquidations

The argument in the preceding section does not apply to partial liquidation cases. In partial liquidations, some assets are liquidated. The cash received from liquidation may be used in the reorganization or distributed to parties in interest. Because the liquidation and the reorganization occur with respect to the same firm, they are interrelated. Liquidating the best assets may maximize the bankruptcy dividend to creditors, but reduce the likelihood of a successful reorganization of what remains.

⁶⁷ LoPucki & Kalin, *supra* note 5 at 256 (showing that Delaware reorganized 79% of the firms that filed there after 1989 and whose cases were disposed of before 1997, while the corresponding proportion for Other Courts was 85%).

⁶⁸ Studying them together may be impossible because the "success" of liquidation – obtaining a high price for assets in relation to their intrinsic value – would be difficult to operationalize. The "intrinsic value" of assets is merely a theoretical construct not linked to any measurable parameter.

To illustrate the interrelationship, assume that every firm is composed of two business. One is a strong business that has a liquidation value of 90, a reorganization value of 200, and a 50% chance of surviving reorganization; the other is a weak business that has a liquidation value of 90, a reorganization value of 400 and a 25% chance of surviving reorganization. Further assume that the firm can continue neither business without the cash infusion that would come from liquidation of the other.

In such a world, every firm should reorganize one of its two businesses and in the absence of risk aversity, it does not matter which. Either business has an expected value of 100.

Now assume that something in the reorganization process of Delaware causes the firms filing there to choose to reorganize the weak business and something in the reorganization process of Other Courts causes the firms filing there to choose to reorganize the strong business. The courts' processes would be equally efficient, generating an average of 100 in value from each filing firm. But the Delaware court would have a 75% failure rate, while the Other Courts would have only a 50% failure rate. Delaware would appear worse, even though it was not.

Similarly, firms that liquidate their strongest assets and keep their weakest may be able to distribute substantial cash to their investors but only at the cost of an increased risk of refiling. Firms that liquidate their weakest assets and keep their strongest may distribute little cash but minimize the risk of refiling. Neither necessarily produces more value for their investors.

Despite the theoretical possibility of such an offset between successful partial liquidation and failed reorganization, (1) no evidence exists that Delaware has an advantage in liquidation and (2) even if such an advantage exists, it is unlikely to be large enough to offset the entire difference in reorganization failure between Delaware and Other Courts.

The latter statement is based on our finding that relatively little shrinkage in firm size occurred during reorganization.⁶⁹ Specifically, we found that on average Delaware-reorganizing firms shrank by 20% in dollar value of assets; the corresponding figures for Other Courts and New York were 22%

⁶⁹ Our method for calculating shrinkage is described in Part V.C., *infra*.

and 29% respectively.⁷⁰ Table 11 shows that in 75% of the reorganizing firms, assets after bankruptcy were more than 50% of assets prior to bankruptcy.⁷¹

Table 11: Asset Shrinkage During Reorganization				
Emerging company assets as a percent of filing company assets	LoPucki & Whitford Confirmed 1981-88		LoPucki & Doherty Confirmed 1991-96	
	Number	Percent	Number	Percent
Over 90%	2	7%	30	31%
Over 50%	9	31%	43	44%
50% -10%	11	38%	20	20%
Under 10%	7	24%	5	5%
TOTAL	29		98	

These data suggest that the proportion of assets liquidated is substantially less than the proportion reorganized. For Delaware's spectacular reorganization failures to be fully offset by Delaware's liquidation successes, the liquidation successes would have to be substantially more spectacular than reorganization failures. That seems improbable.

4. From firms emerging privately

Our data are only for firms emerging as public companies. Failure rates for firms emerging as private companies may be different. The data gathered by LoPucki and Kalin regarding refiling rates, however, covers firms emerging as private companies as well. Those data suggest that Delaware's failure rates among

⁷⁰ These figures may tend to understate shrinkage because they are averages that include some increases in firm size. On the other hand, they may tend to overstate shrinkage because reductions in assets may have come from write downs in the values of assets rather than sales of assets and liquidated assets may have yielded proceeds substantially less than their book values.

⁷¹ Table 11 also shows the corresponding percentages for 29 firms that reorganized before the era of Delaware. The proportions of assets liquidated during that period appear to have been greater. The difference is significant at the .001 level.

private firms are nearly as bad as Delaware's failure rates among public firms.⁷² LoPucki and Kalin used refiling as the sole measure of success, but no reason exists for thinking that the data regarding other measures of failure would be different.

5. From savings on the direct costs of bankruptcy

In their reply to LoPucki and Kalin, Rasmussen and Thomas argued that savings from lower direct costs of reorganization in Delaware might provide some offset. To quantify their point, they offered the following formula for calculating the direct cost of a firm's choice of Delaware for its bankruptcy:

$$c_d = D + \delta pD$$

where c_d is the total cost of choosing Delaware, D is the direct cost of a Delaware bankruptcy, δ is the discount rate, and p is the probability of refiling.⁷³ Intuitively, the total direct cost of filing a case in Delaware is the cost of a Delaware case, plus the probability of a refiling times the cost of the refiling, the latter term reduced to present value as of the time of the initial choice. That total direct cost is to be compared with the total direct cost of filing in Other Courts, which is given by the following formula:

$$c_o = O + \delta qO$$

where c_o is the total direct cost of choosing an Other Court, O is the direct cost of an Other court bankruptcy, δ is the discount rate, and q is the probability of refiling.

Using LoPucki and Kalin's probabilities of refiling – 0.3 for Delaware and 0.1 for Other Courts – and hypothesizing that Delaware's direct cost of reorganization would be 80% of that for Other Courts.⁷⁴ Rasmussen and Thomas calculated a substantial direct cost advantage to filing in Delaware.

No data currently exist regarding the comparative direct cost of reorganizing in Delaware versus Other Courts during the period 1991-96. But LoPucki has

⁷² The comparison is difficult to make because LoPucki and Kalin reported refiling rates as percentages for all years they followed the firms (ranging from about 4 years to 18 years) and as percentages per year. See LoPucki & Kalin, *supra* note 5 at 238-39. We report failure rates for the five year period after emergence.

⁷³ Rasmussen & Thomas, *supra* note 8 at 297. Their formula for Delaware was misprinted; we rely here on their formula for Other Court filings, which was correctly printed.

⁷⁴ *Id.*

compiled data comparing the direct costs of reorganization for 14 Delaware firms with those for 10 Other Court firms during the period 1998-2001. Those data show the cost of Delaware reorganization to be 94% of the cost of Other Court reorganization.⁷⁵ Plugging that figure, along with the refiling rates from the instant study into Rasmussen and Thomas' formula and ignoring the discount as *de minimus*, we get for Delaware:

$$c_d = .94 + .42 \times .94 = 1.33$$

and for Other Courts:

$$c_o = .1 + .04 \times .1 = 1.04$$

The direct total costs of Delaware reorganization are 1.33, 28% higher than the direct total costs of Other Court reorganization, 1.04. Because the total direct costs of Delaware reorganization actually exceed those of Other Court reorganizations, they provide no offset.

6. From savings on the indirect costs of bankruptcy

As is discussed further below, the Delaware reorganizations studied were significantly faster than the other reorganizations studied.⁷⁶ The magnitude of the difference is shown in Table 12

Table 12: Average Days In Reorganization				
	Delaware	New York	Other Courts	Total
Prepackaged cases	14 cases 48 days	3 cases 55 days	10 cases 75 days	27 cases
Nonprepackaged cases	12 cases 454 days	13 cases 956 days	46 cases 675 days	71 cases
All cases	26 cases 236 days	16 cases 787 days	56 cases 568 days	98 cases

⁷⁵ Lynn M. LoPucki, Attorney Fee Study\Current Data (spreadsheet on file with the author).

⁷⁶ See *infra*, Parts V.D. and E.

The indirect costs of bankruptcy are generally understood to be the reductions in earnings resulting from two types of harm. First, persons who have been dealing with the firm – including customers, employees, suppliers, and financiers – become concerned about its future. They may decline to continue dealing. That in turn may reduce earnings directly, through increase in costs or loss of revenues, or indirectly, by disrupting firm operations. Second, the time and attention of management is diverted from firm operations to dealing with those disruptions and legal matters arising out of the bankruptcy, thereby reducing management’s effectiveness. One might reasonably suppose that the longer the bankruptcy case continues, the greater these indirect costs would be.

The speed of Delaware reorganization probably tends to reduce these two kinds of harm, and thus to provide some offset against refiling losses. But that offset is probably considerably less than Table 12 suggests. First, the period of embarrassment and disruption associated with bankruptcy does not begin or end with the bankruptcy case. The period of embarrassment and disruption begins when the firm’s financial problems become public – typically a few months to a few years before filing. Unless Delaware has as great a speed advantage during this prebankruptcy period as it has during bankruptcy the effect will be to dilute the gains suggested by the Table 12 data. Nor do the indirect costs of reorganization end with the confirmation of a plan. Customers, employees, suppliers, and financiers may still have their doubts about the reliability of the firm. In light of Delaware’s higher failure rates, those doubts may be greater with respect to Delaware-reorganized firms.

Second, much of Delaware’s speed advantage results from its greater proportion of prepackaged cases. Prepackaged cases do not begin with the filing of the petition. They begin with preparation and submission of a plan of reorganization to a vote of the creditors in the period *before* the filing of the petition. This same process takes place *during* a nonprepackaged case. Because the voting on prepackaged plans is both public and expressly in contemplation of a possible bankruptcy, the indirect costs associated with the pre-filing negotiation and voting are probably nearly as great as those associated with actually being in bankruptcy. Prior research comparing the length of the reorganization *process* found the prepackaged process to be only slightly shorter than the nonprepackaged process.⁷⁷ Thus, while shorter cases

⁷⁷ Elizabeth Tashjian et al., *Prepacks: An empirical analysis of prepackaged bankruptcies*, 40 J. FIN. ECON. 135, 142 (1996).

in Delaware imply lower indirect costs in Delaware reorganization, Delaware's advantage in this regard is probably far less than its disadvantage in refiling costs.

C. Conclusion

Part II of this Article showed that Delaware reorganizations failed more frequently than Other Court reorganizations. Part III showed that the difference in outcomes did not merely reflect a difference in input. Before bankruptcy, the Delaware-reorganizing firms were not measurably different from Other Court-reorganizing firms. Those two propositions alone do not prove Delaware reorganization inefficient. Delaware reorganization might nevertheless have yielded some benefit not accounted for by our methodology.

This part considered six possible Delaware advantages that would not have shown in our data. A combination of our data and data from other studies negates the existence of three of the six. First, the effects of Delaware's higher failure rates cannot be offset by Delaware's reorganization of a greater proportion of its cases, because Delaware in fact reorganizes a smaller proportion of its cases. Second, LoPucki & Kalin's data substantially refute the possibility that Delaware better reorganizes private firms. Third, our data combined, with LoPucki's attorney fee data and Rasmussen and Thomas' formulae, show that the direct costs of Delaware filing and refiling exceed the direct costs of Other Court filing and refiling.

Because our study did not include complete liquidation cases, we do not know whether Delaware has a comparative advantage in processing them. But if such an advantage exists, it is independent of reorganization and so cannot explain or justify Delaware's poor performance in reorganization cases.

Because our data do not cover partial liquidations that occurred during the firms' initial bankruptcies, they do not negate the possibility that Delaware outperformed Other Courts in partially liquidating assets. Our data do, however, indicate that substantially fewer assets were liquidated than were reorganized in the cases studied, making it highly unlikely that even a great performance in the partial liquidations could offset Delaware's poor performance in the reorganizations.

Lastly, the speed of Delaware reorganizations probably does give Delaware a comparative advantage with respect to the indirect costs of bankruptcy. But here also, it is unlikely that advantage could be great enough to offset the Delaware-reorganized firms' greater losses in the post-bankruptcy period. On the whole, we think it is fair to conclude that Delaware's failure rates were higher than efficient during the period studied.

V. Possible Failure Causes Endogenous to Delaware

If, as we concluded in Part III, Delaware does not get more difficult cases and, as we concluded in Part II, Delaware gets worse results from the cases it does get, the problem must be with some aspect of Delaware's reorganization process. In this part, we report on our efforts to identify the ways in which Delaware's process differs from other courts' processes and to determine the mechanisms by which those differences might lead to failure.

A. Post-bankruptcy earnings

In section II.C, above, we described our data on the earnings of the reorganized firms during the five years after reorganization. Throughout this paper, we have employed post-bankruptcy earnings as a measure of success and failure. In this section, post-bankruptcy earnings take on a second role, as a mechanism that helps to explain how reorganizations fail. In this regard, our empirical findings track the conventional wisdom. Firms with lower post-bankruptcy earnings were more likely to fail.⁷⁸ To illustrate, refiling firms had average annual losses equal to 18% of company size, while nonrefiling firms had average annual profits equal to 1% of company size. When operating profits are used as the measure, the corresponding figures were losses equal to 3% of company size for refiling, and gains equal to 6% of company size for nonrefilers (Table 13). Both the differences in operating profits and profits are statistically significant.

⁷⁸ See, e.g., Kahl, *supra* note 43, at 25 ("To summarize, operating performance has a statistically and economically significant and positive effect on survival.").

Table 13: Average Annual Profits During Five Years After Emerging, for Filers and Nonrefilers (Profits and Operating Profits as a percentage of company size)						
	Operating Profits			Profits		
	Average	Median	Cases	Average	Median	Cases
Refilers	-3%	-3%	15	-18%	-12%	15
Nonrefilers	6%	5%	74	1%	0%	80
All	5%	4%	89	-2%	0%	95

F=23.148, df=1, p<.000

F=50.756, df=1, p<.000

Not surprisingly, refilers tend to be firms that have been suffering substantial post-bankruptcy losses.⁷⁹ The mechanism by which post-bankruptcy earnings produce failure is probably that unexpectedly low earnings leave the firm with insufficient funds to make payments under the plan or perhaps even to continue in business.

As noted in section II.C (Table 5), firms reorganizing in Delaware have significantly lower *post*-bankruptcy earnings than firms reorganizing in Other Courts. Yet, as noted in section III.A.1, firms reorganizing in Delaware did not have significantly lower *pre*-bankruptcy earnings than firms reorganizing in Other Courts.⁸⁰ The lack of a significant difference in the firms entering Delaware and Other Court reorganization, combined with the presence of a significant difference in the firms emerging from the two, suggests that the change results from some difference between Delaware's and Other Courts' reorganization processes. We conclude that the Delaware reorganization process is less effective in dealing with debtors' business problems than are Other Courts' reorganization processes. Delaware's process fails to fix the business.

⁷⁹ The results were similar using plan failure as the measure of success. But they are tainted by the fact that post-bankruptcy earnings were used to determine which mergers should be regarded as "failures" in the calculation of plan failure. Thus, the relationship between post-bankruptcy earnings and plan failure is in some part tautological.

⁸⁰ *Supra* note 42 and accompanying test.

B. Post-bankruptcy leverage

The conventional wisdom holds that excessive post-bankruptcy leverage causes reorganizations to fail. Our data are consistent with that wisdom. Refilers tend to be firms that emerged from bankruptcy with higher leverage (Table 14),⁸¹ but the difference between refilers and nonrefilers is not at a level conventionally considered significant ($p=.119$). Our plan failure variable is more strongly related to leverage. The findings trend the same way (failures have higher leverage) and the differences are significant ($p=.054$).

Table 14: Post-Bankruptcy Leverage by Plan Success or Failure				
	Failure Measure			
	Refiling	N	Plan failure	N
Successful reorganizations	78%	82	77%	71
Failed reorganizations	87%	16	86%	27
Total	79%	98	79%	98

$F=2.468, df=1, p=.119$

$F=3.807, df=1, p=.054$

As we noted before, average firm leverage varies by industry. When we control for leverage differences among industries, we see that refilers tend to have higher abnormal post-bankruptcy leverage, but the difference is not significant (Table 15). Nor is abnormal post-bankruptcy leverage related to plan failure ($p=.271$).

⁸¹ We define leverage as total liabilities divided by total assets.

Table 15: Abnormal Post-Bankruptcy Leverage by Plan Success or Failure				
Failure Measure				
	Refiling	N	Plan failure	N
Successful reorganizations	17%	82	16%	71
Failed reorganizations	21%	16	22%	27
Total	18%	98	18%	98

F=.385, df=1, p=.537

F=1.225, df=1, p=.271

Our other measure of success, post-bankruptcy earnings, is also related to post-bankruptcy leverage. Unadjusted post-bankruptcy leverage is negatively correlated with post-bankruptcy earnings (Pearsons R = -.186, p=.070). Abnormal post-bankruptcy leverage is negatively correlated with post-bankruptcy earnings (Pearsons R= -.193, p=.061). Firms with high post-bankruptcy leverage tend to be firms with low post-bankruptcy earnings. Thus, while the relationship between post-bankruptcy leverage and post-bankruptcy failure may not be strong, post-bankruptcy leverage does appear to lead to low post-bankruptcy earnings.

Delaware-reorganizing firms had higher post-bankruptcy leverage than firms reorganizing in New York or Other Courts. Debt averaged 86% of assets among Delaware firms, compared to 77% in Other Courts and 78% in New York (Table 16). A similar relationship existed among the courts with regard to abnormal post-bankruptcy leverage. But these differences are not statistically significant. The only difference that approaches significance is the one between Delaware and Other Courts (excluding New York) (p=.080), but once leverage is adjusted for industry, the significance of this difference evaporates (p=.466).

Table 16: Post-Bankruptcy Leverage By Court			
	Leverage after emerging	Abnormal leverage after emerging	Cases
Delaware	86%	21%	26
Other Courts	77%	16%	56
New York	78%	18%	16
Total	79%	18%	98

F=1.540, df=1, p=.220 F=.276, df=1, p=.759

Thus, while the Delaware firms studied had higher post-bankruptcy leverage, we cannot reject the possibility that the difference resulted from chance.

The apparent weakness of the correlation between high post-bankruptcy leverage and failure may be a reflection of a weakness in the accounting data employed. Most emerging firms elect “fresh-start accounting.” That gives them wide discretion in fixing the post-bankruptcy value of their assets. The firm fixes that value knowing the firms’ debt level and hence knowing what leverage a particular assets value implies. Firms debt levels may be influencing firms’ assets valuations and that influence may be greater among the firms most likely to fail – obscuring the true disparities in post-bankruptcy leverage.

C. Reduction in firm size

Reorganization typically reduces the size of the firm. As part of their reorganizations, firms close divisions, discontinue product lines, sell assets, and lay off employees. Often, the strategy is to retain and continue to operate the most successful parts of the business.⁸² One might plausibly suppose that reorganizations involving greater reductions in firm size would succeed more often.

⁸² That is not invariably true. In its 1982 reorganization, Lionel Corporation sold the most successful part of its business – Dale Electronics – and attempted to reorganize around the remainder. Lionel refiled in 1991.

In testing that hypothesis, we employed three measures of reduction in size: reduction in assets, reduction in sales, and reduction in numbers of employees. In each measure, we used the last available figure for a period prior to filing and the first available figure for a period after confirmation. We expressed the reduction as a percentage of the pre-filing figure. Thus, a firm that shrank from 100 to 60 had a 40% reduction in size by that measure. In our calculations, we ignored firms with fewer than ten employees.⁸³

None of the relationships between shrinkage and plan failure is significant. Reductions in assets, sales or employees do not predict refiling or plan failure. Nor are they correlated with post-bankruptcy earnings.

D. Prepackaging

We considered a bankruptcy case “prepackaged” if the debtor proposed its plan to creditors, solicited their votes, and received the necessary acceptances prior to filing the bankruptcy case. We grouped all remaining cases – including those “pre-negotiated” with some or all creditors before filing – together as “nonprepackaged.”

We found that debtors reorganized in prepackaged cases had lower post-bankruptcy earnings than debtors reorganized in nonprepackaged cases (N= 94, F=8.053, df=1, p=.006). By this measure prepackaged reorganizations are more likely to fail than nonprepackaged reorganizations.

One might argue that this difference could be explained, in whole or in part, by speed instead of failure. To understand how that could occur, imagine two debtors whose financial conditions are identical and who, at the moment of the filings of their petitions, have taken identical steps to improve them. Further assume that the improvements resulting from the steps will not show up in earnings until the second year after implementation. If one of the debtors files a prepackaged case, one year of unimproved earnings would be included in our calculation of the debtor’s average annual earnings for the five years

⁸³ As a result, we ignored two firms: Commonwealth Equity increased its number of employees from 1 to 440; EUA Power increased its number of employees from 1 to 2. For neither firm was the number of employees indicative of firm size. Both firms were operated principally by persons employed by others and “rented” to the firm. Commonwealth’s sharp increase was merely the transfer of employees from the books of an outside contractor to Commonwealth’s own books.

after bankruptcy. If the other debtor files a nonprepackaged case and remains in bankruptcy for a year, that debtor's year of unimproved earnings would not be included in our calculation because it occurred prior to confirmation.

This argument is not, however, convincing. Prepackaged reorganizations do not begin at the filing of the bankruptcy case. They are negotiated and voted upon, just as are nonprepackaged reorganizations. The difference is that the prepackaged bankruptcy is filed after the negotiation and voting take place while the nonprepackaged bankruptcy is filed before the negotiation and voting take place. Professors Tashjian, Lease, and McConnell found that from the initial restructuring announcement to the resolution of financial distress, prepackaged cases (at 21.6 months) were only slightly shorter than traditional Chapter 11 cases (at 28.5 months).⁸⁴

If steps are taken in conjunction with reorganization to improve earnings, it makes sense that in prepackaged cases they would occur before or during the period of plan formulation, just as they would in nonprepackaged cases. Thus the improvements in a prepackaged case would yield results at about the same time (in relation to plan confirmation) as would the improvements in a nonprepackaged case.

We also tested the relationship between prepackaging and success by two other measures of success, refiling and plan failures. Neither of those measures would be sensitive to the problem of timing just discussed. We found that 26% of the 27 prepackaged reorganizations led to refiling within 5 years, as compared to 13% of the 71 nonprepackaged reorganizations. The difference is not statistically significant ($F=2.527$, $df=1$, $p=.115$). But using plan failure as the measure, 44% of the prepackaged bankruptcies failed, compared to 21% of the nonprepackaged bankruptcies. This difference is highly significant ($F=5.520$, $df=1$, $p=.021$). We conclude that prepackaged reorganizations are more prone to failure than nonprepackaged reorganizations.

⁸⁴ Tashjian, *supra* note 77 at 142.

Table 17: Prepackaged Cases By Court				
Prepackaged	Delaware	Other	New York	Total
No	46%	82%	81%	72%
Yes	54%	18%	19%	28%
N	26	56	16	98

Pearson chi-square = 12.264, p=.002

Table 17 shows that Delaware received a greater proportion of prepackaged cases than did New York or Other Courts. Because prepackaging occurs before the case is filed, some might consider prepackaging a case characteristic exogenous to the court in which the case is filed. We consider prepackaging endogenous partly on the basis of anecdotal evidence that cases are prepackaged with particular courts in mind. From the beginning – long before filing – the reorganization process is linked to the culture and procedures of the Delaware bankruptcy court.

Delaware’s prepackaged reorganizations fail at a much higher rate than prepackaged reorganizations in other courts (Table 18). Except in Delaware, prepackaged cases did not result in refilings at all. And the rate of plan failure in Delaware among prepackaged cases is very high (64%), nearly twice that of New York and three times the rate in Other Courts.

Nonprepackaged cases also fail at higher rates in Delaware than in other courts, but the difference in rates is not as great as the difference for prepackaged cases. Measured by refiling or plan failure, Delaware and New York have roughly equivalent failure rates in nonprepackaged cases, and those rates are significantly higher than the failure rates in Other Courts.

Table 18: Failure Rates by Court, by Prepackaged Status (Cell entries are numbers and percentages of cases within court that failed. P-values relate to differences between courts within columns.)						
	Prepackaged			Nonprepackaged		
	Type of Failure			Type of Failure		
Court	Refilings	Plan failures	Cases	Refilings	Plan failures	Cases
Delaware	7 50%	9 64%	14	4 33%	5 42%	12
Other Courts	0 0%	2 20%	10	2 4%	6 13%	46
New York	0 0%	1 33%	3	3 23%	4 31%	13
Total	7 26%	12 44%	27 100%	9 13%	15 21%	71 100%

p=.009

p=.095

p=.011

p=.062

That Delaware's difference from Other Courts is not as great with respect to nonprepackaged cases as with respect to prepackaged cases, together with the very low rates of prepack failure in Other Courts, lends support to our decision to treat prepackaging as endogenous to the court. If prepackaging rather than association with Delaware were driving Delaware's high failure rates, we would expect to see more prepack failure in Other Courts. We conclude that something about manner in which Delaware processes prepackaged cases is contributing to Delaware's high failure rates.

E. Speed

The conventional wisdom holds that Delaware processes reorganization cases faster than other courts and that debtors seeking quick reorganization choose Delaware for that reason.⁸⁵ Examining a universe of cases very similar

⁸⁵ *E.g.*, David A. Skeel, Jr., *Bankruptcy Judges and Bankruptcy Venue: Some Thoughts on Delaware*, 1 DEL. L. REV. 1, 20 (1998) ("Rather than lengthy cases, Delaware is known for its speedy confirmation of reorganization plans."); *id.* at 27 ("Delaware's judges also tend to confirm traditional Chapter 11 cases much more quickly than judges in other

to that examined in the instant study,⁸⁶ Eisenberg and LoPucki found that Delaware did have slightly lower mean and median case-processing times than Other Courts.⁸⁷ But after controlling for whether the cases were prepackaged, the differences were not significant.⁸⁸

Prepackaged cases are quick and fail at a higher rate. To determine whether the speed of a reorganization – apart from the speed achieved by prepackaging – has an effect on failure rate we began by calculating the number of days from filing to confirmation in each of the 98 cases. We then tested this variable against our three measures of success, controlling for prepackaged status.

districts. Venue shopping in bankruptcy has thus produced a clientele effect, with Delaware attracting firms that seek to reorganize quickly."); *id.* at 28 (stating that "Delaware has successfully addressed the single biggest problem with Chapter 11 in recent years – the inordinate time and expense of the reorganization process").

⁸⁶ Eisenberg & LoPucki, *supra* note 4. Both studies examined universes of cases drawn from the same source, Lynn M. LoPucki's Bankruptcy Research Database. Eisenberg and LoPucki's study examined cases filed after 1989, *id.* at 998, and before 1998, *id.* at 978, while the instant study examines cases confirmed from 1991 through 1996.

⁸⁷ *Id.* at 989.

⁸⁸ *Id.*

Table 19: Effect of the speed of reorganization on plan failure, controlling for prepackaged bankruptcies. (Cells include logit coefficients, with standard errors in parentheses.)				
	Dependent Variables			
Predictor Variables	Plan Failure		Refile	
	I (speed)	II (speed and prepack)	III (speed)	IV (speed and prepack)
Days (natural log) <i>Mean = 5.641, sd = 1.262</i>	-.5384** (.1876)	-.7898* (.3996)	-.4164* (.2164)	-.5790 (.4699)
Prepack <i>Mean = .276</i>	X	-.7452 (1.0295)	X	-.4789 (1.2158)
Constant	1.9757* (1.0236)	3.5805 (2.4574)	.6228 (1.1599)	1.6622 (2.8916)
Nagelkerke R²	.124	.131	.064	.067
N	98	98	98	98

**p<.01, *p<.05

We found that speed of reorganization is significantly correlated with both plan failure and refiling (Table 19). The relationship to plan failure is the stronger of the two; it remains highly significant even when controlling for the influence of prepackaged cases (column II). Faster reorganizations are significantly more likely to fail than slower ones, and this relationship holds irrespective of whether the cases were prepackaged. In practical terms, the regression model predicts that a firm whose bankruptcy process lasts 100 days has a 44% chance of failing, a bankruptcy that lasts 200 days has a 31% chance of failing, and a bankruptcy that lasts 500 days has an 18% chance of failing, controlling for prepackaging.

When success is measured by refiling, the speed of reorganization and prepackaging are correlated and the inclusion of both in the same model leaves neither of them individually significant (column IV). The unchanged Nagelkerke R² indicates that both of them in tandem provide some explanatory power for the incidence of refiling.

F. Plan complexity

As discussed in section III.A.2.b. above, we collected data on the number of classes of claims and interests receiving separate distributions under each reorganization plan. We collected these “plan classes” data in the belief that they would reflect the complexity of the firms’ capital structures. As discussed in section III.A.2.b., we found that the number of plan classes was related to success, and the relationship ran in the wrong direction: the “easier” reorganizations – those involving fewer classes – failed more often.

The relationship of number of plan classes to court is even stronger. Delaware and New York cases averaged 12.6 and 15.5 classes per plan respectively, while Other Court cases averaged 17.7 classes per plan. The difference is significant (N=95, F=5.132, df=1, p=.008).

Separation of the plan class data by prepackaged status reveals two striking aspects. First, for all courts combined, the average number of classes in nonprepackaged cases is considerably higher than the average number in prepackaged cases (Table 20). This difference is significant (p=.026), and not surprising. Prepackaged plans typically target shareholders and subordinate bondholders, while paying other classes in full. Because those other classes are paid in full, many differences among them can be ignored. The most striking aspect of these data, however, is that in Delaware, the average number of classes in a nonprepackaged plan is no larger than the number of classes in a prepackaged plan. Delaware nonprepackaged plans are remarkably simple.

Table 20: Plan Classes in Prepackaged and Nonprepackaged Cases By Court				
	Average Number of Plan Classes			
Court	Nonprepackaged cases	N	Prepackaged cases	N
Delaware	12.4	12	12.8	14
New York	15.7	13	14.9	3
Other Courts	18.8	44	13.7	10
Total	16.9	69	13.4	27

F=4.085, df=2, p=.021

F=.214, df=2, p=.809

We consider it implausible that these data could reflect differences in capital structure. If they did, the slightly larger firms reorganizing in Delaware and New York would have much simpler capital structures than the smaller firms reorganizing in Other Courts, and in Other Courts (but not in Delaware), firms would be choosing whether to prepackage their cases on the basis of the complexity of their capital structures. We can think of no explanation that fits the data in these regards.

Rather, we think that Delaware and New York's smaller number of plan classes reflects a difference in reorganization practices in those two courts. The firms have similar arrays of creditors and shareholders, but in Delaware and New York, the plans divide them into fewer classes. That practice may reflect some other variable that contributes to the higher refiling rates in Delaware and New York.

Another possibility is that division of the creditors and shareholders among more classes results in more thoughtful consideration of the plan. If all claims are placed in a single class, that class must approve the plan by a majority in number of claims and two-thirds in amount of claims.⁸⁹ Under that arrangement, one type of claim may outvote another. If each type of claim is placed in a different class, each class must approve the plan by a majority in number of claims and two-thirds in amount of claims.⁹⁰ Types of claims that could have been outvoted under a one-class plan may effectively have a veto power under a multi-class plan.⁹¹ This may result in the inclusion of more parties in plan negotiations and the consideration of more points of view.⁹² The result may be better plans.

⁸⁹ 11 U.S.C. § 1126(c).

⁹⁰ See 11 U.S.C. § 1129(a)(8)(A) (requiring that the court confirm a plan only if each class of impaired claims has accepted the plan).

⁹¹ This veto power is not absolute, because the court can employ cram down against a dissenting plan in particular circumstances. See 11 U.S.C. § 1129(b)(2) (specifying the requirements for cram down). But cram down is uncommon and when it occurs the cram down process itself will assure careful consideration of the plan.

⁹² See also, Ernst Maug & Bilge Yilmaz, Two-Class Voting: A Mechanism for Conflict Resolution? (1999) (manuscript on file with author) (arguing that when classes have differing interests and information, two-class voting is superior to one-class voting because classes reveal more information through voting).

G. Conclusions

Commentators seeking to explain the failure of bankruptcy reorganizations focus on two problems. The firms, they say, emerged with too much leverage or without correcting the problems that made the firms' businesses unprofitable. The data we gathered regarding leverage and profitability show these two problems more often present in firms emerging from Delaware reorganization than from reorganization in other courts. The data also suggest that the cause of these differences lies not in the kinds of cases coming to Delaware, but in what Delaware does with them once they arrive. Before bankruptcy the firms that file in Delaware were indistinguishable from those that file in Other Courts. By the time they emerged, however, they had slightly higher leverage and significantly lower earnings.

The data also show two other differences between the Delaware process and the processes of Other Courts that may help to explain Delaware's higher failure rates. First, prepackaged cases failed at much higher rates in Delaware than they did in Other Courts. Because Delaware also gets a higher proportion of prepackaged cases than Other Courts, prepackaged cases contributed substantially to Delaware's higher failure rates.

Second, nonprepackaged Delaware plans divide creditors and shareholders among fewer classes than do nonprepackaged Other Court plans and it appears that plans with fewer classes fail more often. We doubt something so superficial as the number of plan classes could contribute significantly to plan failure. As a result, we think the causal relationship probably runs in another direction: some aspect of the Delaware process that contributes to failure also causes simplicity in Delaware plans.

VI. Conclusions, speculations, and directions for future research

The data on failure show that Delaware reorganizations fail more often. The data on leverage and earnings show the financial condition of Delaware-reorganizing firms to be similar to Other Court-reorganizing firms when they enter bankruptcy, but significantly worse when they exit. This suggests it is the Delaware process rather than the condition of the firms entering that process that causes Delaware's higher failure rate.

To be sure, these findings do not prove either the Delaware court or the Delaware process responsible. Skeptics can still posit the existence of an Omitted Variable that Would Save Delaware.⁹³ For example, they might posit some defect disproportionately present in Delaware-reorganizing firms that makes them more difficult to reorganize successfully, but which is latent. That is, the defect is one that would not increase pre-filing leverage or depress pre-filing earnings. But as the data accumulate, the putative Omitted Variables must become increasingly complex and implausible.

The data alone are not yet sufficient to tell us what causes Delaware's higher failure rates. But when combined with data from other studies and anecdotal evidence, they do provide support for the following speculations.

Delaware's bankruptcy court operates on an unabashedly laissez-faire philosophy. If the parties are in agreement on a plan, the court will confirm it.

This last statement, however, is generally true for other courts as well. Plans considered at a confirmation hearing are almost invariably confirmed in all courts. But even though Other Courts confirm plans at substantially the same high rate as Delaware, the manner in which they confirm them may nevertheless be more effective.⁹⁴

The Bankruptcy Code requires that the courts make findings that plans are feasible before confirming them.⁹⁵ In response, virtually all courts require expert testimony of plan feasibility. Plan proponents are usually under great pressure to succeed at the confirmation hearing. As a result, they may take the issue of feasibility more seriously in courts they know to be more demanding – or perhaps more to the point, in courts about which they know nothing – than in the high volume, pro-confirmation, laissez-faire courts of Delaware and New York. Other Courts' reorganization *processes* may require greater feasibility than Delaware's, even if Other Courts' *judges* do not.

⁹³ See LoPucki, *supra* note 5, at 341-44 (discussing possible omitted variables).

⁹⁴ LoPucki and Kalin found that Delaware confirmed plans in 37 of 38 cases (97%) while Other Courts confirmed plans in 111 of 117 cases (95%). LoPucki & Kalin, *supra* note 5, at 256. The intensity of the court's scrutiny of plans is probably more important to the process than is the likelihood that the plan will ultimately be confirmed.

⁹⁵ 11 U.S.C. § 1129(a)(11).

Several other factors suggest that the Delaware reorganization process is less thorough than that of Other Courts. Our data show that the Delaware process is quicker. As yet unpublished data gathered by one of us show that the Delaware process is slightly less expensive than that of Other Courts – even though professionals appear to be paid at higher rates in Delaware and Delaware requires local counsel in every case.⁹⁶ Some bankruptcy lawyers and judges have told us that the Delaware Bankruptcy Court discourages adversary proceedings and objections to claims.

The same as yet unpublished professional fee data also shows a provocative difference in fee distributions between Delaware and Other Courts. In Delaware, 60% of the fees go to financial advisers; in Other Courts, the proportion is 40%.

Together, these data suggest that broad-brush investment bankers rather than meticulous lawyers may dominate Delaware reorganization. They may spend less time, pay less attention to detail, and therefore finish more quickly. The suggestion is consistent with the greater simplicity of Delaware plans.

The cause of Delaware's higher failure rate appears to lie in Delaware's less effective reorganization procedures. Assuming that is the case, the challenge for future researchers is to discover and document the source of this massive market failure. The question future researchers must answer is why so many sophisticated parties with even more sophisticated advisers choose to take their cases to the court least likely to reorganize their firms successfully.

We speculate that at the core of this market failure is the parties' desire to appear to reorganize without in fact doing so. Effective reorganization is unpleasant. Managers must at least acknowledge their past failures and perhaps also resign their positions. Creditors must accept substantial reductions in the amounts owing to them. The interests of shareholders must be finally and permanently extinguished. All parties hope to benefit from the Bankruptcy Court's certification that the firm has faced up to its problems and resolved them. But none want the firm to actually face up to its problems. So far, the Delaware Bankruptcy Court's certification has not only been cheap, quick, and easy to get, it has had even greater credibility than the certification of other courts. The issue now may be whether it can retain that credibility in the face of the accumulating evidence.

⁹⁶ See *supra* note 75 and accompanying text.