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PROFESSIONAL FEES AND OTHER DIRECT COSTS IN CHAPTER 7 BUSINESS LIQUIDATIONS

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I. INTRODUCTION

To function effectively, market economies must efficiently process those businesses that inevitably fail because of the market's workings. Our economy absorbs between \$35 million and \$41 million to liquidate the

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Colleagues and friends also graciously took time out of their busy schedules to read early drafts of this article. Their comments and suggestions were tremendously helpful. Special thanks to Wilson Freyermuth, Tracey George, Dan Keating, Lynn LoPucki, Ronald Mann, and Elizabeth Warren.

A large number of attorneys, judges, and court clerks also helped get this project off the ground. Their knowledge, cooperation, and assistance were invaluable to us. It was encouraging to find so many bankruptcy professionals willing to give their time and efforts to help us gain a better understanding of the bankruptcy system. At the risk of omission, we would like to thank the Hon. William V. Altenberger, John Cisternino, Hardin W. Hawes, the Hon. Frank W. Koger, Thomas D. Lawless, Kenneth S. Nankin, Kevin Palmer, Kevin Quirk, the Hon. Barry S. Schermer, Carl Spector, Kathleen Traenkenschuh, and Jeffery B. Van Duzer.

approximately 30,000 businesses that file chapter 7 each year.¹ As large as these figures are, they do not include the businesses that file bankruptcy under other chapters of the Bankruptcy Code such as chapter 11 or 13, nor do they account for any consumer bankruptcies, nor do they include the resolution of economic distress outside of formal bankruptcy proceedings.

A dearth of empirical data has not slowed the debate regarding the efficiency of the nation's bankruptcy laws. The National Bankruptcy Review Commission has just released its 1400-page report calling for numerous revisions in the federal bankruptcy law, including changes that would speed the bankruptcy process because of perceptions the current system takes too long and costs too much.² The academic community also has debated the efficiency of our bankruptcy system in law review articles.³ In the final analysis, the issue boils down to one of utility: do the benefits of our current system outweigh its costs or the net benefits of any reasonable alternative? There is little information available to solve this equation.

This paper represents the first attempt to quantify the costs of business liquidations. Three years ago we published a study concerning fifty-seven small-business chapter 7 and chapter 11 cases from Memphis, Tennessee.⁴

1. The figures in the text are approximations, extrapolated from the data in this paper and other sources. The most recent figures from the Administrative Office of U.S. Courts show 7494 chapter 7 business for the quarter ended December 31, 1996, or about 30,000 filings a year. We found median chapter 7 distributions to be \$65,615 (*see infra* Table 3) and the median chapter 7 to have costs of 2.1% of distributions (*see infra* Table 4, Panel A). Multiplying these numbers together would represent \$41,338,080 in total costs nationwide.

Using assets as a measuring point produces a slightly different estimate. We found the median chapter 7 case to report \$107,602 in total assets at filing (*see infra* Table 3) and to report costs of 1.1% of total assets (*see infra* Table 4, Panel A). Again using the figure of 30,000 business chapter 7 filings each year, these numbers would represent \$35,508,660 in total costs nationwide. We use median figures here because our analysis suggests they are more representative of the sample than the mean.

2. See NATIONAL BANKR. REVIEW COMM'N, FINAL REPORT—BANKRUPTCY: THE NEXT TWENTY YEARS (1997).

3. The law reviews have supported a cottage industry in bankruptcy theory. Any collection of materials will suffer from omission. A few examples include Barry Adler, *Finance's Theoretical Divide and the Proper Role of Insolvency rules*, 67 S. CAL. L. REV. 1107 (1994); Douglas G. Baird, *Forum Shopping, and Bankruptcy: A Reply to Warren*, 54 U. CHI. L. REV. 815 (1987); Michael Bradley & Michael Rosenzweig, *The Untenable Case for Chapter 11*, 101 YALE L.J. 1043 (1992); Donald R. Korobkin, *Contractarianism and the Normative Foundations of Bankruptcy Law*, 71 TEX. L. REV. 541 (1993); Ronald J. Mann, *Bankruptcy and the Entitlements of the Government: Whose Money Is It Anyway?*, 70 N.Y.U. L. REV. 993 (1995); Robert K. Rasmussen, *An Essay on Optimal Bankruptcy Rules and Social Justice*, 1994 U. ILL. L. REV. 1; Charles J. Tabb, *The Future of Chapter 11*, 44 S.C. L. REV. 791 (1993); Elizabeth Warren, *Bankruptcy Policymaking in the Real World*, 92 MICH. L. REV. 336 (1993); and Elizabeth Warren, *Bankruptcy Policy*, 54 U. CHI. L. REV. 775 (1987).

4. See generally Robert M. Lawless et al., *A Glimpse at Professional Fees and Other Direct Costs in Small Firm Bankruptcies*, 1994 U. ILL. L. REV. 847. Although Bluebook citation form "et al." deprives all our co-authors their due, we will not. We were joined in the pilot study by Professor Narayanan Jayaraman of the Georgia Institute of Technology and by Professor Anil K. Makhija of the University of Pittsburgh.

We lamented the generally poor empirical knowledge of small-business bankruptcy⁵ and sought to provide a glimpse at the direct costs involved with them. Unfortunately, the breadth of our study was limited due to insufficient resources. We were able only to examine cases from one judicial district.

The previous study evolved into a pilot project for a more intensive examination of small-business bankruptcies. This paper is the product of the larger examination. Here we provide a comprehensive look at direct costs associated with chapter 7 business bankruptcy liquidations by examining cases from five geographically dispersed judicial districts. A later paper will examine direct costs in chapter 11 reorganizations. Together, these papers will complete one side of the utility equation for business bankruptcies and provide a greater understanding of the direct costs of business bankruptcy.⁶

Comparisons between chapter 7 and chapter 11 costs must be done with extreme caution. Chapter 7 and chapter 11 are different proceedings with different goals: a chapter 7 bankruptcy results in liquidation, while a chapter 11 proceeding results in reorganization. One might observe, for example, that chapter 11 costs tend to be a lower percentage of distributions or assets administered than in chapter 7 cases.⁷ Such a finding hardly means that chapter 11 is more "efficient" than chapter 7 any more than one might say a less expensive criminal trial is more "efficient" than a costly civil proceeding. In both settings, the proceedings are not alternatives to each other; each proceeding may be appropriate in a given set of circumstances. Empirical data about costs alone does not allow us to draw conclusions about the relative efficiency of each proceeding.

To measure bankruptcy costs, one must determine a metric that allows for comparison between cases. For example, \$20,000 may be excessive to liquidate a small retail store, but the same amount may be insufficient to liquidate a large heavy-manufacturing firm. To account for firm size, this article standardizes costs by assets reported at filing and distributions to

5. See generally Teresa Sullivan et al., *The Use of Empirical Data in Formulating Bankruptcy Policy*, 50 LAW & CONTEMP. PROBS. 195 (1987).

6. The question of consumer chapter 7 bankruptcy costs is beyond the scope of this paper. For our study, we selected only those cases where the debtor had identified itself as a business filer. In many of these cases, individual debtors with a sole proprietorship filed with a significant amount of consumer debt and assets. Nevertheless, their filings were primarily characterized by business debt, and the debtor identified itself as a business filer. One must be cautious, therefore, in drawing conclusions about consumer bankruptcy costs from this paper; our findings might not hold for filers who identify themselves as consumers. Those interested in empirical data about consumer bankruptcies generally should consult the landmark study: TERESA A. SULLIVAN ET AL., *AS WE FORGIVE OUR DEBTORS: BANKRUPTCY AND CONSUMER CREDIT IN AMERICA* (1989).

7. See, e.g., Lawless, *supra* note 4, at 862, 863-68 (reporting average chapter 7 costs of 69% of distributions to nonsecured creditors versus 26% in chapter 11).

creditors. Thus, we report chapter 7 direct costs as 0.135 (13.5%) of distributions or as 0.061 (6.1%) of total assets. Where this article refers to costs, it generally denotes costs measured relative to size (either assets or distributions). However, this article may also at times describe direct costs in absolute terms (e.g. \$4609).

This article measures chapter 7 direct costs, which are essentially out-of-pocket administrative costs associated with chapter 7 proceedings. Examples of direct costs include attorneys' fees, filing fees, and other professional fees.

Of course, chapter 7 may also carry indirect costs such as the loss of revenues, the loss of investment opportunities, and the loss of goodwill. One can only observe indirect costs inferentially, however, such as by observing the loss of firm value that accompanies a business bankruptcy filing.⁸ Quantifying the indirect costs of small-business bankruptcy may be impossible because small businesses by definition lack a securities market that constantly revalues their equity. Nevertheless, those interested in assessing chapter 7 bankruptcy from a societal viewpoint must account for both its direct and indirect costs.

Many scholars have explored the direct costs of larger business bankruptcies.⁹ As informative as these studies are, they are like "looking under the streetlight."¹⁰ It is relatively easy to calculate bankruptcy costs incurred by large, publicly-traded companies, given the vast amounts of

8. See, e.g., Gregor Andrade & Steven N. Kaplan, *How Costly Is Financial (not Economic) Distress?: Evidence from Highly Leveraged Transactions that Became Distressed* (unpublished manuscript on file with author) (estimating financial distress costs to be 10-23% of firm value); David M. Cutler & Lawrence H. Summers, *The Costs of Conflict Resolution and Financial Distress: Evidence from the Texaco-Pennzoil Litigation*, 19 RAND J. ECON. 157, 161 (1988) (using decline in firm value to estimate that Texaco's bankruptcy cost the company \$697.5 million in indirect costs); see also Robert H. Mnookin & Robert B. Wilson, *Rational Bargaining and Market Efficiency: Understanding Pennzoil v. Texaco*, 75 VA. L. REV. 295 (1989) (exploring reasons for loss of value in Pennzoil/Texaco litigation).

9. See, e.g., Edward I. Altman, *A Further Empirical Investigation of the Bankruptcy Cost Question*, 39 J. FIN. 1067 (1984); James S. Ang et al., *The Administrative Costs of Corporate Bankruptcy: A Note*, 37 J. FIN. 219 (1982); Daryl M. Guffey & William T. Moore, *Direct Bankruptcy Costs: Evidence from the Trucking Industry*, 26 FIN. REV. 223 (1991); Jerold B. Warner, *Bankruptcy Costs: Some Evidence*, 32 J. FIN. 337 (1977); Lawrence A. Weiss, *Bankruptcy Resolutions: Direct Costs and Violations of Priority of Claims*, 27 J. FIN. ECON. 285 (1990); Michelle J. White, *Bankruptcy Costs and the New Bankruptcy Code*, 38 J. FIN. 477 (1983).

10. Every empiricist is familiar with the story of looking under the streetlight. The story begins with a person crouched under a streetlight. Another person approaches and asks what the first person is doing. "I am looking for my ring I dropped across the street," the first person responds. "Why," the second person asks, "are you looking here if you dropped the ring across the street?" To which the first person answers, "Because the light is better over here."

The tale is a cautionary one for empiricists. The light may be better under the streetlight, but the person in the story will never find her ring. Empiricists are often tempted to explore under the streetlight, to use data because it is readily available rather than the best available.

information readily available. However, as we have previously stated, these only provide us with studies of what is already largely known. Bankruptcy legislators and policymakers have little information about the typical business bankruptcy that occurs outside Wall Street's glare. Without engaging in an intensive review of court files, information about small- and medium-sized business bankruptcies has been unavailable.

Five additional parts follow this introduction. Part II describes the procedures we followed in gathering data. Part II also sets forth several assumptions we made when describing direct costs. Each time an assumption needed to be made, we took the assumption that produced the lowest bankruptcy costs. Accordingly, the data in this paper is a conservative estimate of chapter 7 costs. Part III describes the characteristics of the debtors and cases in our sample. In Part IV, discusses the actual cost measurements and quantifies the costs of chapter 7 business bankruptcy. Part V uses statistical analysis to identify determinants of chapter 7 costs. Part VI summarizes our major conclusions.

II. DATA GATHERING AND PROCEDURES

Our goal was to collect as much reliable data as possible within the constraints of our budget. Because the most accurate information would come only from reading actual bankruptcy case files, our data gathering methods were necessarily expensive and time intensive. We estimate that it cost approximately \$55 to identify, gather, and process the necessary documents from one bankruptcy case, for a total of \$5390 to gather the ninety-eight chapter 7 cases in the study. Each file took approximately two hours to process for a total of 196 person-hours.¹¹ These figures do not include overhead costs such as computer time, nor do they account for time spent planning and coordinating data gathering. Furthermore, these figures understate the true financial costs because several people generously donated their time or gave us discounts to help us in our research.

Despite the cost, it was important for our sample to be geographically diverse, both in terms of the law practice environment and physical location. We wanted to see if the results in our pilot study would hold across the

11. Although the amount of time spent on any one case file varied greatly depending on size and complexity, rough estimates of an average are possible. A research assistant at the law school spent approximately one hour making a preliminary review of each file and entering preliminary data figures. One of the authors then would examine each file for accuracy and consistency, a process that took approximately an average of forty-five minutes per chapter 7 file. Finally, a graduate assistant at the business school would spend another fifteen minutes per case file entering the figures into a computer.

country. Toward that end we identified six cities (in six different federal judicial districts) from which to pull case files: Atlanta (Northern District of Georgia), Boston (District of Massachusetts), Kansas City (Western District of Missouri), Peoria (Central District of Illinois), St. Louis (Eastern District of Missouri), and Seattle (Western District of Washington). These six locations included cases from small, medium, and large cities located in both urban and rural environments. In addition, the six locations were geographically dispersed throughout the country.

In each jurisdiction, we were able to gain the active cooperation of both the bankruptcy bench and the bankruptcy court clerk's office. We found the federal bankruptcy system's judges and court personnel more than willing to help our study and expand society's understanding of how the bankruptcy system operates. Our study would not have been possible without this assistance, for which we are most appreciative.

There were other, secondary factors that motivated our choice of cities. First, one or both of us had personal ties to all six cities, which allowed us to find and hire clerical assistance in each location. Second, we chose both Kansas City and St. Louis to provide information most relevant for the taxpayers that support our institution (the University of Missouri-Columbia) and our grant sponsor (the University of Missouri Research Board). Third, we chose cities where we were able to gain the cooperation of the local bankruptcy court. Although these other factors influenced our ultimate choice of cities, our primary goal was to maintain geographical diversity as discussed in the text.

Our decision to sample randomly from cases in specific geographic areas is generally consistent with the approach suggested by Professor Teresa Sullivan, a noted sociologist who has applied the statistical techniques of her discipline to the study of bankruptcy. As she notes, a true random sample would require the researchers to pull files simultaneously all over the country, a logistic and financial nightmare.¹² A realistic and attainable but methodologically sound compromise is to select a number of judicial districts for particular characteristics and pull a random sample from each district.¹³

Upon our request, each bankruptcy clerk's office generated a list of chapter 7 business cases that had closed within the past three years. We used the debtor's characterization of whether the case was "business" or "consumer." If the debtor checked the box on the petition indicating he, she, or it had primarily business debt, we considered the case to be a chapter 7

12. See Teresa Sullivan, *Methodological Realities: Social Science Methods and Business Reorganizations*, 72 WASH. U. L.Q. 1291, 1297 (1994).

13. See *id.* at 1297-1300.

business case. From the complete list of cases, we randomly generated a smaller list to screen cases that did not meet the criteria for inclusion in our study.

To be included in our study, a chapter 7 case must have been closed, physically-available at the clerk's office, and have at least one distribution to a secured or unsecured creditor. Although we would have preferred not to limit our study to files that were physically available, it was a constraint we had to accept given the resources available to us. Moreover, in our pilot study we used a similar technique and found no selection bias.¹⁴ We defined "distribution" quite broadly to mean any transfer of value from the bankruptcy estate to a creditor. For example, distributions include orders granting relief from the stay¹⁵ so a secured creditor may foreclose on its collateral. We also included any instance where the bankruptcy trustee abandoned assets of the estate with the apparent intent of allowing a secured creditor to foreclose its lien on the asset. In these cases, we valued the secured creditor's distribution at either the amount of the debt or the amount the debtor listed as the asset's value in the schedules, whichever was lower. By including cases where collateral was surrendered to secured creditors, our study includes many chapter 7 cases often excluded as "no-asset" cases.¹⁶

To identify cases meeting our criteria, we used the Public Access to Court Electronic Records ("PACER") system. The PACER system allowed us remote access to bankruptcy court dockets from our own desktop. Unfortunately, the historical PACER records in Peoria contained only case

14. See Lawless, *supra* note 4, at 853 & n.19 (finding no selection bias based on interviews with court personnel and on statistical tests).

15. Upon the filing of a bankruptcy petition, the "automatic stay" comes into effect. See 11 U.S.C. § 362(a) (1994). Although a number of detailed statutory provisions define and limit the automatic stay's scope, generally the stay prohibits anyone from taking an action adverse to the debtor's interest. The automatic stay essentially is the equivalent of a court injunction that comes into effect "automatically" upon the filing of a bankruptcy petition. For example, the automatic stay would prohibit a creditor from collecting a prepetition debt or from foreclosing on collateral. Under certain circumstances, set forth in 11 U.S.C. § 362(d), a creditor may move for relief from the automatic stay, a procedure known as "lifting the stay." A classic example occurs when a secured creditor receives relief from the stay to foreclose on collateral that is depreciating in value.

16. See, e.g., GENERAL ACCOUNTING OFFICE, BANKRUPTCY ADMINISTRATION: CASE RECEIPTS PAID TO CREDITORS AND PROFESSIONALS 1-2 & n.3 (1994) (counting only "asset cases," defined as cases in which there are proceeds from nonexempt assets to distribute) [hereinafter GAO REPORT].

Because of the differences in the data selection between our study and this GAO study, comparisons must be made with caution. For example, the GAO found that payments to professionals averaged 28.1% of all disbursements paid in chapter 7 asset cases. See *id.* at 40 (table III.3). For our cases, we report a figure of 13.5%. See *infra* Table Four. These figures are not inconsistent. Our figure compares bankruptcy costs to all distributions, including secured creditor distributions, but the GAO only included distributions to unsecured creditors and professionals. In other words, our denominator includes things not present in the GAO denominator.

descriptions, as opposed to full docket information. Faced with the prospect of several nights in Peoria and expensive search costs, we decided it was most prudent to drop Peoria from the chapter 7 portion of our study. Such cost-benefit tradeoffs are inevitable in empirical work. The resources we would have spent in Peoria may have jeopardized other portions of our chapter 7 and chapter 11 study. In Seattle, PACER identified only eighteen cases that met our selection criteria.¹⁷ Consequently, there were ninety-eight remaining case files from five judicial districts to study.

We contracted for clerical help in each city, with the exception of Kansas City where we did the work ourselves. As we directed, our assistant sent us photocopies of documents that we identified from the electronic case docket for each case. Then, using the docket and the photocopies we would cull data for entry onto five pages of forms, a research assistant completed the initial data entry. One of the authors then reviewed each file for accuracy and consistency. Subsequently a business school graduate student entered the data into a computer.

III. THE CASES AND THE DEBTORS

Our selection methods resulted in a diverse and representative sample of chapter 7 cases. The sample characteristics are described in Table One. The sample is distributed across five different districts with a reasonable geographical dispersion. Both coasts are represented as well as the nation's midsection. With the exception of Seattle, an equal number of cases are drawn from each district. Within the constraints of our budget, we avoided any regional bias that may be present in the magnitude of direct costs.

SAMPLE CHARACTERISTICS

Table One

A. Geographical Distribution of the Sample

<u>District</u>	<u>Number of Cases</u>
Atlanta	20
Boston	20
Kansas City	20
Seattle	18
St. Louis	20

17. Periodically, each bankruptcy court ships its closed files to a federal archives warehouse. The Seattle bankruptcy court made such a shipment shortly before we contacted them. Consequently, when we conducted our PACER analysis in Seattle, there was a smaller list of cases from which to select.

B. Temporal Distribution of the Sample

<u>Year</u>	<u>Number of Cases</u>	<u>Cumulative Number</u>	<u>Percent</u>	<u>Cumulative Percent</u>
1991	1	1	1.0	1.0
1992	30	31	30.6	31.6
1993	46	77	46.9	78.6
1994	17	94	17.3	95.9
1995	4	98	4.1	100.0

C. Days Spent in Bankruptcy: A District Comparison

<u>District</u>	<u>Mean</u>	<u>Median</u>	<u>Maximum</u>	<u>Minimum</u>
All Districts	392	335	1146	91
Atlanta	313	176	829	100
Boston	378	353	785	110
Kansas City	324	268	733	91
Seattle	440	468	822	119
St. Louis	507	369	1146	98

F-stat: 1.880 (0.101)

Chi-Square: 5.955 (0.202)

Table One also shows the temporal distribution of our sample. The sample contains cases from five years, 1991-95. The majority of our sample, however, is drawn from three years, 1992-94. Because our sample contains data from several different years, it minimizes the possibility that our findings are attributable to idiosyncratic factors of a specific year.¹⁸ Moreover, the years in the sample are not characterized by any unusual economic activity (e.g., recession) or interest rate behavior (e.g., high inflation). Although one must be cautious about drawing generalized conclusions based on a sample, the geographic and temporal dispersion of our sample minimizes the possibility that our results are based on sampling idiosyncracies. We ran tests on our data and found no time-series effect. In

18. Only four cases in the sample commenced after the enactment of the Bankruptcy Reform Act of 1994, Pub. L. No. 103-394, 108 Stat. 4106. Although the 1994 act expanded the "reasonably necessary" test of Bankruptcy Code § 503(b)(1) and required courts to consider a multifactor test before granting professional fees from the bankruptcy estate, this amendment did not apply to cases pending at the time of the enactment. See Bankruptcy Reform Act of 1994, Pub. L. No. 103-394, §§ 224, 702, 108 Stat. 4106, 4130-31, 4150. Before awarding professional fees, bankruptcy courts now must consider a host of factors including the time spent on professional services, the amount of the requested rates, and the complexity, importance, and nature of the problem, issue, or task addressed. See 11 U.S.C. § 503(b)(1) to (6) (1994).

other words, we did not find statistically significant differences for our findings based on the year of each case.

As detailed in Panel C of Table One, we also collected data on time spent in bankruptcy. For chapter 7, we measured time in bankruptcy from the filing date to the closing date. A chapter 7 case is closed after the estate is fully administered and the court discharges the trustee.¹⁹ In four cases from our sample, the estate assets had been administered, but there had not been a formal order “closing” the case; hence we had no closing date. For the other ninety-four cases, we found a median time in chapter 7 of 335 days. We did find some variation between districts: Atlanta had the shortest median time in chapter 7 of 176 days, compared with Seattle which had the longest median time of 468 days. Although the variation in the length of bankruptcy across the five districts displays statistical significance near the 10% level when measured by mean, the median differences are not statistically significant.²⁰ Therefore, we cannot make any conclusive statements about cross-district variation for length of time in bankruptcy.²¹ (Later in this paper, we explore the relationship between time in bankruptcy and bankruptcy costs.²²)

Turning from cases to debtors, Table Two presents mean and median values for four characteristics of our debtors. First, total assets and business assets measure the size of the debtors contained in our sample. These figures were taken from schedules that accompanied each bankruptcy petition. Many of the debtors in our sample were individuals with sole proprietorships, as opposed to legal entities such as partnerships or corporations, and scheduled assets of an obviously personal/consumer nature. The figures for “business assets” exclude these personal assets and thus only represent the assets used in the business.

19. See 11 U.S.C. § 350(a) (1994); see also FED. R. BANKR. P. 5009 (if no objection is filed within 30 days after a chapter 7 trustee has filed a final report and account and has certified the estate is closed, the court shall presume the estate has been fully administered).

20. Table One, Panel C reports an F-statistic and the Chi-square statistic for time in bankruptcy. The F-statistic tests for simultaneous equality of means and the Chi-square tests for equality of medians. Both statistics are explained in more detail *infra* at notes 29 and 43. The F-statistic measure is 1.880, which represents statistical significance at the 10.1% level. The Chi-square statistic is 5.955, which does not represent statistical significance at standard levels.

21. For chapter 7 asset cases, the GAO found a median time in bankruptcy of between 2 and 3 years. See GAO REPORT, *supra* note 16, at 44. The GAO’s focus on chapter 7 asset cases likely explains the difference. By definition, these cases require collection and liquidation of the debtor’s assets and, hence, should be more complex and lengthy.

22. See *infra* note 56 and accompanying text.

DEBTOR PROFILE BY DISTRICT
Table Two
(means with medians in parentheses)

<u>Characteristic</u>	<u>All</u> <u>Districts</u>	<u>Atlanta</u>	<u>Boston</u>	<u>Kansas</u> <u>City</u>	<u>Seattle</u>	<u>St. Louis</u>
Total assets	\$211,877 (\$107,602)	\$257,863 (\$96,400)	\$270,535 (\$190,024)	\$81,762 (\$61,455)	\$115,832 (\$64,782)	\$319,580 (\$127,330)
Business assets	\$153,880 (\$42,357)	\$198,311 (\$21,000)	\$164,418 (\$68,154)	\$60,652 (\$30,900)	\$71,893 (\$30,361)	\$263,486 (\$75,752)
Total debt /total assets	5.825 (2.160)	4.992 (1.915)	5.561 (2.379)	6.329 (2.733)	9.445 (1.605)	3.311 (2.333)
Current assets ²³ /total assets	(14.3%) (0.8%)	(17.8%) (0.2%)	(1.2%) (0.9%)	(19.2%) (3.5%)	(22.5%) (4.5%)	(11.6%) (0.8%)

DISTRIBUTIONS BY DISTRICT
Table Three
(means with medians in parentheses)

<u>Distribution</u> <u>Measure</u>	<u>All</u> <u>Districts</u>	<u>Atlanta</u>	<u>Boston</u>	<u>Kansas</u> <u>City</u>	<u>Seattle</u>	<u>St. Louis</u>
Total distributions	\$107,994 (\$65,615)	\$96,303 (\$70,749)	\$203,394 (\$150,080)	\$169,055 (\$43,041)	\$65,858 (\$24,124)	\$70,377 (\$45,729)
Unsecured distributions/ Total distributions	4.6% (0.0%)	4.0% (0.0%)	0.9% (0.0%)	2.6% (0.0%)	8.1% (0.0%)	7.7% (0.0%)

Although the size of debtors in our sample varied considerably, the figures suggest that our sample is representative of typical business bankruptcies. Overall, the median total asset size in our sample was \$107,602. The median debtor deployed \$42,357 of these assets in their business enterprise.²⁴ Based on median figures, the largest cases occurred in

23. "Current assets" is a well-known accounting concept. A "current asset" is any asset that will be used within a year. Essentially, current assets are a firm's liquid assets. Examples of current assets are cash, short-term invested securities, accounts receivables, and inventory. When classifying a debtor's assets, we used these well-known definitions.

24. Outliers for asset size in the sample render the median (rather than mean) figures more meaningful. A "mean" is merely the average for a sample, while the "median" is the sample's

Boston, although St. Louis debtors reported slightly higher business assets. The sample met our goal of quantifying costs for the typical bankruptcy case.

Distributions to creditors are another measurement of case size. As Table Three shows, our average (median) case distributed \$107,994 (\$65,615) to creditors. Because value can be transferred to creditors through many devices beyond outright cash payments, we defined "distributions" quite broadly. Thus our measurement of distributions includes transfers to secured creditors through devices such as abandonment²⁵ or relief from the automatic stay. If one attempts to measure all distributions in a bankruptcy case, one must include these categories of distributions to secured creditors. Otherwise, the estimate of distributions will be too low. Unfortunately, the only way to include these distributions is to scour case files for their occurrence and, even then, estimates have to be made.²⁶ As we have done throughout this paper, when we made an estimate of asset value, we used the estimate that produced the most conservative (i.e., the lowest) measure of bankruptcy costs relative to size.

In most cases, nothing was distributed to unsecured creditors. A few outliers pulled each district's average to between one and eight percent, but cases with unsecured distributions were by far the exception. The median distribution to unsecured creditors in each district was zero. In the vast majority of our chapter 7 business cases, the bankrupt firms had nothing left over after paying the costs of administering the case and distributing collateral to secured creditors. The prototype chapter 7 is the trustee's marshaling and sale of assets to benefit all creditors not holding security.²⁷ The data suggest this prototype is more fantasy than fact.

midpoint. An "outlier" is a point in the sample that falls far from other points in the sample, thereby distorting the mean. For example, for a data set consisting of the numbers 1, 2, 3, 4, and 90, the mean is 20, but the median is 3. The median of 3 is a better description of the data set than the mean of 20. In this data set, the number "90" would be described as an outlier.

25. Technically, a chapter 7 trustee abandons assets from the bankruptcy estate to the debtor's personal holdings. *See* 3 COLLIER ON BANKRUPTCY ¶ 554.02[3] (Lawrence P. King, ed., 15th ed. 1996); *see also* 11 U.S.C. § 554 (1994) (setting out procedures for abandonment). Despite the technicality, abandonment often serves to surrender collateral to secured creditors. When an abandonment was a transparent transfer to a secured creditor, we counted the abandonment as a distribution to a secured creditor though the asset technically was going to be in the hands of the debtor for a short period.

26. For consistency, we followed a set of rules designed to ensure the highest possible estimate of distributions and hence the most conservative estimate of bankruptcy costs. For transfers to secured creditors, we assumed the property transferred was equal in value to the entire amount of the debt owed.

27. Descriptions of chapter 7 in this fashion abound in the textbooks. *See, e.g.*, 1 DAVID G. EPSTEIN ET AL., BANKRUPTCY § 1-7 (1992); ROBERT L. JORDAN & WILLIAM D. WARREN, BANKRUPTCY 23-24 (4th ed. 1995); ELIZABETH WARREN & JAY L. WESTBROOK, THE LAW OF DEBTORS AND CREDITORS: TEXT, CASES, AND PROBLEMS 245-46 (3d ed. 1996).

The leverage (total debt/total assets) and liquidity (current assets/total assets) figures in Table Two indicate the debtors' financial positions at the time of filing. Not surprisingly, the debtors reported horrible financial conditions. The firms averaged five, six, and up to nine times as much debt as assets. Moreover, many of these debtors were illiquid, with a median debtor having less than 1% of the firm's assets in liquid form. The lower median values indicate that the mean values in each district were driven by outliers, but both values are instructive here. Our sample contained debtors in financial conditions that ranged from the horrible to the gruesome.

IV. COST MEASUREMENTS

Table Four summarizes the cost measurements that we found. As noted in the Introduction, we needed to account for firm size. To do so, we standardized costs against (1) the total assets reported by the debtor at filing (Table Two) and (2) the total distributions to all creditors (Table Three). We report costs as a percentage of these figures. In addition to controlling for firm size, reporting costs as a percentage also has the positive effect of obviating the need to restate costs in constant dollars to account for inflation.²⁸

28. Technically, one might restate all dollar figures into constant terms, but the complexity of such a technique outweighs its benefits. For example, if one standardizes bankruptcy costs by total assets at filing, one might restate the costs in terms of constant dollars as of the date of filing. If the filing were, for example, on January 1, and the if the costs were paid on March 1, one would need to restate the March 1 dollars into January 1 constant dollars.

Such short-term restating of dollar figures is unnecessary because few people would consider the value of a dollar to have significantly depreciated over a two month period. Given that we found a median time-in-bankruptcy of under a year, *see supra* Table One (reporting a figure of 335 days), our study would have benefited only marginally from the short-term restating of dollar figures.

AGGREGATE AND BY-DISTRICT CHAPTER 7 COSTS
Table 4²⁹

A. Cost Measures for the Aggregate Sample

<u>Cost Measure</u>	<u>Mean</u>	<u>Median</u>	<u>Max.</u>	<u>Min.</u>
Total costs/total assets	6.1%	1.1%	96.1%	0.0%
Total costs/total distributions	13.5%	2.1%	100.0%	0.2%
Attorneys' fees/total assets	3.8%	0.7%	69.9%	0.0%
Attorneys' fees/total distributions	10.5%	1.5%	87.3%	0.0%

B. Total costs/total assets—By district

	<u>Mean</u>	<u>Median</u>	<u>Max.</u>	<u>Min.</u>
Atlanta	7.8%	1.3%	55.1%	0.2%
Boston	2.4%	0.6%	31.6%	0.2%
Kansas City	7.4%	1.7%	75.5%	0.0%
Seattle	10.5%	2.7%	96.1%	0.2%
St. Louis	2.5%	0.8%	11.8%	0.4%
		F-stat: 0.980 (0.423)	Chi-square: 9.953 (0.041)	

29. The F-statistic in this table is a measurement of the statistical significance of the variance in the *means* between the districts. Essentially, the F-statistic tests the hypothesis that the means are equal. If the F-statistic is high enough, we can reject the notion the means are equal. Instead, with a given level of statistical confidence, we can conclude that the variance in the means is not due to random chance. The higher the F-statistic, the higher the level of statistical significance for the difference between the means. The level of statistical significance is reported in parentheses below each F-statistic. For example, the F-statistic for total costs/total assets was 0.980, meaning the differences between the means for this measurement among districts was not very significant (only 0.423).

The Chi-square statistic is a similar measure of statistical significance between the *medians* for each district. Again, the Chi-square tests the hypothesis that the medians are equal. With a high enough Chi-square, we can reject the hypothesis that the medians are equal. The higher the Chi-square statistic, the higher the level of statistical significance for the difference between the medians. The level of statistical significance is reported in parentheses below each Chi-square score. For example, the Chi-square score for total costs/total assets is 9.953, meaning that the differences between the median among districts is significant, at the 0.041 level. In other words, there is less than a 4.1% chance this result occurred due to random chance. Most empiricists interpret results at anything less than the 0.05 level to be statistically insignificant. For more information about the F-statistic and the Chi-square figure, see *supra* note 43.

C. Total costs/total distributions—By district

	<u>Mean</u>	<u>Median</u>	<u>Max.</u>	<u>Min.</u>
Atlanta	20.1%	2.7%	91.6%	0.4%
Boston	3.4%	0.7%	24.2%	0.3%
Kansas City	8.3%	2.2%	66.9%	0.2%
Seattle	24.4%	8.1%	100.0%	0.4%
St. Louis	12.2%	6.6%	61.9%	0.6%
		F-stat 2.530 (0.046)	Chi-square 14.194 (0.006)	

D. Attorneys' fees/total assets—By district

	<u>Mean</u>	<u>Median</u>	<u>Max.</u>	<u>Min.</u>
Atlanta	5.1%	1.1%	45.1%	0.1%
Boston	2.1%	0.4%	30.8%	0.0%
Kansas City	5.3%	1.1%	69.9%	0.0%
Seattle	4.8%	1.9%	22.9%	0.1%
St. Louis	1.9%	0.8%	9.1%	0.2%
		F-stat 0.570 (0.683)	Chi-square 10.718 (0.029)	

E. Attorneys' fees/total distributions—By district

	<u>Mean</u>	<u>Median</u>	<u>Max.</u>	<u>Min.</u>
Atlanta	15.8%	1.9%	86.0%	0.2%
Boston	2.7%	0.6%	23.6%	0.0%
Kansas City	7.1%	1.7%	61.9%	0.0%
Seattle	17.8%	5.6%	87.3%	0.2%
St. Louis	9.8%	5.3%	45.1%	0.4%
		F-stat 1.900 (0.118)	Chi-square 14.674 (0.005)	

We found that chapter 7 business bankruptcy direct costs averaged \$4609, with a median figure of \$1150. These costs include fees paid to professionals (e.g., attorneys, appraisers, auctioneers) out of the chapter 7 estate, the chapter 7 trustee's compensation, filing fees, and any other direct costs apparent from the court record. As Table Four, Panel A reveals, these costs averaged 13.5% of all distributions, with a median figure of 2.1%. Measured alternatively, these costs represented an average (median) of 6.1% (1.1%) of the debtor's total assets at filing.

We also isolated attorneys' fees as a separate cost component. For our chapter 7 cases, these attorneys' fees included those paid to debtor's

counsel³⁰ and those for the chapter 7 trustee's attorney. Attorneys' fees averaged \$3630 across our sample, with a median figure of \$950. As Table 4, Panel A shows, these figures averaged 10.5% of all distributions, with a median figure of 1.5%. Measured alternatively, attorneys' fees represented an average (median) of 3.8% (0.7%) of the debtor's total assets at filing.

Great variance is demonstrated by the vast disparity between means and medians for our cost figures. The standard deviations bear this out. For example total costs/total distributions had a mean of 13.5%, but a standard deviation of 23.9%. Attorneys' fees/total distributions had a mean of 10.4%, but a standard deviation of 19.9%. In three-quarters of the cases, both total costs and attorneys' fees were less than 12% of total distributions. Thus, the cases where chapter 7 costs tend toward the extreme are relatively uncommon.

The variance in our data suggest that bankruptcy costs are not unreasonably high in all chapter 7 business cases. Bankruptcy lawmakers should give courts discretion to control costs in individual cases rather than legislate bright-line rules that would apply to all chapter 7 business bankruptcies. Rules restricting bankruptcy costs would be overly broad for more than 75% of chapter 7 business bankruptcies where costs are only 1.0 to 2.0% of the business's assets and distributions.

The current bankruptcy rules more or less adopt this approach. For example, in approving fee petitions, bankruptcy courts are directed to award "reasonable" compensation which reflects such factors as whether the professional services were "necessary" or "beneficial" to the bankruptcy estate.³¹ Trustee compensation is capped by statutorily-determined percentages based on the distributions to creditors; however, within these caps, the bankruptcy court is enjoined to award a fee that is reasonable.³² These general rules give bankruptcy courts discretion to deal with individualized cases of fee abuse as our data suggest is necessary.

We calculated other cost figures not included in Table Four. Nonattorney professional fees averaged \$583; the median figure was zero, indicating that

30. We included the debtor's attorneys fees regardless of whether they were paid before or after the case was filed. Even if the debtor firm did not pay its attorneys' fees out of the bankruptcy estate after filing, the amount of these fees represents value that otherwise could have gone to pay creditors. Indeed, debtors must report precisely the amount of money they have prepaid to any attorney in connection with their bankruptcy case. *See* FED. R. BANKR. P. OFFICIAL FORM NO. 7 (listing Statement of Financial Affairs and question nine where debtor must report "all payments made . . . to any persons . . . for consultation concerning . . . relief under the bankruptcy law or preparation of a petition in bankruptcy").

31. *See* 11 U.S.C. § 330(a) (1994); *see also supra* note 18 (discussing factors courts are to consider in awarding attorneys' fees).

32. *See* 11 U.S.C. § 326(a) (1994).

less than half the chapter 7 cases analyzed had nonattorney professional fees. Nonattorney professional fees averaged 1.4% of both total assets at filing and total distributions. All other direct costs, such as filing fees and trustee fees, averaged \$370 with a median figure of \$160,³³ representing approximately 1.0% of both total assets at filing and total distributions.

We also looked to see if cases converted to chapter 7 exhibited different cost characteristics. Although we had twenty-three cases in our sample (23.6% of our overall sample) that had been converted to chapter 7 from other bankruptcy chapters, we found no statistically-significant differences between the costs of these cases and the costs in nonconverted cases.

Because of more thorough data-gathering techniques, our latest figures differ from those reported in the pilot study. In that study, we found that as a percentage of total distributions total costs averaged 66.38% and total professional attorneys' fees averaged 57.67%.³⁴ These figures contrast sharply with the measurements of 13.5% and 10.5% reported in this study.

This variation is explained entirely by our data-gathering techniques. In the pilot study, we used chapter 7 final reports to estimate distributions. Most distributions to secured creditors, however, did not appear on the final report because they came through stay relief, asset abandonments, or similar devices. In the pilot study, chapter 7 costs were overestimated when measured against total distributions.³⁵ Indeed, this was one of the reasons we omitted secured creditor distributions from several of our cost measurements in the pilot study.³⁶ With the resources available in this study, we were able to bypass the final report and review actual court records for an estimate of secured creditor distributions. Hence, the figures reported in this paper contain more accurate information about distributions to secured creditors.

One finding of the pilot study was that very few assets reached the unsecured creditors. Our latest findings are consistent with this conclusion. When measured as a percentage of distributions solely to "nonsecured creditors,"³⁷ bankruptcy costs averaged 92.1%, with a median figure of

33. To gain a sense of these figures, consider that for the chapter 7 cases in our study, the filing fee ranged from \$120 to \$130. See 28 U.S.C. § 1930 (1994). In most of these cases, a chapter 7 trustee fee of \$45 was paid from the filing fee. See 11 U.S.C. § 330(b)(1) (1994). Thus, a median figure of \$160 suggests that, in many cases, there were few "other costs" beyond the filing fee.

34. See Lawless, *supra* note 4, at 863-64.

35. See *id.* at 859-61 (discussing limitations on secured creditor distributions as a cost measurement).

36. See *id.* at 861-62.

37. We use the term "nonsecured" to describe both administrative claimants and traditional unsecured creditors. Because secured creditors are entitled to look to their collateral in a chapter 7 case, the amount paid to administrative claimants and unsecured creditors together represents the amount available to pay unsecured creditors.

100.0%. This means that after removing the collateral of any secured creditor and any exempt property belonging to the debtor from the bankruptcy estate, an average of 92 cents of every dollar were applied to bankruptcy costs. In over 90% of our cases, the only distributions to nonsecured creditors were used to pay the costs of the proceeding. We found similarly high percentages in the pilot study.³⁸

Most bankruptcy professionals will not be shocked to hear that chapter 7 business bankruptcies do not typically involve distributions to unsecured creditors. A 1994 GAO report studying both business and consumer chapter 7 bankruptcies found that only approximately 5% of these cases generated some receipts for creditors.³⁹

Before the 1978 enactment of the current Bankruptcy Code, many argued that the judicially-oriented bankruptcy system, where every case goes to a tribunal, should be converted to an administratively-oriented system in which most or all cases would go to an administrative agency.⁴⁰ Routine cases would be routed to the agency, while more complex cases might be sent to the courts.

Our data suggests that little has changed since these proposals were initially made. A vast majority of the chapter 7 bankruptcies we studied involved little or no distribution to creditors. The debtor gained a discharge with no other consequences (assuming the debtor was an individual eligible for discharge).⁴¹

The question still remains whether administration of routine bankruptcy cases should be removed from the judicial branch in favor of the executive branch. One author of this paper has criticized the judicial branch as a body institutionally incapable of creating coherent bankruptcy law at both a doctrinal and policy level.⁴² If the judicial branch cannot create logical bankruptcy law and is instead incurring needless expense by handling routine cases, the case for removing some of the federal courts' bankruptcy

38. See Lawless, *supra* note 4, at 863 (reporting that chapter 7 costs averaged 69.08% of all distributions to nonsecured creditors with a median figure of 98.75%).

39. See GAO REPORT, *supra* note 16, at 1-2.

40. See COMMISSION ON BANKRUPTCY LAWS OF THE UNITED STATES, REPORT, H.R. DOC. NO. 93-137, pt. I, at ch. 5 (1973), reprinted in COLLIER ON BANKRUPTCY APP. B (Lawrence P. King, ed., 15th ed. 1996); DAVID T. STANLEY & MARJORIE GIRTH, BANKRUPTCY: PROBLEM, PROCESS, REFORM 199-204 (1971).

41. The chapter 7 discharge is limited to individuals. See 11 U.S.C. § 727(a)(1) (1994).

42. See Robert M. Lawless & Dylan L. Murray, *An Empirical Analysis of Bankruptcy Certiorari*, 62 MO. L. REV. 101 (1997); Robert M. Lawless, *Legisprudence Through a Bankruptcy Lens: A Study in the Supreme Court's Bankruptcy Cases*, 47 SYRACUSE L. REV. 1 (1996); Charles J. Tabb & Robert M. Lawless, *Of Commas, Gerunds, and Conjunctions: The Bankruptcy Jurisprudence of the Rehnquist Court*, 42 SYRACUSE L. REV. 823 (1991).

jurisdiction becomes even more compelling.

In addition to the aggregate figures, Table Four, Panels B through E, presents a cross-district comparison of bankruptcy costs. We found substantial cross-district variation in chapter 7 costs. Specifically, we found that the direct costs of liquidation were lower in Boston relative to the other districts in our sample. The variation between Boston and the other districts was statistically significant based on 110 separate tests run on 10 different variables.⁴³ No other district had statistically-significant variation from the other districts. Therefore, despite the other variation in Table Four, Panels B through E, we cannot say that one district was “higher” than the other districts; we can say only that Boston was the lowest.

Across all four cost measurements, the Boston cases consistently reported the lowest mean and median figures. The one exception was for attorneys’ fees as a percentage of total assets (Table Four, Panel D). For this figure the Boston cases averaged slightly more than the St. Louis cases, but the F-statistic instructs us that the variations in these means are not statistically significant. Interestingly, the difference in median figures for this cost measurement (i.e., attorneys’ fees), where Boston does report the lowest figures, is statistically significant. Perhaps the most noteworthy difference between Boston and the other four jurisdictions is demonstrated by total costs as a percentage of total distributions (Table Four, Panel C). Boston reports a median figure of under 1.0%, three times less than the next closest district. Similarly, Boston’s low figures for attorneys’ fees as a percentage of distributions (median figure of 0.6%) suggests that low attorneys’ fees may be the reason for the difference.

The finding of cross-district variation supplements the existing empirical literature reporting substantial variations in legal cultures across different bankruptcy courts.⁴⁴ Nevertheless, the relatively *lower* Boston costs will

43. For the sake of brevity, these tests are not reported in this paper. For cross-district variation, we tested for statistical significance in the variation of median values using the Kruskal-Wallis test of simultaneous equality. This test produces the Chi-squared statistic reported in Table Four. The higher the Chi-squared score, the higher the level of statistical significance. We tested for statistical significance in the variation of mean values using a standard F-statistic. Again, the higher the F-statistic, the higher the level of statistical significance. In Table Four, we report the level of statistical significance below each statistic. Thus, in Panel C (total costs/total distributions), we report an F-statistic of 2.530 which means statistical significance at the 4.6% level, and we report a Chi-squared score of 14.194, which means statistical significance at the 0.6% level.

44. See Jean Braucher, *Lawyers and Consumer Bankruptcies*, 67 AM. BANKR. L.J. 501 (1993) (documenting how local legal culture and attorneys can affect chapter choice for bankrupt debtors); Teresa Sullivan et al., *The Persistence of Local Legal Culture: Twenty Years of Evidence from the Federal Bankruptcy Courts*, 17 HARV. J.L. & PUB. POL’Y 801, *passim* (1994) (describing how, despite the existence of one governing statute, practices in federal bankruptcy courts vary widely from jurisdiction to jurisdiction).

surprise many, as Boston does not have a reputation for inexpensive counsel. Rather, Boston's hourly rates are among the highest in the nation. It must be remembered that the reported figures do not represent absolute costs but represent costs relative to the size of the estate. Essentially our figures demonstrate that Boston processes more assets and distributions through the bankruptcy system per dollar of costs than other districts.

Still, the question remains: why Boston? The explanation likely lies in the legal-services market for chapter 7 bankruptcies. These cases are routinized in many law offices, with a single attorney handling numerous chapter 7 cases at once.⁴⁵ Many attorneys bill chapter 7 cases on a project basis, charging a flat fee for shepherding a routine case through the system. In such a competitive environment, market forces would drive down the costs of legal services. In fact, the Boston legal market was extremely competitive during the time period of our study,⁴⁶ and it is likely that this competition forced chapter 7 costs down relative to other markets.

The finding of cross-district variation reinforces our earlier comments about the need for bankruptcy policymakers to imbue courts with discretion to control bankruptcy costs.⁴⁷ Because bankruptcy costs may vary from district to district, any attempt to control them at a national level is doomed to be both under- and over-inclusive. Again, Congress has adopted the correct course in Bankruptcy Code section 330 by allowing judicial discretion to control high bankruptcy costs in individual cases.⁴⁸

V. ANALYSIS OF THE COSTS

A. Scale Effect

There is some evidence of a scale effect on bankruptcy direct costs. A scale effect would occur if the proportion of direct costs were inversely related to the size of the firm. In other words, a scale effect occurs if as firms grow in size the direct costs of bankruptcy decrease as a percentage of firm

45. See, e.g., Harvey Berkman, *Kaplan Halves Credit Cards to Total Clients' Consumer Debts*, 16 CHI. LAW., March 1993, at 4 (describing a Chicago bankruptcy attorney who helps 1000 clients annually through chapter 7 and chapter 13 and who bills for chapter 7 on a project-basis at \$800-\$900 per case); see also Sullivan et al., *supra* note 44, at 849-51 (describing several law offices that serve as bankruptcy "mills" and earn profits by processing many chapter 13 petitions for relatively low costs and low profit margins).

46. See, e.g., Dick Dahl, *With So Many Lawyers, What Will They All Do?*, MASS. LAW. WKLY., July 20, 1992, at 25 (reporting that in 1992 Massachusetts had one lawyer for every 150 residents, nearly twice the national rate).

47. See *supra* note 31 and accompanying text.

48. See *supra* note 31 and accompanying text.

size. The existence of a scale effect often is due to the presence of fixed costs that can be amortized over larger volumes and thus reduce total percentage costs. Others have found a scale effect to bankruptcy costs, including costs in bankruptcy liquidations, although the data have not been conclusive.⁴⁹ Our pilot study generally failed to find the existence of a scale effect for chapter 7 bankruptcy.⁵⁰

To test for the existence of a scale effect, we used the quadratic and logarithmic regression models suggested by other scholars.⁵¹ For each model, we estimated eight separate regressions. We used each of our four measures for direct costs and our two measures for firm size. Specifically, we measured firm size by both total assets and total liabilities.

REGRESSION ESTIMATES FOR A TEST OF ECONOMIES OF SCALE IN CHAPTER 7 COSTS
Table Five

A. Quadratic Function Estimates

$$\text{cost} = \beta_0 + \beta_1 * \text{size} + \beta_2 * \text{size}^2$$

Cost Measure	Size Measure	β_0	β_1	β_2
Total costs/total assets	Total assets	0.112***	-0.000**	0.000**
	Total liabilities	0.067***	-0.000	0.000
Total costs/total distributions	Total assets	0.183***	-0.000*	0.000
	Total liabilities	0.138***	-0.000	0.000
Attorneys' fees/total assets	Total assets	0.067***	-0.000***	0.000***
	Total liabilities	0.039***	-0.000	0.000
Attorneys' fees/total distributions	Total assets	0.136***	-0.000	0.000
	Total liabilities	0.103***	0.000	0.000

49. Professor Warner found some evidence of a scale effect in his study of bankruptcy costs, *see* Warner, *supra* note 9, at 79, but this evidence was based on a small sample of 11 firms restricted to the railroad industry. It was not clear whether his conclusions could be applied to bankrupt firms in other industries. Similarly, Professors Guffey & Moore found evidence of a scale effect but their sample was limited to the trucking industry. *See* Guffey & Moore, *supra* note 9, at 233. Professors Ang, Chua, and McConnell found a scale effect to bankruptcy costs, but their results were based on a sample from one judicial district. *See* Ang, *supra* note 9, at 223-24.

In his comprehensive study of bankruptcy costs of publicly-traded companies generally, Professor Weiss found no evidence of a scale effect. *See* Weiss, *supra* note 9, at 288-90.

50. *See* Lawless, *supra* note 4, at 872-73.

51. *See, e.g.,* Ang, *supra* note 9, at 223; Weiss, *supra* note 9, at 290.

B. Logarithmic Function Estimates

$$\log(\text{cost}) = \beta_0 + \beta_1 \cdot \log(\text{size})$$

Cost Measure	Size Measure	β_0	β_1
Total costs/total assets	Total assets	3.815***	-0.695**
	Total liabilities	-1.337	-0.224
Total costs/total distributions	Total assets	0.279	-0.319**
	Total liabilities	-3.114	-0.024
Attorneys' fees/total assets	Total assets	3.578**	-0.692**
	Total liabilities	-3.252*	-0.092
Attorneys' fees/total distributions	Total assets	0.396	-0.343**
	Total liabilities	-5.009**	0.112

*** significant at the 1% level

** significant at the 5% level

* significant at the 10% level

Table Five, Panel A reports the results from the quadratic model for a test of economies of scale in bankruptcy costs. If there is a scale effect, the coefficients on the linear variable (β_1) should be positive and statistically significant, while the coefficients on the squared variable (β_2) should be negative and statistically significant. The coefficients, however, generally have signs opposite to that consistent with a scale effect and lack statistical significance. Thus the quadratic model fails to provide evidence of a scale effect in chapter 7 bankruptcy.

Panel B reports the results of the logarithmic model for a test of economies of scale. The presence of a scale effect requires that the coefficient on the logarithm of the size variable be statistically significant, and lie between 0 and 1. Our estimates, however, are uniformly negative and significant only for the asset measure of size.

When combined with the results from the quadratic model, the logarithmic model does not support the presence of a scale effect. Based on this finding, our pilot study, and other studies, we conclude that there are generally no economies of scale in direct costs for the everyday chapter 7. Economies of scale might be present in the rare instance of a large, publicly traded business chapter 7, but not in the mine-run chapter 7 case.

This conclusion finds support in the structure of the marketplace and legal regulation for chapter 7 costs. As mentioned before, many chapter 7

attorneys bill on a "project basis," meaning that they charge one flat fee regardless of the size of the case.⁵² Although billing on a "project basis" might initially seem to lead to the conclusion that a scale effect should be present, the size of the average chapter 7 case does not allow the scale effect to appear. As an economist might note, the average chapter 7 case falls on the "flat" portion of the cost curve. Perhaps in extremely large cases, an attorney might depart from project billing and charge a higher fee, but these exceptions apply only in cases larger than those in our sample.

Also, one component of chapter 7 costs is the trustee fee set by statute.⁵³ Until 1995, in cases with distributions over \$3000, the chapter 7 trustee fee was capped at 3%.⁵⁴ Because many of our cases took place prior to and during 1994, the 3% cap would mean the cases would not exhibit a scale effect for trustee's fees. Beginning with the passage of the Bankruptcy Reform Act of 1994, the 3% cap does not become effective until the case has \$1,000,000 in distributions.⁵⁵ Future researchers should test whether this new law will create a scale effect for chapter 7 cases.

Our finding that no scale effect exists, however, suggests that Congress acted soundly in 1994 when it lifted the 3% cap. By capping out trustee compensation at 3% for amounts over \$3000, the pre-1994 law essentially assumed that economies of scale began at that amount. Our research shows that economies do not exist at this amount and, indeed, do not start until much larger figures are reached.

B. Determinants of Bankruptcy Direct Costs

We used multiple regression methodology to examine the effect upon chapter 7 costs by the various case characteristics. A multiple regression allows us to test the nature and the strength of the relationship between an independent variable (a characteristic of the case) and a dependent variable (a cost measure). We estimated sixteen regressions, four for each of the four cost measures. The results are depicted in Table Six. Blank spaces indicate that a particular variable was not run in that regression. The sign of the coefficient for each variable indicates whether it is positively or negatively related with bankruptcy costs. The adjusted R^2 indicates the accuracy of fit for our model. For example, an adjusted R^2 of 0.17 tells us that our model explained 17% of the variation in the cost figure (i.e. the dependent variable)

52. See *supra* note 45 and accompanying text.

53. See 11 U.S.C. §§ 326, 330 (1994).

54. See 11 U.S.C. § 326(a) (1988).

55. See 11 U.S.C. § 326(a) (1994).

examined in that regression.

We identified six case characteristics that might have an effect on bankruptcy costs. First, we tested the relationship for time in bankruptcy. We hypothesized that the longer the time in bankruptcy, the greater the costs would be. This hypothesis is consistent with criticisms of bankruptcy that it “takes too long.”⁵⁶ In addition, common sense would suggest that as a bankruptcy case drags out, the more likely it is that costs will increase.

Our next variable was the size of the debtor’s attorneys’ law firm. Conventional wisdom suggests that some law firms are more expensive than others regardless of quality. The belief is that nonlawyers are poor judges of legal talent and tend to hire based upon other qualities. We wanted to test for differences in cost based on the characteristics of the law firms involved. For chapter 7, this meant testing based on the characteristics of the debtor’s attorneys’ law firm. A common view is that the larger the firm, the more expensive the firm will be. Therefore we hypothesized that law firm size would be positively related to bankruptcy costs.

We also examined case characteristics that suggest complexity. First, we tested the relationship between the ratio of unsecured debt to total debt and bankruptcy costs. With a greater percentage of unsecured debt outstanding, it is more likely that conflicts will arise between unsecured and secured creditors. More conflict would suggest higher attorneys’ fees and overall costs, which would render disputes less likely to settle. We hypothesized that the ratio of unsecured debt to total debt would be positively related to bankruptcy costs.

The variables for the average size of an unsecured claim and a secured claim similarly capture case complexity. We hypothesized that as the average size of an unsecured claim increased in absolute terms, so would bankruptcy costs. We also hypothesized that as the average size of a secured claim increased in absolute terms, conflict would be more likely to arise and bankruptcy costs would increase.

Our final measure of case complexity was the number of claims disputed by the debtor. While the ratio of unsecured to total debt measured conflicts between creditors, the number of disputed claims measured conflicts between the debtors and their creditors. As disputed claims increased, we would expect conflict to increase, with a concomitant increase in bankruptcy costs.

The regression models revealed that the significant factors explaining

56. See, e.g., Samuel L. Bufford, *Chapter 11 Case Management & Delay Reduction: An Empirical Study*, 4 AM. BANKR. INST. L. REV. 85 (1996); Lynn M. LoPucki, *The Trouble with Chapter 11*, 1993 WIS. L. REV. 729; James J. White, *Harvey’s Silence*, 69 AM. BANKR. L.J. 467 (1995).

chapter 7 costs are time in bankruptcy and the ratio of unsecured to secured debt. Both of these variables were statistically significant in a number of different regressions. Thus both time and complexity partially explain chapter 7 costs.⁵⁷

It was interesting that our inter-creditor dispute variable (ratio of unsecured to total debt) was significant, while our debtor-creditor dispute variable (number of disputed claims) was not. One might expect that disputes between creditors would not generate significant costs for the debtor. The tension between secured and unsecured creditors that characterizes bankruptcy practice obviously exerts a contaminating effect on the debtor's costs. The lack of significance for disputed claims may be the result of the relatively small number of cases in our sample with disputed claims.

We did not find a significant relationship between the average size of an unsecured or secured claim and chapter 7 costs. The absence of a relationship between the size of a creditor's claim and costs is not surprising given our conclusion that chapter 7 costs lack a scale effect. Also, we did not find a relationship between the size of the debtor's law firm and any of our cost measurements.

The regression results also are important because of what they suggest about the cost measurements. Generally, the statistically significant results occurred when costs were measured by total distributions and not by total assets. Although other explanations are plausible, these results support the notion that total assets are not as reliable a cost measure as total distributions.

57. In our pilot study, we did not find a statistically significant relationship between time in chapter 7 bankruptcy and direct costs. See Lawless, *supra* note 4, at 878. The more extensive data-gathering techniques in this study likely explain the difference. With the resources available for this study, we were able to better quantify distributions to secured creditors and, hence, our distribution-based measures are more accurate. See *supra* note 26 and accompanying text (explaining this study's treatment of secured creditors). Because the pilot study did not use these more thorough techniques, perhaps it was unable to detect the relationship.

REGRESSIONS FOR THE DETERMINANTS OF CHAPTER 7 COSTS
Table Six

Independent Variables	Dependent Variables				Total Costs/ Total Disbursements				Attorneys' Fees/ Total Assets				Attorneys' Fees/ Total Disbursements			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Time in Bankruptcy	0.065	0.129	0.076	0.118	0.332	0.409	0.336	3.720	0.000	0.038	0.021	0.040	0.244	0.279	0.223	0.254
	*	*	*	*	***	***	***	***					***	***	***	***
Size of Law Firm for Debtor's Attorney	0.655	-0.292	0.411	-0.365	-0.096	0.407	0.796	0.138	0.309	0.434	0.717	0.460	0.657	1.008	1.237	0.828
Unsecured Debt/Total Debt	222.89				213.32				132.42				156.42			
	***				***				***				**			
Average Size of Unsecured Claim		-0.000				0.000				0.000				-0.000		
Average Size of Secured Claim			-0.000				-0.000				-0.000					
Percent of Claims Disputed				-19.759				-50.423								-33.22
Adjusted R ²	0.17	0.03	0.02	0.00	0.22	0.16	0.152	0.153	0.12	0.00	0.00	0.00	0.15	0.10	0.10	0.10

***significant at the 1% level
**significant at the 5% level
*significant at the 10% level

Total assets are based on the amount of assets reported by the debtor at the time of filing and are often distorted or inaccurate. A bankrupt firm estimates the value of its assets and reports that figure. The figure may be used later in the bankruptcy proceedings as a starting point to value the debtor's assets. Depending on the debtor's financial and legal situation, a debtor may have the incentive to overestimate or underestimate the value of its assets.⁵⁸ Moreover, even a debtor who attempts to make a good-faith estimate of value still only takes a best guess. Many small-business debtors lack the incentive or the resources to undertake a reliable appraisal of their assets.

On the other hand, total distributions is a more objective figure. Total distributions simply represents the amount actually distributed to creditors. If the debtor has correctly estimated its assets at filing, then total distributions should equal total assets at filing, but the practical considerations that prevent accurate asset valuations ensure such equality never occurs.⁵⁹ One must estimate total costs against total assets only with caution. These findings are consistent with findings in the pilot study.⁶⁰

Our findings on the determinants of chapter 7 costs have important implications for bankruptcy courts reviewing fee chapter 7 fee applications. The data show that the ratio of unsecured to secured debt plays an important part in determining bankruptcy costs relative to assets and distributions. The size of the case, the size of the claims, and the number of disputed claims do not play a significant role. The ratio of unsecured debt to secured debt is certainly beyond the control of the professionals participating in the case and therefore may serve as a good factor for bankruptcy courts to weigh in reviewing fee applications. The statute appears to allow for this inquiry as it directs bankruptcy courts to consider the "complexity . . . of the problem, issue, or task addressed" by the professional seeking compensation.⁶¹ The percentage of unsecured debt involved in a chapter 7 bankruptcy is a good proxy for the case's overall complexity.

Our findings suggest the opposite for fee petitions brought by professionals who have caused delay in a case. Delay becomes a significant factor in increasing chapter 7 costs. Interestingly, the Bankruptcy Code does not explicitly require bankruptcy courts to penalize professionals who cause

58. See Lawless, *supra* note 4, at 858-59 (discussing the incentives debtors have to understate and overstate asset valuation at filing).

59. Consider that our average debtor reported approximately \$212,000 in total assets but only \$108,000 in total distributions. See *supra* Tables Two and Three.

60. See Lawless, *supra* note 4, at 856-62, 865.

61. See 11 U.S.C. § 330(a)(3)(D) (1994).

delay in a bankruptcy case. The authorization is there, however, as the Code's list of guidelines is nonexclusive, and directs the bankruptcy court to consider all relevant factors.⁶² To control chapter 7 costs, bankruptcy courts should penalize professionals who cause delay. Of course not every delay in a case will be unjustified, but the results of this study suggest to minimize costs courts should closely monitor chapter 7 cases that are characterized by delay.

VI. CONCLUSION

This article has provided a quantitative baseline against which to assess chapter 7 business liquidations. To summarize our major findings:

- *Costs in chapter 7 business cases average approximately 13.5% of all distributions.* The median figure was 2.1%, suggesting a few chapter 7 cases end up “out of control” in terms of costs. Bankruptcy policymakers concerned about chapter 7 costs should focus on these outlier cases rather than impose stricter regulation on all cases. Attorneys’ fees account for the majority of bankruptcy costs, averaging 10.5% of all distributions with a median figure of 1.5%. Extrapolating, chapter 7 business liquidations cost the economy approximately \$35 to \$41 million per year.
- *For chapter 7, distributions are a better measure for bankruptcy costs than assets at filing.* When measured as a percentage of the debtor’s total assets at filing, chapter 7 direct costs averaged (median) 6.1% (1.1%) and chapter 7 attorneys’ fees averaged (median) 3.8% (0.7%). However, the results of our regression analyses were more statistically robust for distribution-based measures of bankruptcy costs than for asset-based measures of bankruptcy-costs. Also, in small-business bankruptcies, asset-based measures are susceptible to the debtor’s biases and reporting errors. For these reasons, distribution-based measurements are better for estimating chapter 7 costs than asset-based measurements because they are less subject to measurement error.
- *Chapter 7 cases vary significantly across districts.* We found statistically significant cross-district variation in bankruptcy costs. Among the five districts we studied, we found Boston to have statistically significant lower chapter 7 bankruptcy costs. Boston

62. See 11 U.S.C. § 330(a)(3) (1994).

direct costs averaged less than half of the costs in the other districts. As with our finding on costs generally, this finding suggests that costs can vary from case to case and district to district. Again, bankruptcy policymakers should adopt rules that give bankruptcy judges more discretion to control fees in individual cases, rather than enact overly broad rules that regulate fees across the board.

- *Chapter 7 business cases involve negligible recovery for unsecured creditors.* Very few assets were paid to unsecured creditors. After subtracting distributions to secured creditors, an average of 92 cents of every dollar went to pay the costs of the chapter 7 proceedings in our study. In over 90% of the cases in our study, the only distributions beyond those to secured creditors went to pay chapter 7 costs. Reality does not comport with the prototype chapter 7 debtor that liquidates his, her, or its assets and pays creditors from the proceeds. In most chapter 7 business cases, the debtor is being run through the system for a discharge.⁶³ These data resurrect the proposals calling for a federal administrative agency to assume jurisdiction over routine bankruptcy cases.
- *No scale effect for chapter 7.* We found no evidence of a scale effect to chapter 7 bankruptcy costs. Combined with the results from our earlier pilot study and from other studies, we conclude that there are no economies of scale for direct costs in the typical chapter 7 case. Such economies, if they exist, must occur only in the rare instance of the extremely large chapter 7 case.
- *Delay and complexity determine costs.* We found statistically significant relationships between chapter 7 costs and time in bankruptcy. We also found statistically significant relationships between the chapter 7 costs and the ratio of unsecured debt and total debt. In reviewing fee petitions, bankruptcy courts should consider cases with a high ratio of unsecured to total debt as a complex case and negatively consider the fee applications of professionals who delay a case.

Because these findings represent some of the only data available for the typical chapter 7 business filer, they constitute an important step toward achieving an understanding of business bankruptcies. One note of caution,

63. Of course, this would not be true for the chapter 7 cases where the debtor is a non-individual business entity such as a corporation or partnership. Non-individuals may not receive a bankruptcy discharge. See 11 U.S.C. § 727(a)(1) (1994).

however, is in order. Because we included only business cases, our results may not be generalizable to consumer chapter 7 cases.

The findings support and challenge existing law. First, the data emphasize the importance of allowing bankruptcy courts discretion to control the costs in business chapter 7 cases. Costs in chapter 7 business bankruptcy proceedings are not out of control across the board or across the country. Attempts to control costs at a general, national level are doomed to be under- and over-inclusive.

Second, we found chapter 7 business bankruptcies to be characterized by routine; over 90 percent of our cases involved no distributions beyond payment of direct costs. These figures challenge the bankruptcy system at a systemic level, calling into question the need for judicial-branch handling of what are run-of-the-mill cases.

Our data support some conceptions about chapter 7 business bankruptcies and explode some popular myths. Where appropriate, we have made a number of specific recommendations, and of course, we hope bankruptcy policymakers heed this advice. But the data hold more importance than these specific issues. Debates over bankruptcy policy should be measured against real-world experience and not some fictionalized ideal. By quantifying the costs of chapter 7 business bankruptcy, this article provides the starting point from which these debates should begin.⁶⁴

64. Professors Sullivan, Warren, and Westbrook have undertaken a comprehensive empirical study of business reorganizations. See Elizabeth Warren & Jay L. Westbrook, *Searching for Reorganization Realities*, 72 WASH. U. L.Q. 1257 (1994). When finished, this study will provide further quantitative data to guide policymakers in creating this nation's bankruptcy laws.