2005

Serial Entrepreneurs and Small Business Bankruptcies

Edward Morrison

Douglas G. Baird

CHICAGO

JOHN M. OLIN LAW & ECONOMICS WORKING PAPER NO. 236
(2D SERIES)

Serial Entrepreneurs and Small Business Bankruptcies

Douglas G. Baird and Edward R. Morrison

THE LAW SCHOOL
THE UNIVERSITY OF CHICAGO

March 2005

Serial Entrepreneurs and Small Business Bankruptcies

Douglas G. Baird and Edward R. Morrison†

January 4, 2005

Abstract

This empirical study suggests that, far from ensuring assets are put to their best use, Chapter 11 encourages entrepreneurs to remain too long with failed businesses before trying to start new ones. Small entrepreneurs open and close a number of businesses over the course of their careers as they search for the business (or employer) that offers the best match with their skills. Chapter 11 delays this matching process and, over this dimension, differs little from rent control and other government policies that encourage socially wasteful lock-in of scarce resources. These costs may not be large, as bankruptcy judges are aware of and guard against them. At the same time, however, few benefits offset these costs. The typical Chapter 11 is a small business that has few, if any, specialized assets. It is organized around the owner-operator's human capital and can be (and usually is) reassembled by the owner at low cost. Other than delay, the outcome of a Chapter 11 case—reorganization or liquidation—has little bearing on a small entrepreneur's career.

---

† University of Chicago Law School and Columbia Law School. We are grateful to Zohar Goshen, Scott Hemphill, Robert Rasmussen and workshop participants at Cornell, Columbia, and Berkeley for helpful comments and to the bankruptcy judges of the Northern District of Illinois for giving us access to their dockets. We also thank our research assistants, who helped us with various parts of the dataset: Marika Butler, Blaine Evanson, David Glazek, and Vivian Ho.

Introduction

This paper offers a comprehensive study of the businesses that made up the Chapter 11 docket of a large bankruptcy court over the course of a year. This world has not been explored before.[1] The typical Chapter 11 cases are strikingly different from the Chapter 11 cases one ordinarily hears about. Instead of Uniteds, Enrons, or Kmarts, we see small businesses with about 20 or fewer employees and assets worth less than $400,000.[2] The characteristics of the typical Chapter 11 match those of small businesses generally, which account for half of both GDP and non-government employment in the United States.[3] For these businesses, we show in this paper, the relevant unit of analysis is the owner and operator of the firm, not the firm itself.

---

[1] The empirical work studying typical Chapter 11 cases to date have been largely mechanical, time-and-motion studies of bankruptcy courts, focusing on such questions as the length of each case and the number that resulted in a successful plan of reorganization. Scant attention has been paid to the businesses themselves beyond such matters as the number of creditors and the amount they are owed. Little is known about the nature of the underlying business beyond what can be gleaned from the crude classification scheme on the bankruptcy petition itself—one that does not, for example, distinguish an importer of men's suits from a restaurant. An exception to the prior literature is Edward R. Morrison, *Optimal Timing of Judicial Decisions in Bankruptcy: An Empirical Study of Shutdown Decisions in Chapter 11*, Columbia Law and Economics Working Paper No. 239 (October 2003), which analyzes economic outcomes in Chapter 11 cases using data similar to those used here.

[2] See Morrison, *id*. (using 1998 data on Chapter 11 filings in the Northern District of Illinois, Eastern Division, and finding that 80% of firms had fewer than twenty employees, 75% had less than $1 million in assets, and about 50% had fewer than $100,000 in assets); Elizabeth Warren and Jay Lawrence Westbrook, *Financial Characteristics of Businesses in Bankruptcy*, 73 Am. Bankr. L. J. 499, 529, 548 (1999) (using 1994 data on Chapter 11 filings in 23 districts and finding that 75% of firms had about 20 employees, 70% had less than $1 million in assets, and 50% had fewer than $351,000 in assets).

[3] Small Business Administration, *The Small Business Economy* 5 (2004).

Any given business is merely a spell in the life of an owner-operator. The owner-operator's human capital is fully portable. These owner-operators use that human capital to start a string of businesses over their lifetimes, moving from business to business (often in the same industry) until they find a good match between their human capital and a particular business model.[4] Much like the process of job shopping by workers,[5] this process of firm shopping is the process by which a scarce resource (the owner's human capital) moves to its most productive use. The owner-manager's human capital is not firm-specific; it is worth as much inside the firm as it is outside it, which is precisely why most entrepreneurs are *serial* entrepreneurs. Just as taking account of job mobility is a fundamental feature of employment law,[6] serial entrepreneurship should be a central consideration in any discussion of small business bankruptcies.[7]

---

[4] See Thomas J. Holmes and James A. Schmitz, *Managerial Tenure, Business Age, and Small Business Turnover*, 14 J. Labor Econ. 79 (1996); Thomas J. Holmes and James A. Schmitz, *On the Turnover of Business Firms and Business Managers*, 103 J. Pol. Econ. 1005 (1995).

[5] Job-shopping, unlike firm-shopping by entrepreneurs, has spawned a vast literature. Some of the major articles in the area include Robert H. Topel and Michael Ward, *Job Mobility and the Careers of Young Men*, 107 Quart. J. Econ. 439 (1992); Boyan Jovanovic, *Job Matching and the Theory of Turnover*, 87 J. Pol. Econ. 972 (1979); William Johnson, *A Theory of Job Shopping*, 92 Quart. J. Econ. 261 (1978).

[6] For example, there have been studies of the lock-in created by employer-provided health insurance. Such insurance has unclear welfare implications. See Jonathan Gruber and Brigitte Madrian, *Health Insurance, Labor Supply, and Job Mobility: A Critical Review of the Literature*, NBER Working Paper No. 8817 (Mar. 2002).

[7] The large Chapter 11 cases, while only a tiny fraction of all Chapter 11s, are crucially different in this respect. A focus on the legal entity makes sense in this context. The business of WorldCom, United Airlines, and Kmart cannot be meaningfully separated from the corporation (or, more precisely, corporate group) that files the bankruptcy petition. The corporate entity that formally enters bankruptcy owns the assets, employs the workers, and contracts with the rest of the world. Everyone understands, of course, that the boundary between a firm and the rest of

The delays Chapter 11 brings about are usually justified on grounds that the judge and the parties need time to "filter" cases in which assets are most valuable inside the firm from those in which the assets have more productive uses elsewhere.[8] Indeed, generations of scholars have asked whether the potential gains from reorganization justify the cost of delay.[9] This debate, however, is irrelevant when we are dealing with the typical Chapter 11 case. There are few assets beyond the entrepreneur's human capital, and these rarely have more value inside the business than outside. Hence, it is a mistake to focus on the question whether the corporate entity that is the subject of the bankruptcy case is worth saving. When there are no assets other than human capital, Chapter 11 merely creates a bias in owner-operators to remain with their current business.[10]

---

the world is permeable and necessarily fuzzy at the edges. Nevertheless, the correspondence between the business and the corporation is great enough that untangling the affairs of the financially distressed business consists for the most part in sorting out the rights and obligations of the legal entity that houses it.

[8] See, e.g., Michelle J. White, *Corporate Bankruptcy as a Filtering Device: Chapter 11 Reorganizations and Out-of-Court Debt Restructurings*, 10 J. Law, Econ. & Org. 268 (1994).

[9] Some of the many articles in this debate are Timothy C.G. Fisher & Jocelyn Martel, *Empirical Estimates of Filtering Failure in Court-Supervised Reorganization*, 1 J. Empirical Legal Stud. 143 (2004); Lawrence A. Weiss and Karen Wruck, *Information Problems, Conflicts of Interest, and Asset-Stripping: Chapter 11's Failure in the Case of Eastern Airlines*, 48 J. Fin. Econ. 55 (1998); Elizabeth Warren, *The Untenable Case for Repeal of Chapter 11*, 102 Yale L.J. 437 (1992); Michael Bradley & Michael Rosenzweig, *The Untenable Case for Chapter 11*, 101 Yale L. J. 1043 (1992); Douglas G. Baird, *The Uneasy Case for Corporate Reorganizations*, 15 J. Legal. Stud. 127 (1986).

[10] Alternative approaches to Chapter 11 do not focus as much on firm-specific assets and the going-concern surplus. Under this approach, any decision about the fate a financially distressed corporation should take account of every party with a stake in the business and its future—not only creditors and shareholders, but workers, suppliers, customers, tort victims, and anyone else the business affects. Bankruptcy's distributional scheme should not merely respect the rights of investors, but also ensure that workers, tort victims, and other nonadjusting credi-

As conventionally understood, then, Chapter 11 encourages "lock-in." We make it easier for entrepreneurs to resolve their disputes with senior creditors and tax collectors if, but only if, they keep a particular corporate entity alive. Doing this makes no more sense than lowering interest rates or taxes for workers provided they stay with their current employer, regardless of whether it suits them.[11] Indeed, the "lock-in" effect of Chapter 11 is qualitatively no different from the lock-in created by rent control

---

tors are treated fairly. Powerful creditors should not be able to commandeer the process to advance their own interests to the exclusion of others. Bankruptcy judges must retain sufficient discretion to ensure a collective process that brings everyone to the table. A Chapter 11 corporate reorganization is a collective process in which interested parties take stock of the business and decide on its future.

This approach, as different as it is from the economic approach, begins in the same place and suffers from the same misconception. Like the economic approach, the traditional approach links the business with the legal entity that files the Chapter 11 petition. This legal entity is exactly the wrong place to begin in the typical case. The corporate entity that has filed the petition is owned and operated by a single individual. The focus should be on this owner-operator rather than the legal entity that houses the business. Only by understanding the benefits that Chapter 11 brings the owner-operator (and the corresponding costs it imposes on them as well as others) can we begin to assess the current system and how it works in the typical case.

[11] The objection we are making here is radically different from the standard objections to Chapter 11 in the law and economics literature. Drawing on the tools of corporate finance, some have argued that Chapter 11 distorts ex ante investments in businesses. See, e.g., Alan Schwartz, *A Contract Theory Approach to Business Bankruptcy,* 107 Yale L.J. 1807 (1998). Others have suggested that, by delaying the shutdown of the business, Chapter 11 puts assets to inefficient use. See, e.g., Douglas G. Baird &Thomas H. Jackson, *Corporate Reorganizations and the Treatment of Diverse Ownership Interests: A Comment on Adequate Protection of Secured Creditors in Bankruptcy*, 5l U. Chi. L. Rev. 97 (1984). These critiques rely crucially on the incentives of fully adjusting outside investors and the presence of assets in the business, neither of which is much in evidence in many small business Chapter 11s. Our critique applies with full force even if the only creditor is the tax collector and the business has no assets other than the human capital of the small entrepreneur. Put differently, we show that the typical Chapter 11 case is best seen through the lens of labor economics rather than corporate finance.

(which induces tenants to stay too long in an underpriced apartment)[12] or the taxation of realized but not unrealized appreciation in the value of an asset (which encourages investors to hold onto appreciating assets).[13] Chapter 11, in short, is a form of rent control.

Seen from this perspective, much of the academic thinking about Chapter 11 is misdirected. Instead of helping small entrepreneurs find the business (or employer) that best suits them, the focus is upon the corporation that has filed the Chapter 11 petition. Ensuring that this business survives—housed in this corporate shell with this configuration of assets—is thought a good thing in itself. But this makes sense only if the business has value, apart from the skills of the person who runs it. And the typical business in Chapter 11—the drywall contractor or the travel agency—does not, as we will show.[14]

The lock-in effect, however, does not bring with it large social cost. In fact, these costs are likely small. First, remarkably few failing businesses enter bankruptcy; the bankruptcy process is costly, requiring liquidity-constrained firms to pay thousands of

---

[12] See, e.g., Edward Glaeser & Erzo F.P. Luttmer, *The Misallocation of Housing under Rent-Control*, 93 Am. Econ. Rev. 1027 (2003).

[13] David A. Weisbach, *An Efficiency Analysis of Line Drawing in Tax Law*, 29 J. Legal Stud. 71 (2000).

[14] Value might take the form of physical assets (tangible or intangible) whose value turns on whether the business continues. But, as we show, the typical small business has no such assets apart from the fully portable human capital of the owner-operator. Value may also reside in a network of relationships between the business and third parties, but here again the relationships belong to the entrepreneur, not the firm, and she takes them with her when the legal entity dissolves.

dollars of up-front legal fees merely to file a petition[15] and consuming over 2% of firm value during the reorganization process[16]. Moreover, for the businesses that do enter bankruptcy, judges minimize the costs. They can identify and shut down most failing firms within three months.[17]

Finally, even among firms that spend significant time in Chapter 11, the social costs of the Code's lock-in or "rent control" effect are small in a non-trivial number. Rent control imposes social costs because it leads to a mismatching of tenants with apartments that are worth more in the hands of others.[18] These costs are low, obviously,

---

[15] Interview with Karen Porter of The Law Offices of Karen J. Porter, Chicago, IL (Oct. 29, 2004) (Ms. Porter and her former firm, Minchella and Porter, represented 6% of the firms in our study).

[16] *Id.*; see also Arturo Bris, Ivo Welch, & Ning Zhu, *The Costs of Bankruptcy: Chapter 7 Auctions vs. Chapter 11 Bargaining*, Yale ICF Working Paper No. 04-13 (Mar. 2004) (using combined data on large and small Chapter 11s filed in Arizona and SDNY during 1995-01, the authors found that direct expenses amounted to 9.5% of asset value in the mean firm and 2% in the median firm).

[17] Morrison, *supra* note 1.

[18] Even rent control has its proponents, who argue that it has offsetting social benefits as a form of welfare policy. Along the same lines, it might be thought that Chapter 11 offers a kind of "unemployment insurance" for self-employed workers, who are generally ineligible for government unemployment insurance benefits. Or it might be thought that Chapter 11 benefits entrepreneurs, their employees, and their customers by creating a short "breathing spell" in which they can cope with the failure of a business. These potential benefits seem unimportant. Small business entrepreneurs who work for their own corporations can become eligible for state unemployment insurance benefits. See, *e.g.*, *Stark v. Flemming*, 283 F.2d 410 (9th Cir. 1960). To the extent they are ineligible, this reflects a policy judgment. See, *e.g.*, Paul H. Douglas, *Social Security in the United States* 77-78 (1936). It would seem odd to advocate Chapter 11 as a means of undermining that policy choice. And because most small businesses lack asset specificity, they operate in highly competitive environments where employees and customers of one firm can identify another firm with similar characteristics.

in cases in which the tenant would have rented the apartment even without rent control. The same is true for Chapter 11: the lock-in effect is least costly in cases in which the entrepreneur expects to run precisely the same kind of business even if her current firm is liquidated in bankruptcy. These cases, as we show, are non-trivial in number and typically involve situations where the firm suffered distress as a result of overexpansion (e.g., adding capacity, opening a new outlet in a different neighborhood). Thus, firms that are allowed to remain in Chapter 11 for a significant period are usually those in which the serial entrepreneur can find a way to match his or her human capital with a business within the same corporate shell. These businesses rarely have much in the way of specialized assets (or indeed assets at all), but, thanks in large part to active judicial monitoring, the costs of this process are modest and these costs are offset to some degree through the additional liquidity that some serial entrepreneurs enjoy under existing practice.

The modest deadweight losses associated with the current regime, however, should not minimize the need for reform in academic and political debates about Chapter 11. We need to move the debate about Chapter 11 and its effects on particular businesses to one that focuses squarely on the serial entrepreneur. Chapter 11 should help (or at least not distort) the efforts of entrepreneurs to find the businesses that best suit their skills. It can do this best by providing an efficient forum for resolving disputes and disposing of assets. Current academic thinking about small-business bankruptcy pushes in exactly the wrong direction by promoting the business, not the entrepreneur.

Part I describes our methodology and our dataset. Part II shows that small businesses in bankruptcy generally lack assets and especially firm-specific assets. As a result, Chapter 11 does little to preserve any ongoing business activity. Part III shows that, if Chapter 11 does anything, it deters small entrepreneurs from moving on and finding better matches between their skills and the businesses they run. This lock-in effect drives the typical Chapter 11 and should be the focus of any discussion of bankruptcy reform or other laws aimed at small business entrepreneurs.

I. The World of Corporate Chapter 11

In this paper, we focus on corporate debtors. We exclude single-asset real estate ventures and individuals from the analysis. Both may file Chapter 11 petitions, but each raises distinct economic issues. Real estate cases typically involve investment vehicles with a single creditors and no operating business. Individual cases can involve small entrepreneurs, but the role that Chapter 11 is playing is radically different. By providing a discharge of personal debt, Chapter 11 facilitates serial entrepreneurship in the case of individuals.[19] As we show, it is doing exactly the *opposite* in corporate cases. Pooling the two together would mask the most important feature of Chapter 11 as it applies to each to corporate and individual debtors respectively.

This paper examines the docket of one bankruptcy court over the course of a single year, the cases filed in the Eastern Division of the Northern District of Illinois ("Northern District") during calendar year 1998. The District's jurisdiction encompasses Chicago, Cook County, and outlying areas—a large and diverse economy. Relative to the economy of the country as a whole, there is less agriculture and more manufacturing, but it is as suitable a place as any to take the pulse of economic activity generally

[19] Indeed, Fan and White show that Chapter 7's fresh start has exactly this effect on entrepreneurs. See Wei Fan and Michelle J. White, *Personal Bankruptcy and the Level of Entrepreneurial Activity*, NBER Working Paper No. 9340 (Nov. 2002).

and Chapter 11 in particular. Calendar year 1998 is recent enough that the docket is accessible electronically, but far enough in the past such that we can see what happened to the business once the Chapter 11 was over.[20]

The Northern District was also chosen because of the rich supply of data. The court's judges permitted access to a database (PACER)[21] containing copies of every filing and judicial order in these cases. We reviewed the docket of each case, including the bankruptcy petition, the schedules, and any filings (such as disclosure statements) that discuss the underlying business. These sources give detailed information about each firm's finances (assets, debt, cash flow, etc.), history (including events that led to the bankruptcy petition), experience in bankruptcy (e.g., time in bankruptcy, types of motions filed by the debtor and its creditors, types of court orders), and information about the career history of the owner-operator.

We augmented this career-history information using data collected by the Secretary of State of Illinois and made available on Lexis-Nexis, such as whether the owner-operator in a Chapter 11 case established other businesses, the nature of these businesses, and their histories. We then returned to the bankruptcy court files and searched for any other bankruptcy petitions filed by the same corporation or the principal of the corporation. We also consulted newspaper stories about the businesses and the people running them. When necessary, we conducted telephone interviews with the principals

---

[20] This was a time a time of relative economic prosperity, so our data describe the typical cases that arise in non-recessionary times. Bankruptcy cases in bad times might, of course, look different.

[21] The database, Public Access to Court Electronic Records (PACER), is available for a fee at pacer.uscourts.gov. The Northern District waived the fee for this study.

of these businesses, those who succeeded them, purchased the business's assets, or leased the same premises. When necessary, we also visited the businesses themselves.

The bankruptcy judges on the Northern District are highly respected professionals. Its members in 1998 included prominent members of the National Conference of Bankruptcy Judges, the American College of Bankruptcy, and the National Bankruptcy Conference. One was later appointed to the District Court. There is little danger that the peculiarities or eccentricities of this bench distorted the types of cases filed there.[22] For these reasons, we believe our sample is representative of small business Chapter 11 cases and, at least in industrial composition, representative of small businesses generally.

As Table 1 indicates, the Northern District received 185 Chapter 11 filings during 1998. For this paper, we focus on a subset of these filings: small corporations owned and operated by the same person (the "owner-operator").[23] Table 1 also shows that we consolidated eight filings by sister companies (the court consolidated these cases as well) and eliminated four repeat filings by the same firms and one involuntary petition filed days before the firm filed its own voluntary petition. Finally, we eliminated two filings by large, publicly-traded firms and two filings by moderately sized firms that were not

---

[22] There are two potential distortions worth noting. First, the motions practice of the Northern District is somewhat different from that of other courts. As one of us has discussed elsewhere, this motions practice may have the effect of making the court more responsive to abuses or more likely to dismiss cases early in the process. Second, the I.R.S. is a large presence in our cases. To the extent that local I.R.S. practices vary (and are known to vary) this too could affect the population of cases that file in the Northern District.

[23] Our dataset includes 22 real estate cases and 42 filings by flesh-and-blood individuals. For the reasons noted above, we are not focusing on them in this paper.

Table 1 Sample Selection	
	Petitions
Initial sample	185
Deletions or consolidations:	
Individual debtor cases	(42)
Single asset real estate cases	(22)
Sister companies	(8)
Repeat filings	(4)
Large, publicly-traded firms	(2)
Firms without owner-managers	(2)
Simultaneous involuntary petitions	(1)
Final sample	104

owner-managed. The Small Business Administration defines a "small business" as one with less than 500 employees. Each of the publicly-traded firms had over 700 employees. The two moderately-sized firms had fewer than 500 employees but were different from the other businesses in this study because they exhibited the classic separation of ownership and control associated with large corporations. It should be noted, however, that the results shown below are unaffected by the exclusion of these moderately-sized firms. After making these exclusions and consolidations, our sample of Chapter 11 filings falls from 185 to 104 observations.

The cases in our sample are, to the extent we can tell, similar to Chapter 11 cases filed elsewhere in terms of the amount of the debt, the amount of assets, and other characteristics reported in other studies.[24] Indeed, the businesses themselves look much like

[24] See Morrison, *supra* note 1, who can offer only a tentative conclusion regarding the comparability of the cases in our sample to cases filed in other bankruptcy courts. The classifications on the bankruptcy petition itself are crude and, as other scholars typically have not gone beyond them, he could compare our cases with others using only this metric. Nevertheless, wherever others have gone beyond the face of the petition, their findings are consistent with ours. For example, Sullivan, Warren, and Westbrook supplemented data from the petitions and

businesses as a whole in the economy. Tables 2 and 3 compare the characteristics of firms in our sample to those of corporations in a representative national sample of small businesses, the 1998 Survey of Small Business Finance (SSBF), administered by the Federal Reserve Board[25]. The industry composition of firms in our sample differs from distribution of SSBF corporations in a few respects. Wholesale Trade is underrepresented in our sample; Eating and Drinking Places and Business Services are overrepresented. The percentage of firms with fewer than 20 employees is about the same, around 80 percent, in both samples. Relative to SSBF businesses, however, the ones in our sample are markedly younger: the median age is 6.8 years, relative to 13 years in the SSBF. And, not surprisingly, the firms in our sample have fewer assets, more debt, and much more leverage than the average businesses in the SSBF. In short, the distressed businesses in our sample are somewhat smaller, younger, and more concentrated in the eating and

---

schedules with telephone interviews and their findings are consistent with our finding that the principals of Chapter 11 corporate debtors are serial entrepreneurs. See Teresa A. Sullivan, Elizabeth Warren, & Jay Westbrook, *Financial Difficulties of Small Businesses and Reasons for their Failure*, Working Paper SBA-95-0403 (1998). This study, however, looked at debtors in Chapters 7, 11, and 13 and does not distinguish corporate debtors from individuals. Some of the debtors whom they found to have started new businesses likely were associated with corporations that had filed Chapter 11 petitions, but there is no way to know how many. Again, one can draw only limited inferences from a dataset that combines the two different kinds of cases, especially with respect to an issue where, depending on the debtor is an individual or a corporation, the Bankruptcy Code pushes in opposite directions.

[25] For more information about this survey, see Marianne P. Bitler, Alicia M. Robb, & John D. Wolken, *Financial Services Used by Small Businesses: Evidence from the 1998 Survey of Small Business Finances*, 87 Federal Reserve Bulletin 183 (April 2001).

Table 2
Sample Statistics, Corporate Chapter 11 Filings in N.D. IL during 1998

Industry (SIC No.)	% (freq)	Under 20 Employees, % (sd)	Age in years median (mean) (sd)	Asset Value, $ median (mean) (sd)	Debt, $ median (mean) (sd)	Leverage, % median (mean) (sd)
Construction (15-17)	13.5 (14)	76.9	7.0 (12.5)	467,201 (1,236,721)	823,977 (2,797,048)	2.8 (4.6)
Manufacturing (20-39)	11.5 (12)	91.7	28.4 (31.6)	405,163 (1,541,870)	1,130,172 (11,300,000)	3.3 (5.7)
Transportation (40-48)	3.9 (4)	100.0	4.5 (5.3)	103,350 (103,350)	253,512 (378,912)	1.8 (1.8)
Wholesale Trade (4813, 50-51)	2.9 (3)	100.0	10.1 (8.4)	24,826 (176,217)	1,210,366 (1,022,860)	7.3 (29.1)
Retail Trade (52-59)	13.5 (14)	71.4	6.5 (11.5)	221,116 (950,756)	1,230,304 (2,425,506)	3.1 (6.3)
Eating and Drinking Places (58)	18.3 (19)	71.4	3.5 (11.7)	56,172 (204,455)	272,882 (705,415)	5.2 (6.1)
Insurance and finance (60-69)	2.9 (3)	100.0	13.1 (12.5)	26,652 (24,332)	341,012 (1,521,263)	20.1 (44.5)
Business Services (47-49, 70-79)	17.3 (18)	81.3	7.3 (9.9)	149,225 (686,330)	515,238 (828,243)	2.4 (12.4)
Professional Services (80-89)	16.4 (17)	85.7	6.8 (9.8)	130,970 (367,101)	382,518 (800,685)	2.6 (46.4)
TOTAL	100.0 (104)	81.5 (39.02)	6.8 (13.1) (16.11)	148,090 (715,532) (1,539,281)	550,048 (2,513,199) (10,700,000)	3.3 (15.7) (65.02)

Table 3
Summary Statistics, Corporations in 1998 SSBF (excluding mining and real estate)

Industry (SIC No.)	% (freq)	Under 20 Employees % (se)	Age in years median (mean) (se)	Asset Value, $ median (mean) (se)	Debt, $ median (mean) (se)	Leverage median (mean) (se)
Construction (15-17)	11.2 (187)	80.6 (2.79)	14 (14.6) (.94)	520,706 (756,062) (131,399)	317,040 (544,899) (109,672)	.74 (.72) (.059)
Manufacturing (20-39)	11.7 (287)	71.1 (3.07)	15 (14.6) (.83)	1,682,902 (1,499,328) (170,572)	796,000 (854,470) (99,758)	.59 (.57) (.032)
Transportation (40-48)	3.3 (74)	75.2 (5.30)	11.5 (10.5) (1.59)	834,219 (953,939) (228,740)	673,488 (668,717) (146,548)	.73 (.70) (.094)
Wholesale Trade (4813, 50-51)	11.3 (179)	84.4 (2.45)	14 (14.7) (1.38)	795,000 (1,149,670) (151,521)	400,000 (732,278) (125,948)	54 (.64) (.080)
Retail Trade (52-59)	15.2 (263)	84.0 (2.11)	15 (14.7) (.91)	360,000 (764,249) (97,563)	203,000 (474,712) (66,630)	.64 (.62) (.069)
Eating and Drinking Places (58)	3.6 (102)	59.2 (6.05)	14.5 (13.2) (1.10)	254,667 (306,869) (53,990)	138,875 (172,569) (28,709)	.61 (.56) (.084)
Insurance and finance (60-69)	2.7 (35)	91.5 (3.59)	13 (17.4) (2.28)	116,880 (368,816) (92,524)	121,000 (570,641) (226,090)	.70 (1.55) (.663)
Business Services (47-49, 70-79)	23.9 (372)	90.3 (1.31)	10 (11.9) (.56)	141,273 (376,597) (65,905)	71,891 (262,987) (64,171)	.55 (.70) (.173)
Professional Services (80-89)	17.1 (305)	86.2 (1.83)	12 (13.4) (.75)	123,214 (373,878) (87,058)	64,849 (231,567) (52,637)	.55 (.62) (.119)
TOTAL	100.0 (1804)	83.1 (0.56)	13.0 (13.7) (.323)	320,971 (713,023) (36,472)	191,660 (462,848) (29,056)	.59 (.65) (.034)

Note: reported means are estimates of population averages (with associated standard errors) and were computed using survey weights. Reported medians are simply the 50th percentile of the raw, unweighted data.

drinking and services sectors.[26] Similar patterns characterize corporate Chapter 7 filings in the Northern District.[27]

If we look closely at the experience of these firms in bankruptcy, some important patterns emerge. Table 4 shows that the majority of these firms (62.5%) will be shut down in bankruptcy or will have their petitions dismissed and thereby be exposed to liquidation under state law. In other words, in over sixty percent of the cases, Chapter 11 "fails" in the sense that the distressed business leaves Chapter 11 with its problems unresolved. In another eight cases (7.7%) percent of the cases, the firm is sold off as a going concern. In still another eight cases, the debtor achieves solves the problems that brought it into bankruptcy (such as a threat of eviction by the landlord) without going through the process of confirming a formal plan of reorganization (such as reaching a side deal with the landlord). In only 23 of 104 (22.1%) of the cases do we see something resembling a traditional reorganization, and only 14 of these remain in business, as Table 5 shows. In the others, the reorganized firm subsequently failed and either filed another bankruptcy petition or was liquidated under state law. Failure typically occurred within two and a half years of reorganization.

---

[26] That eating and drinking establishments are overrepresented in bankruptcy squares with anecdotal evidence, but again one must caution against generalizing. Other empirical studies of Chapter 11 do not look at the underlying businesses enough even to know how many are eating and drinking establishments.

[27] We confirmed this by randomly sampling 100 of the more than 300 corporate Chapter 7 filings from the Northern District in 1998. They matched the Chapter 11 cases in debts, assets, age, number of employees, and other characteristics. In observing this, however, we are not claiming that they are identical. The Chapter 7 cases, for example, included twice as many construction firms and half as many restaurants. Again, different forces are at work.

Table 4
Bankruptcy Outcomes, by Industrial Classification

Industry (SIC No.)	Frequency	% reorganized (sd)	% restructured without plan (sd)	% sold off (sd)	% shut down or dismissed (sd)
Construction (15-17)	14	21.4	0.0	0.0	78.6
Manufacturing (20-39)	12	25.0	16.67	25.0	33.3
Transportation (40-48)	4	0.0	25.0	0.0	75.0
Wholesale Trade (4813, 50-51)	3	33.3	0.0	0.0	66.7
Retail Trade (52-59)	14	28.6	14.3	14.3	42.9
Eating and Drinking Places (58)	19	21.5	5.3	10.5	63.2
Insurance Agents (60-69)	3	0.0	0.0	0.0	100.0
Business Services (47-49, 70-79)	18	27.8	0.0	5.6	66.7
Professional Services (80-89)	17	17.7	11.8	0.0	70.6
TOTAL	104	22.1	7.7	7.7	62.5
		(41.70)	(26.78)	(26.78)	(48.65)

Table 5
Outcomes of Reorganizations

Industrial (SIC No.)	Firm failed after reorganizing (frequency) (n) (%) (sd)	Mean years until failure after reorganizing (sd)
Construction (15-17)	1 (3)	.9
Manufacturing (20-39)	1 (3)	4.5
Transportation (40-48)	.	.
Wholesale Trade (4813, 50-51)	0 (1)	.
Retail Trade (52-59)	1 (4)	1.8
Eating and Drinking Places (58)	1 (4)	2.5
Insurance Agents (60-69)	.	.
Business Services (47-49, 70-79)	2 (5)	2.5
Professional Services (80-89)	3 (3)	2.2
TOTAL	9 (23)	2.5
	(39.1) (49.90)	(1.54)

Do these different legal outcomes matter? Does the success or failure of Chapter 11 affect the economic productivity of the firm? These are generally thought to be easy questions with an obvious answer—namely, that a firm will die and its productivity disappear if its Chapter 11 filing is unsuccessful. These questions, however, are not so easy. To be sure, a few Chapter 11 filings involve corporations in which a focus on the corporate entity makes sense. There are businesses that exist independently of whoever happens to own it, and they are qualitatively similar to the large Chapter 11 cases that make the headlines. A restaurant/microbrewery is sold as a going concern, as is a chain of Mrs. Field's cookie franchises and a hotel. A manufacturer of furnace linings sorts out its asbestos liabilities in Chapter 11. But these firms—like Chapter 11 filings involving large corporations—are rare.

Much more common are firms that are organized around the skills of the owner-manager. The business and its owner-operator are one and the same. The business may be a livery service, a small trucking business, or a travel or insurance agency. In each case, it is impossible to separate the business from the person running it. As a result, any effort to sort out the rights and obligations of the corporation in bankruptcy has only a tangential effect on the business itself. These businesses consist of relationships, not assets, and the relationships belong to the individual not the corporation. If you were happy with the work performed last year and wanted to use the same people again, you would be indifferent to the existence of the corporation. You might reengage this entrepreneur without ever knowing (or caring) that the corporate form she is using this year was the different from the one she used last year.[28] Thus, for such businesses, the Chapter 11 of the corporation has virtually no effect on the future of the business.

Although bankruptcy scholars have largely ignored this fundamental characteristic of small business owners, empirical economists have not. They have shown that owner-operators have a taste for running their own business. These small entrepreneurs start their businesses and continue to run them even though they would make more elsewhere,[29] and even though owning such a business requires tying up much of their wealth (typically about half[30]) in the business. Small-business entrepreneurs appear to have a taste for self-employment. Indeed, the strongest predictor of whether an individual will open a business is whether his or her parents did. It is not a question of children being brought into the family business. Most of those who run their own business run a business different from that of their parents.[31] A parent's self-employment experience has a large and statistically significant effect on a son's likelihood of becoming self

---

[28] The customer is indifferent because the corporate form does little more than partition assets. In the first instance, the corporation partitions assets. The creditors of the corporation cannot reach the home or the personal bank account of the entrepreneur. On the other hand, these same creditors know that if the corporation has an account receivable, they will be able to reach it before either the entrepreneur or her own creditors. See Henry Hansmann and Reinier Kraakman, *The Central Role of Organizational Law*, 110 Yale L.J. 387 (2000).

[29] Barton H. Hamilton, *Does Entrepreneurship Pay? An Empirical Analysis of the Returns to Self-Employment*, 108 J. Pol. Econ. 604 (2000).

[30] William M. Gentry and R. Glenn Hubbard, *Entrepreneurship and Household Saving* at 25, NBER Working Paper No. 7894 (Sep. 2000).

[31] Dunn and Holtz-Eakin estimate that at most 36% of second-generation self-employed sons would be classified as entering a family business. Thomas Dunn & Douglas Holtz-Eakin, *Financial Capital, Human Capital, and the Transition to Self-Employment: Evidence from Intergenerational Links*, 18 J. Labor Econ. 282 (2000).

employed, even after controlling for parental wealth and the son's wealth (and other covariates).[32]

A striking characteristic of small businesses is the rate at which they fail. Many small businesses fail each year. Indeed, between 20 and 30 percent of new startups close within their first year; nearly 80 percent close within six years.[33] The failure of the business, however, does not mean that the person who ran it returns to work for someone else never to try again. Although some are not cut out to be entrepreneurs and they return to working for someone else, many are serial entrepreneurs. The founders of one third of all small businesses have started other businesses in the past.[34] Indeed starting a business, then closing it, and beginning another is no more a failure than accepting one job, leaving, and going to another. There is an optimal amount of time to spend at one job before looking for another. The same is true for these owner-operators. Al-

---

[32] *Id.*, at 296-99 A son's probability of becoming self employed rises .015 (relative to an average probability of becoming self employed equal to .031) when his parents are self-employed. In other words, a father's self-employment experience increases the son's probability of becoming self-employed by about 50%. The phenomenon is also independent of wealth. Self-employed parents are significantly more wealthy (three times more wealthy) than non-self-employed parents, and greater parental wealth increases the probability that a son will become self-employed. But the effect is modest. A $10,000 increase in parental assets raises the probability of a son's annual transition to self-employment by .0009. Given that the annual probability of transition is .031, this is a very small effect.

[33] Marc J. Dollinger, *Entrepreneurship: Strategies and Resources* (Prentice Hall 2003).

[34] This figure is derived by Sarasvathy and Menon in their review of the entrepreneurship literature. See Sara D. Sarasvathy and Anil Menon, *Failing Firms and Successful Entrepreneurs: Serial Entrepreneurship as a Temporal Portfolio*, Darden Business School Working Paper No. 04-05 (March 2003). Their finding is consistent with raw data from the U.S. Census Bureau's 1992 survey of the Characteristics of Business Owners (CBO), which indicates that about 35% of business owners previously owned another business. See census.gov/ csd/cbo/1992/www/cbo9201.htm.

though patterns vary across industries,[35] one basic pattern emerges. The longer you are business for yourself, the less likely you are to return to working for someone else.[36] This phenomenon—serial entrepreneurship—is a striking characteristic of the entrepreneurs in our sample. They are overwhelmingly committed to self-employment. Although they are not committed to any particular business, they are committed into being in business for themselves.

Before we focus upon serial entrepreneurship explicitly, however, we look more closely at the businesses and the assets that are owned by the corporations in our study. The close connection between the principal and the business is possible to reconcile with the traditional economic account of Chapter 11 if there is synergy among the assets or between the assets and the distinct skills of the owner-operator of the business. Whether such synergy exists is the focus of the next part of the paper.

---

[35] Most obviously, start-up costs vary by industry. Manufacturing, wholesaling, and retailing have the highest average startup capitalization costs. Professional services, finance, insurance, real estate, and business services are skill-intensive and have relatively low start-up costs. In the construction industry, those who run their own businesses at one time regularly switch to working for someone else and then back to working for themselves again, depending upon the economy and the work that is available. Timothy Bates, *Analysis of Young Small Firms that have Closed: Delineating Successful from Unsuccessful Closures, Bureau of the Census*, Center for Economic Studies Working Paper No. CES-WP-02-24, Bureau of the Census (Oct. 2002).

[36] Indeed, using 1966-81 data from the National Longitudinal Study of Young Men, Evans and Leighton found that the probability of exiting self-employment falls essentially to zero after 11 years. David S. Evans & Linda S. Leighton, *Some Empirical Aspects of Entrepreneurship*, 79 Am. Econ. Rev. 519, 525 (1989).

II. Asset-Specificity and Going-Concern Value

If the assets of a small business are worth more in the hands of the current owner than anywhere else and if Chapter 11 can help ensure that they stay together, then we can justify Chapter 11 on the ground that it preserves going-concern value. Chapter 11 could be justified on the ground that *specialized* assets need to be kept together and the entrepreneur's human capital is put to its best use if it remains with this business. To the extent that the assets of a distressed firm are specialized and more valuable inside the firm than outside it, encouraging entrepreneurs to remain with an existing business might be a good idea. Chapter 11 might prevent the dispersal of a firm's assets when the best use of those assets is within the firm itself. We show, however, that the typical, distressed small business in Chapter 11 has little in the way of firm-specific capital of any value.

In the first section, we analyze the raw data for all of the firms in our sample and offer two different tests of asset specificity. Both point to its absence in all cases but one, restaurants. The next section illustrates this point with a case study of a typical non-restaurant establishment. The concluding section looks at to restaurants, the only type of case where asset specificity is potentially important.

A. Two empirical tests of asset specificity

A policy directed towards saving businesses makes sense only if social value is lost when a firm dies. Social value is lost if the firm's assets generate greater value in their current configuration than in a market sale. This difference—the "going-concern surplus"—exists only if the firm's assets are worth more inside the business than anywhere else.[37] Assets are worth more inside than outside a business when assets are customized to meet a business's idiosyncratic needs or the needs of businesses in the same industry (examples include railroad tracks and brewery equipment). These specialized assets cannot be readily redeployed by other businesses (if the assets are firm-specific) or by firms outside the industry (if they are industry-specific). As a result, plant, equipment, and other specialized assets are relatively *illiquid*. There are few buyers for the assets, and any potential buyers will value the assets significantly less than the seller does.[38] A basic function of bankruptcy law is to protect these illiquid assets and give the business that is using them an opportunity to continue using them. If creditors could seize and sell these assets, they would fetch "fire sale" prices and the firm's going-concern surplus might be destroyed.[39] It might be possible to resurrect the firm by reacquiring or recreating its specialized assets, but this is very costly. Indeed, the liquidation

---

[37] For similar arguments, see Viral V. Acharya, Rangarajan K. Sundaram, & Kose A. John, *On the Capital-Structure Implications of Bankruptcy Codes*, working paper (March 28, 2004); Douglas G. Baird & Robert K. Rasmusssen, *Chapter 11 at Twilight*, 56 Stan. L. Rev. 673, 685-93 (2003); Douglas G. Baird & Robert K. Rasmusssen, *The End of Bankruptcy*, 55 Stan. L. Rev. 751, 768-777 (2002).

[38] See Oliver Williamson, *Corporate Finance and Corporate Governance*, 43 J. Fin. 567 (1998), showing the link between asset specificity and corporate finance.

[39] Andrei Shleifer & Robert Vishny, *Liquidation Values and Debt Capacity: A Market Equilibrium Approach*, 47 J. Fin. 1343 (1992), develop this point. They show that when financial distress is correlated within an industry, bankruptcy law prevents inefficient liquidation of industry-specific assets. In the absence of bankruptcy law, these assets would be sold at fire-sale prices to lower-value users outside the industry; the assets will not be purchased by higher-valuing users within the same industry because they too are suffering distress and are therefore liquidity constrained. For empirical evidence supporting this theory, see Per Strömberg, *Conflicts of Interest and Market Illiquidity in Bankruptcy Auctions: Theory and Tests*, 55 J. Fin. 2641 (2000); Todd C. Pulvino, *Do Asset Fire Sales Exist? An Empirical Investigation of Commercial Aircraft Sale Transactions*, 53 J. Fin. 939 (1998).

of a corporation is often viewed as an irreversible event, or at least one that is significantly costly to reverse.[40]

Asset-specificity, then, is central to an efficiency-based theory of Chapter 11. In the absence of firm- or industry-specific assets, a firm is not worth reorganizing. Because an outsider values the assets at least as much as the firm does, no value is lost if the firm is liquidated. Indeed, value will be saved by avoiding the direct and indirect costs of Chapter 11.[41]

Even a casual glance at the data suggests that in most cases the answer to this question is negative. The bulk of small businesses in bankruptcy—the contractors, the livery services, the retailers—are organized around the skills of the owner-operator. The physical capital of these firms consists of generic tools and equipment. The only significant asset is the human capital of the manager, which can be readily deployed in different businesses. The photographer, electrician, lawyer, and restaurateur can shut down one operation and open another and be just as productive. Put differently, a glance at the data suggests that most small businesses have no specialized assets other than the human capital of the owner-operator. But this human capital is not specialized in the traditional sense that it has more value inside the firm than outside it. Human capital is specialized (and therefore illiquid) because it can be used by only one owner. It is spe-

[40] White, *supra* note 8, at 273, discusses this view. See also Shleifer & Vishny, *supra* note 39.

[41] For recent work on these costs, see Bris, Welch, & Zhu, *supra*. Again, we are focusing on the typical bankruptcy case, not the handful of cases involving tens of millions or more in assets. One can argue that asset-specificity does not matter here either. See, e.g., Douglas G. Baird & Robert K. Rasmussen, *The End of Bankruptcy*, 55 Stan. L. Rev. 751 (2002). But that is not our focus here.

cialized to the owner-operator, not to the firm, and it can be equally productive in many firms. These impressions find solid support in the data.

1. A direct test of asset specificity

We propose two tests for the presence and importance of firm or—industry-specific assets—a direct test and an indirect one. A direct test measures the extent to which a firm's assets are invested in assets, such as plant and equipment, which are relatively illiquid. The value of plant and equipment (and perhaps other specialized assets) is divided by total assets to form an index of asset specificity. The larger this index, the greater the importance of specialized assets in a given firm. To be sure, this index is somewhat crude because it does not account for the possibility that some assets (e.g., office furniture) may be specialized in some firms but not in others. For this reason, we offer an alternative indirect test in the next subsection. Nonetheless, we think the direct test offered here is illuminating, particularly because we obtain fairly strong results. Additionally, this test is well-accepted in the corporate finance literature.[42]

Tables 6 through 9 present the results of this direct test. Tables 6 and 8 present various indices of asset specificity for the median and mean firm. A generous definition of specialized assets would include land (real estate used for a gas station, for example, is costly to use for other purposes) and equipment. Using this definition, about 29% of the median firm's assets and about 41% of the mean firm's assets are "specialized." This

---

[42] See, e.g., Per Strömberg, *supra* note 39; Phillip G. Berger, Eli Ofek, & Itzhak Swary, *Investor Valuation of the Abandonment Option*, 42 J. Fin. Econ. 257 (1996).

Table 6
Measures of Asset Specificity for Median Firm, Corporate Chapter 11 Filings

Industry (SIC No.)	Land & equipment (% of assets)	Equipment (% of assets)	Non-office equipment, (% of assets)
Construction (15-17)	12.1	10.0	7.8
Manufacturing (20-39)	16.1	8.2	4.9
Transportation (40-46)	1.1	1.1	0.0
Wholesale Trade (4813, 50-51)	3.1	3.1	0.0
Retail Trade (52-59)	16.3	13.7	1.3
Eating and Drinking Places (58)	62.0	57.4	50.9
Insurance Agents (60-64)	22.1	22.1	0.0
Business Services (47, 4959, 70-79)	78.7	59.5	6.9
Professional Services (80-89)	16.2	7.6	0.0
ALL FIRMS	28.9	16.5	5.5
ALL FIRMS EXCEPT EATING/DRINKING	17.1	10.6	2.2

Table 7
Asset Specificity of Median Firm, 1998 SSBF Data for Corporations (unweighted)

Industry (SIC No.)	Land & equipment (% of assets)	Equipment (% of assets)
Construction (15-17)	18.9	17.0
Manufacturing (20-39)	29.9	29.6
Transportation (40-46, 48-49)	41.5	38.3
Wholesale Trade (50-51)	11.0	9.8
Retail Trade (52-57, 59)	13.7	11.8
Eating and Drinking Places (58)	65.4	47.7
Insurance Agents (60-64)	18.2	18.2
Business Services (47, 70-79)	24.8	21.0
Professional Services (80-89)	21.1	10.9
TOTAL	21.8	19.0
TOTAL WITHOUT EATING/DRINKING	20.2	17.9

Table 8
Measures of Asset Specificity for Mean Firm, Corporate Chapter 11 Filings

Industry (SIC No.)	Land & equipment (% of assets) (sd)	Equipment (% of assets) (sd)	Non-office equipment, (% of assets) (sd)
Construction (15-17)	21.4 (28.08)	19.7 (28.51)	15.7 (25.35)
Manufacturing (20-39)	33.6 (39.48)	25.2 (35.10)	22.1 (30.12)
Transportation (40-46)	1.1 (1.51)	1.1 (1.51)	0.0 (0.00)
Wholesale Trade (4813, 50-51)	3.7 (4.07)	3.7 (4.07)	0.6 (1.16)
Retail Trade (52-59)	25.9 (27.10)	18.7 (16.95)	9.4 (14.17)
Eating and Drinking Places (58)	61.3 (27.12)	55.8 (28.94)	53.9 (28.26)
Insurance Agents (60-64)	18.3 (11.98)	18.3 (11.98)	3.1 (5.37)
Business Services (47, 4959, 70-79)	65.7 (34.91)	54.2 (38.10)	34.4 (39.87)
Professional Services (80-89)	40.9 (40.85)	20.1 (30.74)	5.1 (14.75)
ALL FIRMS	40.6 (36.45)	31.9 (33.60)	22.9 (31.04)
ALL FIRMS EXCEPT EATING/DRINKING	35.8 (36.79)	26.4 (32.31)	15.8 (27.16)

Table 9
Asset Specificity of Mean Firm, 1998 SSBF Data for Corporations (weighted)

Industry (SIC No.)	Land & equipment (% of assets) (sd)	Equipment (% of assets) (sd)
Construction (15-17)	28.2 (26.49)	25.0 (25.11)
Manufacturing (20-39)	34.2 (26.46)	32.8 (25.75)
Transportation (40-46, 48-49)	41.1 (34.38)	39.4 (33.94)
Wholesale Trade (50-51)	17.9 (21.48)	15.6 (18.65)
Retail Trade (52-57, 59)	23.1 (24.38)	19.4 (20.95)
Eating and Drinking Places (58)	57.6 (33.59)	47.2 (31.37)
Insurance Agents (60-64)	27.0 (30.19)	25.6 (29.35)
Business Services (47, 70-79)	34.3 (32.96)	30.6 (30.26)
Professional Services (80-89)	31.0 (31.02)	28.7 (29.07)
TOTAL	31.25 (30.07)	28.1 (27.84)
TOTAL WITHOUT EATING/DRINKING	29.7 (29.11)	26.9 (27.20)

definition is overbroad. Land is rarely specialized; indeed, economists typically lump real estate together with other non-specialized assets such as cash. Additionally, much of the "equipment" of a small business consists of computers, chairs, desks, and other office equipment, none of which is specialized in any meaningful sense. The columns in Tables 6 and 8 show the effect of excluding these assets from the definition of "specialized" assets. Excluding land, the percentage drops to 16.5% for the median firm and to 31.9% for the mean firm. These are low percentages. The estimate for the median firm, for example, is about half the size of the estimate (32%) obtained by Berger, Ofek, and Swary in their study of publicly-traded firms.[43] The estimates of asset specificity in our sample drop even further when exclude office equipment. For the median firm, the percentage drops to 5.5%; for the mean firm it falls to 22.9%.

We believe that the final estimates—that 5.5% of assets are possibly firm-specific in the median firm and 22.9% in the mean firm—are the most plausible estimates of the importance of asset specificity. But even these numbers are *upper bounds* for the vast majority of firms because the means are heavily influenced by the presence of establishments in the eating and drinking (in which 51% of the assets of the median firm consist of non-office equipment), construction (7.8%), and business services (6.9%) sectors. Exclude eating and drinking and the estimates fall to 2.2% for the median firm and 15.8% for the mean firm. If we also exclude construction and business services, the figures fall to 0.1% and 9.8%, respectively.

---

[43] Berger, Ofek & Swary, *supra* note 42, at 269. The actual percentage is 31.7%, which can be derived from the author's Table 1, which reports that "fixed assets" (plant, equipment, and land) account for 33.6% of assets in the median firm and that land accounts for 5.2% of "fixed assets."

Eating and drinking establishments may indeed have significant specialized assets, but we doubt the same is true for construction and business services. The estimates for these two sectors undoubtedly overstate the extent of firm-specific capital in excavators, drywallers, photographers, graphic designers, and similar establishments. The non-office equipment of the typical construction firm consists of forklifts, hammers, excavation equipment, and other tools. Not only do these tools have thick resale markets, but many firms lease this equipment from third parties. If an otherwise healthy business lost this equipment through theft or fire, it could buy or lease the equipment and continue operations, perhaps without even a break in operations. The same is true for business services. Consider, for example, Advanced Photo & Video Imaging. This photo-processing shop claimed $45,000 worth of photo-developing equipment (cameras, flash meters, film processors, computers), which accounted for 92% of its assets. Among business services, Advanced Photo had the highest ratio of non-office equipment to total assets. Yet this equipment was hardly specialized. Indeed, it represented only about half of the photo-developing equipment used at the firm. The remaining equipment was leased, a hallmark of low asset specificity. Advanced Photo & Video Imaging is a typical case; if we looked closely at each firm with a high fraction of assets invested in equipment, we would find fungible, standardized assets.

Our estimates of asset specificity, then, are biased upward by the presence of a few firms (such as Advanced Photo & Video) with high ratios of standardized non-office equipment to total assets. This bias has its largest effect on our estimates for the mean firm; averages are sensitive to outliers. For this reason, the estimates for the *median firm*—which are less vulnerable to outliers—are the most reliable estimates of the significance of asset specificity in all firms except restaurants. This implies that the typical firm has at most 2.2% of its assets invested in potentially specialized equipment. In other words, the typical small business has a small, perhaps trivial, investment in assets that are *potentially* specialized. Only restaurants present something of a special case, and, as we shall see, the case for valuable firm-specific assets is hard to make even there.

Interestingly, the picture is not much different when we look at healthier businesses in the SSBF sample. As Table 7 shows, about 22% of the median firm's assets consist of land and equipment, which is slightly lower than the 29% figure in our sample. The difference narrows substantially if we exclude restaurants: the median firm in the general population has about 20% of its assets invested in land and equipment; the figure is about 17% in our sample. Similarly, equipment makes up 17.9% of the median SSBF firm's assets (excluding restaurants); the figure for firms in our population is about 11%. Unfortunately, SSBF data do not allow us to distinguish between office equipment and non-office equipment. These results, however, suggest that the low levels of asset specificity observed in our data are not unique to *distressed* small businesses.

2. *An indirect test of asset specificity*

Tables 6 through 9 present a direct test of asset specificity that distinguishes between assets with highly liquid markets (cash) and those with less liquid markets (machinery). It does not identify firms with assets that are sufficiently illiquid that they would generate "fire sale" prices. Although scholars have identified particular assets (e.g., railroad tracks) that are illiquid to this degree, there are no well-accepted criteria for distinguishing illiquid assets generally.

The limitations of the direct test suggest that we look for an alternative test of the presence of firm- or industry-specific assets. One such test, we believe, is whether liquidation of a small business is an irreversible event. If a firm's going-concern value depends on specialized assets that are hard to recreate or reacquire, liquidation should be irreversible or very costly to reverse. We implement this test—which is indirect because it assesses the consequences of asset specificity—by looking at the career histories of the owner-operators of firms that filed Chapter 11 petitions. If owner-operators are able to establish new, similar businesses soon after their firms are liquidated in Chapter 11, we infer that firm-specific assets are relatively unimportant or easy to reacquire (in either case, there is little support for the efficiency-based theory of Chapter 11). Similarly, if the firm in bankruptcy is one of many similar businesses established in the past by the owner-operator, we also infer that asset specificity is unimportant. We must also consider the possibility that the owner-operator will start a different kind of business after his or her firm is liquidated in Chapter 11 (and the possibility that he or she established different businesses in the past). Indeed, the literature on small business entrepreneurs indicates that they may move between different kinds of businesses as they search for an optimal "match."[44] If we see this kind of "firm shopping," we can at least conclude that the owner-operator's human capital is not firm-specific. If human capital is the principal asset in most small businesses, this conclusion is significant and suggests that firm-specific assets are unimportant.

---

[44] See, e.g., Holmes and Schmitz, *Managerial Tenure*, *supra* note 4; Holmes and Schmitz, *On the Turnover of Business Firms*, *supra* note 4.

Tables 10 through 13 report the results of this indirect test. Table 10 shows that, among firms that were liquidated in bankruptcy ("Shutdowns"), the owner-operator had founded a similar business before or went on to found a similar business in the future in nearly 80% of the cases. The percentage rises to 85% if we count any firm founded by the owner-operator, regardless of its similarity to the firm in our sample.[45] The following tables decompose the business experience of owner-managers. Table 11 focuses on their experience *prior to* the Chapter 11 filing in our sample. It shows that between 45 and 47 percent of all owner-operators had founded at least one business that failed before they filed the cases in our sample. There is little difference between owner-operators whose Chapter 11 filings led to shut down ("failures") and those whose businesses survived the bankruptcy process ("successes"). Owners of failures were just as likely as owners of successes to have founded a similar (37.5% and 35.9%, respectively) or dissimilar (15.0% and 17.2%) business that failed in the past.

Table 12 looks at the post-bankruptcy experience of owner-operators. Among firms that were shut down in bankruptcy, the owner-operators went on to found another firm in 50% of the cases. In about 38% of the cases, the new business was similar to the one that was liquidated in bankruptcy. The percentages are, not surprisingly, much lower for owner-managers whose businesses survived the bankruptcy process. An owner-operator surely has less incentive to establish a new business if his or her existing business continues.

---

[45] These estimates, it should be noted, are *lower bounds* because they are based solely on data contained in records maintained by the Secretary of State of Illinois. We have not searched the records of other states to determine whether the entrepreneurs in our sample ever established out-of-state businesses.

Table 10

Whether Owner-Manager Started a Similar or Dissimilar Businesses *Before or After* the Chapter 11 Case

	Started Similar Business % (n) (sd)		Started Dissimilar Business % (n) (sd)		Started Any Business % (n) (sd)	
Industry (SIC No.)	Shutdowns	Other Cases	Shutdowns	Other Cases	Shutdowns	Other Cases
Construction (15-17)	77.8 (9)	20.0 (5)	66.7 (9)	20.0 (5)	88.9 (9)	40.0 (5)
Manufacturing (20-39)	75.0 (4)	50.0 (8)	25.0 (4)	50.0 (8)	100.0 (4)	62.5 (8)
Transportation (40-48)	100.0 (2)	100.0 (2)	0.0 (2)	0.0 (2)	100.0 (2)	100.0 (2)
Wholesale Trade (4813, 50-51)	50.0 (2)	100.0 (1)	0.0 (2)	0.0 (1)	50.0 (2)	100.0 (1)
Retail Trade (52-59)	100.0 (3)	63.6 (11)	66.7 (3)	36.4 (11)	100.0 (3)	81.8 (11)
Eating/ Drinking Places (58)	57.1 (7)	66.7 (12)	14.3 (7)	25.0 (12)	71.4 (7)	83.3 (12)
Insurance Agents (60-69)	50.0 (2)	100.0 (1)	0.0 (2)	0.0 (1)	50.0 (2)	100.0 (1)
Business Services (47-49, 70-79)	83.3 (6)	33.3 (12)	50.0 (6)	8.3 (12)	83.3 (6)	41.7 (12)
Professional Services (80-89)	100.0 (5)	83.3 (12)	0.0 (5)	41.7(12)	100.0 (5)	83.3 (12)
TOTAL	77.5 (40) (42.29)	59.4 (64) (49.50)	32.5 (40) (47.43)	28.13 (64) (45.32)	85.0 (40) (36.16)	70.3 (64) (46.05)

Table 11

Whether Owner-Manager Started a Similar or Dissimilar Business that *Failed Before* the Chapter 11 Case

	Started Similar Business % (n) (sd)		Started Dissimilar Business % (n) (sd)		Started Any Business % (n) (sd)	
Industry (SIC No.)	Shutdowns	Other Cases	Shutdowns	Other Cases	Shutdowns	Other Cases
Construction (15-17)	33.3 (9)	0.0 (5)	33.3 (9)	20.0 (5)	44.0 (9)	20.0 (5)
Manufacturing (20-39)	0.0 (4)	12.5 (8)	25.0 (4)	25.0 (8)	25.0 (4)	37.5 (8)
Transportation (40-48)	0.0 (2)	50.0 (2)	0.0 (2)	0.0 (2)	0.0 (2)	50.0 (2)
Wholesale Trade (4813, 50-51)	0.0 (2)	100.0 (1)	0.0 (2)	0.0 (1)	0.0 (2)	100.0 (1)
Retail Trade (52-59)	100.0 (3)	27.2 (11)	0.0 (3)	18.2 (11)	100.0 (3)	36.4 (11)
Eating/ Drinking Places (58)	42.9 (7)	50.0 (12)	14.3 (7)	16.7 (12)	57.1 (7)	66.7 (12)
Insurance Agents (60-69)	50.0 (2)	100.0 (1)	0.0 (2)	0.0 (1)	50.0 (2)	100.0 (1)
Business Services (47-49, 70-79)	33.3 (6)	16.7 (12)	16.7 (6)	8.3 (12)	33.3 (6)	25.0 (12)
Professional Services (80-89)	60.0 (5)	66.7 (12)	0.0 (5)	25.0 (12)	60.0 (5)	66.7 (12)
TOTAL	37.5 (40) (49.03)	35.9 (64) (48.36)	15.0 (40) (36.16)	17.2 (64) (38.03)	45.0 (40) (50.38)	46.9 (64) (50.30)

Table 12
Whether Owner-Manager Started a Similar or Dissimilar Business *After* the Chapter 11 Case

	Started Similar Business % (n) (sd)		Started Dissimilar Business % (n) (sd)		Started Any Business % (n) (sd)	
Industry (SIC No.)	Shutdowns	Other Cases	Shutdowns	Other Cases	Shutdowns	Other Cases
Construction (15-17)	33.3 (9)	20.0 (5)	11.1 (9)	0.0 (5)	44.4 (9)	20.0 (5)
Manufacturing (20-39)	75.0 (4)	12.5 (8)	25.0 (4)	12.5 (8)	100.0 (4)	25.0 (8)
Transportation (40-48)	100.0 (2)	50.0 (2)	0.0 (2)	0.0 (2)	100.0 (2)	50.0 (2)
Wholesale Trade (4813, 50-51)	50.0 (2)	0.0 (1)	0.0 (2)	0.0 (1)	50.0 (2)	0.0 (1)
Retail Trade (52-59)	0.0 (3)	27.3 (11)	66.7 (3)	27.3 (11)	66.7 (3)	54.6 (11)
Eating/ Drinking Places (58)	14.29 (7)	33.3 (12)	0.0 (7)	8.3 (12)	14.3 (7)	41.7 (12)
Insurance Agents (60-69)	50.0 (2)	100.0 (1)	0.0 (2)	0.0 (1)	50.0 (2)	100.0 (1)
Business Services (47-49, 70-79)	33.3 (6)	8.3 (12)	33.3 (6)	0.0 (13)	50.0 (6)	8.3 (13)
Professional Services (80-89)	40.0 (5)	41.7 (12)	0.0 (5)	16.7 (12)	40.0 (5)	50.0 (12)
TOTAL	37.5 (40) (49.03)	26.6 (64) (44.52)	15.0 (40) (36.16)	10.9 (65) (31.46)	50.0 (40) (50.64)	35.9 (65) (48.36)

Table 13
Whether Owner-Manager *Started or Continued Running* a Similar or Dissimilar Business *After* the Chapter 11 Case

	Started Similar Business % (n) (sd)		Started Dissimilar Business % (n) (sd)		Started Any Business % (n) (sd)	
Industry (SIC No.)	Shutdowns	Other Cases	Shutdowns	Other Cases	Shutdowns	Other Cases
Construction (15-17)	55.6 (9)	20.0 (5)	44.4 (9)	0.0 (5)	66.7 (9)	20.0 (5)
Manufacturing (20-39)	75.0 (4)	37.5 (8)	25.0 (4)	37.5 (8)	100.0 (4)	62.5 (8)
Transportation (40-48)	100.0 (2)	100.0 (2)	0.0 (2)	0.0 (2)	100.0 (2)	100.0 (2)
Wholesale Trade (4813, 50-51)	50.0 (2)	0.0 (1)	0.0 (2)	0.0 (1)	50.0 (2)	0.0 (1)
Retail Trade (52-59)	0.0 (3)	45.5 (11)	66.7 (3)	27.3 (11)	66.7 (3)	63.6 (11)
Eating/ Drinking Places (58)	57.1 (7)	41.7 (12)	0.0 (7)	25.0 (12)	57.1 (7)	66.7 (12)
Insurance Agents (60-69)	50.0 (2)	100.0 (1)	0.0 (2)	0.0 (1)	50.0 (2)	100.0 (1)
Business Services (47-49, 70-79)	66.7 (6)	16.7 (12)	33.3 (6)	0.0 (13)	66.7 (6)	16.7 (13)
Professional Services (80-89)	80.0 (5)	50.0 (12)	0.0 (5)	16.7 (12)	80.0 (5)	58.3 (12)
TOTAL	60.0 (40) (49.61)	39.1 (64) (49.17)	22.5 (40) (42.29)	17.2 (64) (38.03)	70.0 (40) (46.41	51.6 (64) (50.37)

Table 12, however, underestimates the frequency with which owner-operators start over again when their businesses fail. Many small entrepreneurs run multiple firms simultaneously. Instead of increasing the scale of one business to serve a new location, the small entrepreneur may start an entirely separate business. Or the entrepreneur may diversify his or her business portfolio and establish a completely different business. As with any diversification strategy, by owning multiple businesses an entrepreneur effectively avoids the costs of starting over again when any one business fails. The death of any one business does not disrupt the entrepreneur's. Table 13 takes account of an entrepreneur's ability to "start over" either by founding a new business or by continuing other business when one firm fails. Among firms liquidated in bankruptcy, owner-operators started a new business or continued other businesses in 70% of the cases. In 60% of the cases, the new or continued businesses were similar to the one shut down in Chapter 11.

These results are striking. Over 75% of the owner-managers in our sample are serial entrepreneurs. For those whose firms were shut down in bankruptcy, this legal outcome was a non-event. Over 70% of them moved on to other firms. The only effect of Chapter 11 was to *delay* the time when they moved on. These figures are very large; keep in mind that the probability of becoming self-employed is only about 20% generally[46] and only 30% among sons of fathers who were once self-employed.[47] Our estimates are large, but they are reasonable. The median firm in our sample was about

[46] Douglas Holtz-Eakin, David Joulfian, and Harvey S. Rosen, *Entrepreneurial Decisions and Liquidity Constraints*, 25 Rand J. Econ. 334 (1994).

[47] Dunn and Holtz-Eakin, *supra* note 31.

seven years old, as Table 2 showed, and about 40% of the entrepreneurs had founded businesses that failed before they filed the Chapter 11 petitions in our sample. Thus, a large fraction of the small-business owners in our sample had well over seven years of experience in self-employment. Previous empirical work has shown that, for entrepreneurs with this much experience, the probability of exiting self-employment is very low (indeed, the probability is *zero* among entrepreneurs with at least eleven years of experience).[48]

These results seriously undermine the possibility that small businesses in bankruptcy possess specialized assets that merit the protection of Chapter 11. Owner-operators face little or no difficulty in starting over again. Whatever benefit the owner-operator enjoys from the Chapter 11 process (such as a reduction in her personal liability for the IRS obligations of the business), the outcome of a Chapter 11 proceeding—reorganization or liquidation—is largely irrelevant to what they do in the future. The dry-wall contractor will continue hang dry wall; the stand-alone travel agent will remain a stand-alone travel agent.

B. A case study of asset specificity

Nieman Industries was the first corporation to file a Chapter 11 petition in the Northern District of Illinois in 1998. By the usual accounting, it is an example of an unsuccessful Chapter 11. No disclosure statement was ever filed and the petition was dismissed without a plan of reorganization being proposed, let alone confirmed. Academics have long recognized that most Chapter 11s fail, but some defend it on the ground

---

[48] See Evans and Leighton, *supra* note 36, at 525.

that failures such as Neiman Industries are a necessary byproduct of a system designed to preserve viable businesses. In any event, there are jobs and relationships that might be worth saving. If for every three Niemans that file, one succeeds, Chapter 11 might be worth its costs.

A closer examination of the business and the entrepreneur who ran it, however, tells an altogether different story. Nieman Industries is a maker of molded plastics for automobile, consumer products, computer, and electronic parts supply industries. Nieman leased the equipment it used to manufacture its plastic parts. Shortly after the petition, the equipment lessor demanded that the debtor either assume or reject the lease. Unlike leases of real property, the Bankruptcy Code sets no deadlines for rejecting or assuming leases of equipment. The Bankruptcy Code gives the judge a free hand to temporize. The debtor is required to ensure that the lessor is adequately protected for the interim use of the equipment, but in practice there is an opportunity—implicitly embraced by some academics[49]—to make the lessor bear part of the cost of the Chapter 11. For example, if the debtor can argue that the lease is in fact a secured transaction and the equipment is worth less than the remaining lease obligations, the debtor is obliged to pay only for the depreciation in the nominal value of the equipment, not for the time value associated with its use.[50] In this respect, as well as in others, the Bankruptcy Code provides enough slack to create a subsidy to continue the business.

---

[49] See the discussion in Douglas G. Baird, *Bankruptcy's Uncontested Axioms*, 108 Yale L.J. 573 (1998).

[50] *United Savings Ass'n.* v. *Timbers of Inwood Forest Ass'n.*, 484 U.S. 365 (1988).

But little is to be gained from keeping a business such as Nieman Industries alive. Like the vast majority of small corporations in Chapter 11, there is no going-concern value. Nieman Industries, the corporation, is a collection of entirely fungible equipment set up inside a nondescript building in an industrial park. It could be reassembled in almost no time at small cost. The equipment, while expensive, has no special value in this corporation as opposed to another that makes plastic parts.[51]

If, instead of focusing on the corporation, we look at the owner-operator, a completely different picture emerges. Scott Nieman founded the business with help from his father (who owned his own plastic molding business) several years before. Scott is unlikely to work for someone else. By upbringing and temperament, those in his position are willing to incur substantial costs and forego higher income elsewhere to run their own business.[52] But his human capital was not firm specific. Scott had industry-specific human capital and the challenge was one of creating the firm that best matched this human capital. By the time of the Chapter 11, the most valuable asset in the enter-

---

[51] To the extent that equipment for making plastic parts requires customized dyes, these would belong not to Nieman, but to Nieman's downstream customers. The idea that specialized equipment can be used in arms' length transactions in the market instead of being located within a particular firm is one of the foundational ideas of industrial organization. Indeed, Nieman's business (a supplier of parts to, among others, auto manufacturers) is the iconic example of such relationships. Coase was, of course, the first to understand this. See R.H. Coase, *The Nature of the Firm*, 4 Economica 386 (1937); R.H. Coase, *The Acquisition of Fisher Body by General Motors*, 43 J L & Econ 15, 21–27 (2000).

[52] Scott's father was the owner-operator of a different business in the same industry. This alone makes Scott three times more likely than the average person to run his own business. At this point in his career, a decade after starting Nieman Industries, Scott is exceedingly unlikely to work for anyone else—*ever*. Using 1966-81 data from the National Longitudinal Study of Young Men, Evans and Leighton, *supra* note 36, found that the probability of exiting self-employment falls from about 10 percent in the early years to 0 percent by the 11th year.

prise was Scott's relationships with various customers. This asset did not belong to the corporation. The creditors of the corporation had no right to Scott's human capital. This human capital—industry specific, but not firm specific—would exist regardless of whether the corporation continued or was liquidated.

In other words, the stakes in this case had nothing to do with the corporation, but everything to do with Scott and his specialized human capital. Nothing prevented him from walking away from the corporation, free either to start another business or to work for someone else. It would be a mistake for the policies governing the reorganization of the corporation Scott founded to distort his career choices. Yet Chapter 11 as written allows judges to do exactly this. It can be interpreted in a way that keeps Scott's human capital tied to Nieman Industries regardless of whether it otherwise makes sense. The automatic stay and other bankruptcy rules provide a chance to divert assets from lessors, landlords, and general creditors that make keeping this business afloat relatively more attractive than starting another.[53]

If given the chance to advantage of Chapter 11 in this manner, Scott would be acting rationally, just as those who remain in a rent-controlled apartment that is too small or too far from work are acting rationally. Moreover, such interpretations of Chapter 11 make it more likely at the margin that someone in Scott's position will re-

---

[53] In this case, Chapter 11 could have provided two sorts of distortions. First, it may have allowed Scott to keep the leased equipment and pay something less than he would otherwise have to. Second, Scott had guaranteed a $78,000 secured loan from the bank. By putting Neiman Industries in bankruptcy, Scott can ensure that whatever assets exist go to the bank rather than, let us say, to trade creditors, as would likely happen if the business continued to operate outside of bankruptcy.

main self-employed and not work for anyone else.[54] But there is an economic distortion nevertheless. While it might be a good thing to encourage entrepreneurs like Scott to remain entrepreneurs, it is a bad idea to encourage them in a way that biases them towards keeping businesses like Nieman Industries alive. Those in Scott's position are serial entrepreneurs. They are likely to keep starting businesses until he finds one that provides the best match with his human capital. Even if we want to encourage him to be an entrepreneur, we have no reason to encourage him to be with one business rather than another.

There might be businesses that look on the surface like Nieman Industries but fit the profile of the traditional candidate for a corporate reorganization. The equipment might have been specialized. A large group of creditors might have been closing in on the assets. The speed of the nonbankruptcy debt-collection process and an inability to renegotiate with everyone simultaneously might lead to a premature dismantling of the business. Chapter 11 might give the owner of the business time to form new contracts and put the business back on course. But these cases are unusual, and Nieman Industries was not one of them. To the extent that we interpret the Bankruptcy Code (as some

[54] Small entrepreneurs are liquidity constrained. Using data on entrepreneurs between 1981 and 1985, one study found that a $100,000 inheritance increased the probability of becoming self-employed by 3.3% (from 19.3% to 22.6%). An entrepreneur is more likely to stay in business if he or she receives a bequest. See Douglas Holtz-Eakin, David Joulfian, & Harvey S. Rosen, *Sticking it Out: Entrepreneurial Survival and Liquidity Constraints*, 102 J. Pol. Econ. 53 (1994). Using data on entrepreneurs between 1981 and 1985, these authors found that a $150,000 inheritance increased the probability of survival by about 1.3 percentage points (the average probability of survival was 77.6 percent). The implicit subsidy that Chapter 11 provides should work in the same way at the margin.

advocate[55]) to allow cases like Nieman to linger, we are not preserving going-concern value, but are instead distorting the career path of the owner-operator.

In practice, the Bankruptcy Code may cause relatively little distortion of the small entrepreneur's career path. At least in the Northern District, the judges are willing to take decisive action when the appropriate motion is put before them. The judges are completely aware that the costs of reassembling a business are easy to overstate. As one judge on the court put it, forming a new business after the old one fails is not the same as starting from scratch. It is much more like starting a videogame over after one's character has come to an untimely end. Retracing the path (and not repeating the previous mistakes) is much easier the second time.

When bankruptcy judges are willing to confront issues directly and resolve them quickly, Chapter 11 creates little or no distortion at all, and the judges in the Northern District have little taste for delay. Within eight weeks, Nieman Industries' Chapter 11 petition dismissed. The corporation was dissolved under state law a few weeks after that. Scott's career continued on its natural course. Scott's comparative advantage lay in identifying those who needed plastic parts and matching them with those who could make them, rather than in manufacturing the parts themselves. He soon started another business, one that took advantage of his expertise and his relationships, but without the fixed overhead costs that doomed Nieman Industries. Scott remains a supplier of cus-

---

[55] See, e.g., A. Mechele Deckerson, *The Many Faces of Chapter 11: A Reply to Professor Baird*, 12 Am. Bankr. L. Rev. 109, 117 (2004) ("Without chapter 11, it would be virtually impossible for the owner to continue his trade (as a lawyer, chiropractor, plumber, etc ...) or to start another small business (like an insurance company or funeral home) unless he could discharge the business debts before attempting to sort out his personal debts.").

tomized plastic parts, but subcontracts the actual manufacturing to others. This story is utterly typical for the small entrepreneur. It is no more desirable that Scott Nieman spend his life overseeing a manufacturing operation than that Yo-Yo Ma play the violin.[56]

By conventional accounts, the Chapter 11 of Nieman Industries was a failure. There was no confirmed plan and no distribution of any kind to the general creditors. There was no creditors committee and no collective decisionmaking about the fate of the business. A more appropriate view of Chapter 11, however, should count it as a notable success. Central to the Chapter 11 of Nieman Industries was whether it made sense for Scott to use his human capital as part of this manufacturing operation. The Court confronted this question within a few weeks of the petition and answered in the negative. The equipment went back to the lessor, and Scott found a business that better matched his skills with the marketplace.

C. The case of restaurants

Restaurants are the small business that requires the greatest capital investment to start. Even a modest fast-food operation, such as a mid-range Subway sandwich shop, requires an investment of $150,000. A fine dining restaurant easily requires $1 million or more. It might seem that an important role for Chapter 11 is to preserve such invest-

---

[56] The analogy is Richard Thaler's. See Richard Thaler, *Address: "Finding Your Cello,"* 38 Univ. Chicago Record 7 (June 2003). As Thaler points out, Yo-Yo Ma began as an indifferent violinist and discovered his genius only when he switched to the cello. If he had not switched when he did, he might never have excelled at either. Exactly when Yo-Yo Ma should have given up the violin admits of no easy answer. It is never easy to know when to switch jobs or form new businesses. But nothing suggests that we make things better with a legal rule that pushes the time forward or backward.

ments. A restaurateur cannot begin a new restaurant the way a travel agent or insurance broker can open a new office.

Here again, however, matters are more complicated than they might at first appear. The kitchen equipment itself is typically portable and there is a robust secondary market for it. The ranges, ovens, and counters are often on wheels and in any event are readily moveable. Moreover, the equipment itself is not expensive relative to the capital needed to open a restaurant. Indeed, the ovens and stoves used in restaurants cost less than high-end equipment for consumer use, as they have none of the insulation or finishes that home kitchens require.

To be sure, the build-out of generic retail space into space suitable for a restaurant is expensive. Merely meeting health code requirements for everything from handsinks to grease traps to air vents can cost hundreds of thousands. But these investments are not *firm*-specific. A Mexican restaurant can use the same kitchen space and the walk-in refrigerator as readily as an Italian restaurant. Of course, if it turns out that the space is a poor location for a restaurant, any money spent on the kitchen will be lost, but Chapter 11 can do nothing to change this.

The build-out of the dining space, however, is costly and not readily saleable. While the kitchen of a three-star restaurant is barely distinguishable from one that serves the most pedestrian country-club food, the dining rooms of such restaurants are radically different. These represent substantial capital investments that are tightly tied to the business plan of the owner-operator. Converting the décor of a dining room of an Italian restaurant to a seafood restaurant can again run into the hundreds of thousands of dollars. These huge sunk expenditures, however, are incurred by a small fraction of restaurants. While the décor of the upscale fine-dining restaurant can run into the millions, the typical restaurant (and the one that typically ends up in Chapter 11) is a much more modest affair. Moreover, the amount of money invested is a sunk cost. The value of the carpeting, wall-cover, and eclectic furniture of a given restaurant turns entirely on the revenue they generate going forward. They have value only if they bring in business.

Restaurants in financial distress are very often in economic distress as well. Restaurants are so prone to fail that a restaurant may not have an institutional lender at all. They begin without little or no debt in the capital structure, and they get into trouble because they cannot even meet their operating expenses. The restaurant stays in business by stretching out payments to trade creditors, falling behind to the landlord, and then invading the trusts established for withholding taxes. The restaurant's inability to pay creditors signals that it has no future as a going concern. Any assets specialized to this particular restaurant are worthless.

Table 14 makes these points clear. Restaurants are among the firms least likely to have bank debt; only 26% of restaurants have any institutional debt. Even among those that do, such debt accounts for only a quarter of the debt of the median firm. For other firms, it accounts for nearly half of the debt burden. Failing restaurants are not in trouble because they are unable to repay their investors. Rather, they are in financial distress because they are in economic distress. They are unable to pay ongoing trade debt and taxes. Restaurants are, for example, among the most likely to have IRS debt (68%). And among those with IRS debt, unpaid taxes account for 21% of total debt, a much higher percentage than we find in any other type of firm outside of the services sector. Most restaurants in Chapter 11 have business models that have failed. Their hard assets may be specialized, but they are not worth saving on that account.

Table 14
Debt Composition of Firms in Chapter 11

Industry (SIC No.)	Firms with bank debt (%) (n) (sd)	Secured debt as % of total debt, among firms with secured debt (median) (mean) (sd)	Firms with IRS debt (%) (freq) (sd)	IRS debt as % of total debt, among firms with IRS debt (median) (mean) (sd)
Construction (15-17)	85.7 (14)	37.6 (36.9)	85.7 (14)	6.6 (11.1)
Manufacturing (20-39)	50.0 (12)	65.1 (63.8)	36.4 (11)	8.6 (34.3)
Transportation (40-48)	25.0 (4)	25.6 (25.6)	33.3 (3)	0.6 (.6)
Wholesale Trade (4813, 50-51)	100.0 (3)	52.1 (62.3)	33.3 (3)	6.5 (6.5)
Retail Trade (52-59)	57.1 (14)	41.8 (46.9)	41.7 (12)	1.5 (11.5)
Eating/ Drinking Places (58)	26.3 (19)	26.7 (40.8)	68.4(19)	21.0 (25.0)
Insurance Agents (60-69)	0 (3)	. (.)	66.7 (3)	1.6 (1.6)
Business Services (47-49, 70-79)	50.0 (18)	41.6 (46.1)	56.3 (16)	22.6 (29.8)
Professional Services (80-89)	52.9 (17)	52.4 (51.7)	76.5 (17)	22.4 (30.3)
TOTAL	51.0 (104) (50.23)	43.6 (47.1) (25.36)	61.2 (98) (48.97)	12.7 (22.0) (24.94)

Three restaurants in our sample did reorganize successfully and remain in business today. In none of these cases, however, did the Chapter 11 have much to do with preserving going-concern value. Consider, for example, the Chapter 11 case of a Subway sandwich shop that had been sold to a new owner only a few months before. The owner-operator of a Subway sandwich shop was inexperienced and the business operated at a loss. Mistakes included hiring too large a staff and overpaying sales tax. The short time spent in Chapter 11 allowed him to fix these problems. He fired fulltime workers and replaced them with a succession of part-time workers in addition to other management changes. He proposed and confirmed a 100% plan and several years later sold the business to someone else and, as we have seen many times, went on to acquire a new one.

This entrepreneur's successful use of Chapter 11 is different from the usual story told about Chapter 11. The business had little in the way of specialized assets. The equipment in a Subway sandwich shop is usually leased and is readily moved. The money needed to convert a leased storefront to Subway franchise is small. Indeed, it was sufficiently small that after the entrepreneur who went through Chapter 11 sold it, the new owner of the franchise moved the business two doors down. He was able to close at one location on one day and open the new one (with the same equipment) the next. There was no collective decisionmaking involved either, but rather tough decisions (such replacing all the permanent employees with part-time workers) that successful entrepreneurs need to make to survive. This case, unlike the overwhelming majority of the other restaurants in the sample, had a business plan that was fundamentally sound.

A similar theme emerges from the case of Taco Fiesta. The owner-operator of a thriving Mexican restaurant opened another at a different location that failed. The business ended up owing the landlord at the second location almost $60,000. The owner-operator was personally liable on this debt. In this case, the challenge the owner-operator faced was one of returning to his core competence. He likely could have done this by walking away from this restaurant, filing his own personal bankruptcy petition, and starting a new restaurant. But it was marginally easier to keep running this restaurant and use Chapter 11 to resolve disputes with the outstanding creditors.[57]

Again, the problem in Taco Fiesta had little to do with asset specificity. Instead it was a case in which the serial entrepreneur was able to match his human capital with a business by returning to the sound business embedded inside the one that failed. The Chapter 11 succeeded not because it preserved going-concern value, but because it did not distort the entrepreneur's decisionmaking. As we show in Part III, this is the striking characteristic of the successful Chapter 11 reorganization. A successful business emerges only if the entrepreneur's skills are matched with a business already inside the existing one. This match, however, bears little relationship with firm-specific capital. Because no specialized physical capital is involved, the owner could recreate the match at low cost even if the firm was liquidated. To be sure, the costs, while low, are not zero, and Chapter 11 may reduce transaction costs in cases like Taco Fiesta. If an owner-operator successfully operates a business but fails in an effort to expand it, Chapter 11

---

[57] In this case, as in one other successful reorganization, the owner-operator filed a personal bankruptcy petition at the same time. Personal bankruptcy petitions are relatively common at some point in the careers of the serial entrepreneurs in our sample. About half file their own personal bankruptcy petition at one time or another.

can help him or her to run to the old business. The net effect of Chapter 11, however, is unclear even here. The bankruptcy process comes with its own administrative costs. More to the point, Chapter 11 rarely succeeds when there is no core business inside the existing corporate shell to which the entrepreneur can return. As we discuss in the next part, the Chapter 11 process simply does not aligns itself with the needs of the serial entrepreneur in any other environment.

III. Why Chapter 11?

In Part II, we showed that entrepreneurs rarely use Chapter 11 to preserve a going-concern surplus. This part asks why entrepreneurs use Chapter 11 at all. If the typical small entrepreneur is searching for the right match between her human capital and a business, why should she use Chapter 11 to remain with the financially distressed business rather than start a new one? The short answer is that she does not. Fewer than 1% of entrepreneurs running a failing business turn to Chapter 11.[58] The typical small entrepreneur does not linger with a financially distressed business. Entrepreneurs who try one business usually cut their losses and go on to start another when the first fails. As a general matter, small entrepreneurs do not use Chapter 11.

Even so, the appropriate question is not why so few entrepreneurs use Chapter 11, but why *any* do, given that it does little or nothing to preserve going-concern value.

---

[58] Owner-operators shut down more than a million businesses each year. See Bureau of Labor Statistics, Business Employment Dynamics project (bls.gov/bdm/home.htm), Custom Tables (reporting that 1.1 to 1.4 million establishment closings per year during the 1994-2003 period). By contrast only 10,000 file Chapter 11 petitions. Even this overstates the importance of Chapter 11, as many Chapter 11s involve individuals or represent multiple filings by related entities or serial filings by the same entity.

Our study of the Northern District points to three different answers: asset sales, bargaining leverage, and lock-in. Asset sales are often more easily and more efficiently accomplished in a Chapter 11 proceeding than under state law. These cases, however, are only a minority of Chapter 11s.[59] Most businesses do not enter bankruptcy to avoid inefficiencies in state-law. They enter precisely to take advantage of potential inefficiencies *created by* Chapter 11. One of these inefficiencies is that, in bankruptcy, entrepreneurs enjoy significantly stronger bargaining power in a dispute with a creditor, landlord, or some other third party. Chapter 11 is an attractive vehicle for extracting rents from these counterparties. Another potential inefficiency is the lock-in effect: Chapter 11 may encourage owner-managers to remain too long in existing business structures. We take up each of these issues in the following sections.

A. Asset Sales

For small businesses as well as large ones, Chapter 11 offers a way for a financially distressed business to sell its assets and divide the proceeds among the claimants. As Panel A of Table 15 shows, in about 10% of the Chapter 11 petitions in the Northern District (10 cases), the bankruptcy judge served as an auctioneer. In half of these cases (5), the firm entered Chapter 11 solely to sell itself as a going-concern to the highest bidder. The remaining five firms entered bankruptcy primarily to sell assets and use the

---

[59] Over the population of Chapter 11 cases as a whole, asset sales take place only in a minority. If we focus on larger cases, however, sales are more common and make take place in half the cases or more. See Douglas G. Baird and Robert K. Rasmussen, *Chapter 11 at Twilight*, 56 Stan. L. Rev. 673 (2003).

Table 15

Reasons for Filing Chapter 11 Petitions, By Case Outcome

	Shutdowns & Dismissals (n=65) (%) (freq)	Reorganizations (n=23) (%) (freq)	Restructurings without a plan (n=8) (%) (freq)	Going Concern Sales (n=8) (%) (freq)	All Cases (n=104) (%) (freq)
Panel A: Types of Chapter 11 Filings					
Asset sales	6.2 (4)		12.5 (1)	62.5 (5)	9.62 (10)
Exploiting enhanced bargaining power	1.5 (1)		37.5 (3)		3.9 (4)
Obvious Lock-In	83.1 (54)			37.5 (3)	54.8 (57)
"Traditional" Chapter 11's	3.1 (2)	73.9 (17)	12.5 (1)	0.0 (0)	19.2 (20)
Panel B: Evidence of Obvious Lock-In					
Converted or Dismissed because …					
Ignoring procedural requirements	47.7 (31)				29.8 (31)
Failing to pay ongoing expenses	36.9 (24)				23.1 (24)
Abusing process to harm creditors	12.3 (8)				7.7 (8)
Evading liability for fraud or other wrongdoing	13.9 (9)			37.5 (3)	11.5 (12)
Trying to avoid loss of executory contracts	7.7 (5)				4.8 (5)
Explicitly using Ch. 11 to change business model	3.1 (2)				1.9 (2)
Using Ch. 11 to favor insider-creditors	1.5 (1)				1.0 (1)
Any Evidence Of Lock-In	83.1 (54)			37.5 (3)	54.8 (57)
Panel C: Evidence of "Traditional Cases"					
Overexpansion	7.7 (5)	47.8 (11)	12.5 (1)	25.0 (2)	18.3 (19)
Cost overruns from reconfiguring assets	3.1 (2)	8.7 (2)	25.0 (2)		5.8 (6)
Cash shortages from loss of customers	9.2 (6)	13.0 (3)	12.5 (1)		9.6 (10)
Asbestos liability		4.4 (1)			1.0 (1)
Any Traditional Event	20.0 (13)	73.9 (17)	50.0 (4)	25.0 (2)	34.62 (36)
Traditional Events, excluding sales, lock-in, etc.	3.1 (2)	73.9 (17)	12.5 (1)	0.0 (0)	19.2 (20)

proceeds to increase cash flow sufficiently to overcome their financial distress. As Panel A indicates, for most of these firms (4) the sale did not ensure a successful Chapter 11 case; they ended up in liquidation or with their cases dismissed.

Using Chapter 11 to effect a sale of the assets is especially likely when one of the potential buyers identified before the bankruptcy is allied with the current owner-manager. The Chapter 11 process ensures that the sale brings top dollar and prevents self-dealing. Billy's Good Life Café illustrates how assets are sold in Chapter 11. Billy Moss had opened other restaurants before attempting the Good Life Café. He had to make a large capital investment to convert the space into the café he desired. When it failed, there was no possibility of a going-concern sale. Any restaurant on this site (even one run by Billy) would have to change the décor, the menu, and the market niche in order to succeed. Nevertheless, any new restaurant would be able to take advantage of the investment already made in converting the space into a restaurant. As a serial entrepreneur, Billy Moss might be the one who put the highest value on this space. Outside of bankruptcy, however, neither Billy nor a group allied with him could acquire the asset from the corporation and be confident that they could take it free from the debts of the existing business. Chapter 11, however, provides a mechanism that allows Billy to bid for asset and take it free of the claims of the creditors in the event he turns out to be the person who values it the most. As it happened, another group provided the high bidder. Like the Good Life Café, the restaurant they opened failed too. The space finally became a successful restaurant (serving Mexican food) under its third owners.[60]

---

[60] This story is not unusual. For an example of a restaurant that went through five incarnations (and two bankruptcies) before finding its niche, see *id*., at 687-89.

For both large cases and small, Chapter 11 is becoming the platform that allows the sale of assets free and clear of old claims and encumbrances. If one were designing a legal system from scratch, it is not obvious that one would want a mechanism originally designed for restructuring 19th Century railroads to provide the avenue for a going-concern sale of assets. Nevertheless, Chapter 11 seems to work effectively in this environment.

B. *Bargaining Power*

Some entrepreneurs are drawn to Chapter 11 because it gives them a unique opportunity to extract concessions from creditors. In at least four cases in our sample (3.9%), the owner-managers filed a petition solely to exploit their enhanced bargaining-power. In many other cases, exploitation of bargaining power was an important part of the reason for filing.

Consider, for example, Myron & Phil's Steakhouse. The owners dismissed an employee who in turn sued for sexual harassment and age discrimination. The case went to trial, but ten minutes after it began, the owners put the restaurant in Chapter 11. This well-established Skokie restaurant had few problems other than this disgruntled employee.[61] The Chapter 11 changed the dynamics of the negotiations between the owner-operators of the business and the employee. Once the lawsuit was settled, the Chapter 11 case was dismissed.

---

[61] Indeed, the only other problem of significance was a race discrimination action a cook brought against them. The owners ultimately secured a dismissal of this claim in Chapter 11. They were helped in large measure by a long letter the cook had written that documented numerous instances of abuses and misbehavior on their part. None of them, however, evidenced race discrimination.

Another case in which Chapter 11 was used to change bargaining dynamics is ABO Taxicab. In this case, the creditor that had financed the purchase of the medallions threatened to levy on the assets. As in Myron & Phil's, no other creditors were in the picture. The Chapter 11 again changed the bargaining dynamics and once the parties reached agreement, the case was dismissed. Here again is a case in which there are no firm-specific assets, and the entrepreneur is able to and does in fact start many other businesses. Indeed, the entrepreneur in ABO started at least ten other cab companies, one of which also entered Chapter 11, again resolving a dispute with the creditor who had financed the purchase of the medallions.

Some cases involve both a sale and a strengthening of the bargaining hand. M&V Corp. was a family-run music and video retailer founded January 31, 1983. It entered Chapter 11 so it could sell a piece of real estate that its bank would have otherwise foreclosed upon. Once the sale took place, the case was dismissed. The business itself subsequently closed, but there was again no particular going-concern surplus associated with it. The owner-operator then directed his attention to a different music and video store—this third.

In part because of the special treatment of leases and executory contracts, entrepreneurs sometimes use Chapter 11 to improve their positions with their landlords or parties with whom they have long-term contracts. One case, for example, involved a Greek restaurant that had fallen behind on its rent. Its landlord had the chance to sell the underlying real estate to a third party. By filing for bankruptcy and curing the default, the restaurant could ensure that it could share in the premium that the landlord obtained from the sale.[62]

C. Lock-In and Liquidity

Asset sales and simple exploitation of bargaining power account for only about 13% of the sample. Lock-in explains most of the remaining cases. The primary attraction of Chapter 11 is that it offers a venue in which a small-business owner can (temporarily) fend off landlords and trade creditors, increase short-term cash flow, and cut deals with large creditors (usually secured lenders and the IRS) to whom the owner had given personal guarantees of the firms' indebtedness.[63] Thanks to the Bankruptcy Code's automatic stay and priority rules, a small business can operate in bankruptcy free from creditor collection efforts and is barred from servicing its debt until a plan of reorganization is confirmed. Additionally, the business can exercise its powers under section 365 to assume profitable executory contracts, reject (i.e., breach) unprofitable ones, and defer paying breach-of-contract damages until a plan is confirmed (and, in the case of real estate leases, these damages will be capped, thanks to section 502). These provisions of

[62] When Chapter 11 can be used to capture such substantive benefits, we should be aware that it will have an effect on bargaining that takes place outside of bankruptcy. A debtor who can credibly threaten to invoke §365 in bankruptcy should be able to capture the benefits in bargaining with the landlord or contracting party without actually having to file.

[63] A promise not to file for bankruptcy is ordinarily unenforceable. See *United States* v. *Royal Business Funds Corp*., 724 F.2d 12 (2d Cir. 1983). Exceptions typically arise only when there is a comprehensive workout outside of bankruptcy. See, e.g., *In re Colonial Ford*, 24 Bankr. 1014 (D. Utah 1982). Hence, the distortions Chapter 11 introduces cannot be cashed out in advance through Coasean bargaining.

the Code improve a small firm's liquidity, at least for a short while, largely at the expense of unsecured creditors.

Liquidity is an important determinant of the life-span of small businesses. While starting a new business is not costly,[64] it is not costless either. Owner-operators do not have ready access to credit markets. The risks associated with any new business are large and much of the money needed to start the business is not recoverable unless the business succeeds. Any outside investor would have to be an equity investor and this is usually not feasible. The costs of gathering enough information to distinguish the bad risks from the good are too large. Moreover, the owner-operators who run these benefits enjoy substantial nonmonetary returns. They are willing to accept less income and fewer prospects for growth in income to run the business.[65] The psychic benefits they enjoy do not form the basis on which outsiders make investments. Thus, owner-operators are more likely to keeping running their own businesses if they receive an inheritance.[66] At the margin, anything that makes running a particular business cheaper will make an entrepreneur more likely to remain with that business.

---

[64] Using data from the Panel Study of Entrepreneurial Dynamics (PSED), a survey of individuals preparing to start new businesses, a recent study found that the median estimated start-up cost was $6,000 for solo ventures and $20,000 for ventures founded by teams of entrepreneurs. See Blade Consulting Corp., *Expected Costs of Startup Ventures,* (Nov. 2003) (available at sba.gov/advo/research/rs232tot.pdf).

[65] Hamilton, *supra* note 29.

[66] An entrepreneur is more likely to start a business if he or she has greater personal wealth or receives bequests. See Dunn & Holtz-Eakin, *supra*; David G. Blanchflower and Andrew J. Oswald, *What Makes An Entrepreneur?*, 16 J. Lab. Econ. 26 (1998); Holtz-Eakin, Joulfian, and Rosen, *supra* note 46.

In addition to providing short-term liquidity, Chapter 11 offers a venue in which the entrepreneur can strike deals with creditors to whom she will be personally liable if the firm fails to repay them in full. The vast majority of small businesses (85%, as shown in Table 17 below) will enter bankruptcy with debts that have been personally guaranteed by the owner manager. These debts are generally owed to secured lenders and the IRS, both of whom appear willing to renegotiate the debts and the personal guarantees if the entrepreneur brings her firm into Chapter 11.[67] Although more work must be done before we can identify the reasons why these creditors are willing to renegotiate in Chapter 11, two reasons seem plausible. First, secured creditors and the IRS may expect a greater return from a Chapter 11 filing than from a quick liquidation of the firm—under state law or Chapter 7 of the Bankruptcy Code—because they can exercise control over the Chapter 11 process and thereby obtain large share of the firm's value (at the expense of unsecured creditors). Aside from secured creditors and the IRS, very few creditors play an active role in the vast majority of small business bankruptcies. Second, secured creditors and the IRS may be willing to renegotiate an owner-manager's personal guarantee because the process of renegotiation gives the creditors leverage during the Chapter 11 process. Most owner-managers have very little wealth to satisfy personal guarantees; most of it has been invested in their businesses.[68] There is little, then, a creditor will gain from enforcing a personal guarantee in state courts. But enforcement

[67] Anecdotal evidence, obtained from conversations with bankruptcy judges, lawyers, and FDIC bank examiners, suggests that the IRS will not negotiate corporate debts unless the corporation has filed a bankruptcy petition and that a secured lender will sometimes offer to forgive an owner's personal guarantee if the corporation files a petition.

[68] See Gentry and Hubbard, *supra*, at 25.

will impose high costs on owner-managers, who may be forced to file individual bankruptcy petitions. These costs give creditors bargaining power, which may be useful during Chapter 11 proceedings.

Together, increased liquidity and opportunities to renegotiate personal indebtedness make Chapter 11 attractive to small business entrepreneurs and, as a consequence, make remaining with a failing business more attractive than starting a new one (or becoming an employee of a firm), even though the latter may be a better match with the entrepreneur's human capital. Chapter 11 allows the entrepreneur to remain with a failing business for a while longer. In the interim, she can hope that the business will miraculously turn around. She would not otherwise wait to start a new business, but, with Chapter 11, continuing with the old business is costless while starting a new one is not. To the extent she can delay incurring those costs, she is better off. The Code in these cases provides the most straightforward kind of lock-in effect. If a legal rule lowers the rent of your apartment, you are more likely to stay there even if it makes more sense for you to live somewhere else.

At least 55% of the filings exhibit strong evidence of lock-in, as Table 15 illustrates. Chapter 11 is most likely doing little more than subsidizing a failed business when the owner-entrepreneur is not complying with even its most basic ground rules, let alone trying to put together a plan of reorganization.[69] When the owner-operator violates an explicit order of the court, fails to attend the mandatory meeting with the creditors, or neglects to fill out the forms listing the business's assets and liabilities, we can safely infer that she is merely playing a waiting game. These cases constitute 30% of

---

[69] These cases are labeled "Ignoring procedural requirements" in Panel B.

all the bankruptcy petitions filed in the Northern District in 1998. They make up close to half of all cases that ended with shutdown or dismissal. Another important indicator of lock-in is whether the owner-manager used Chapter 11 to avoid paying not just outstanding debt but also ongoing expenses. We see this indicator in about 23% of the cases overall.

A number of other indicators that the entrepreneur is playing for time exist as well. Some owner-operators use the Chapter 11 process to hide assets, evade (temporarily) liability for theft of the firm's assets, or misuse of client's deposits and the like. In other cases, the owner-operator files Ch. 11 petitions in a last ditch effort to prevent suppliers from terminating resale or licensing agreements. Chapter 11 expands however much time is available to strike a bargain.[70] Each of these evidences a lock-in effect, cases in which Chapter 11 induces the owner-operator to remain with the business too long. At least one is present in about 55% of all cases and 83% of all shutdowns and dismissals.

In these cases, Chapter 11 pushes the owner-operator in exactly the wrong direction. Our point here is not the familiar one that the Chapter 11 filing thwarted creditors. In most of these cases, there was little for the creditors in any event.[71] Rather Chapter 11 delays the owner-operator's transition from an existing establishment to a new business

[70] As noted above, the extra time bankruptcy allows cannot be folded into a nonbankruptcy because promises not to take advantage of Chapter 11 are not enforceable.

[71] To the extent that Chapter 11 affected third parties, it was most often the landlord. The automatic stay prevents the eviction that would otherwise take place under state law.

that better matches with his or her skills.[72] But we should be careful not to overstate the costs that Chapter 11 is imposing. Cases in which the owner-operator is simply using Chapter 11 to keep a failing business around longer are not hard to identify. Within a few weeks, a creditor or a landlord brings a motion to dismiss, and the case itself leaves the system quickly—typically within three months.[73] Thus it is not surprising that so few failing firms actually file bankruptcy petitions. Able judges can minimize the costs of this lock-in effect.

So far we have looked at lock-in without reference to those cases in which the debtor is able to confirm a plan of reorganization. An initial look at the data might suggest lock-in is not a large issue in these cases. As Panel C of Table 15 shows, the twenty-three reorganization cases exhibited financial distress, a classic marker of a prototypical Chapter 11 case. Nearly half the businesses suffered financial distress as a result of overexpansion. Two faced unexpected expenses in connection with the assets they had bought for their business. Another 13% of the businesses suffered distress because important clients cancelled contracts or because members of the firm quit and took important clients with them. Finally, one firm entered Chapter 11 with the classic example of

---

[72] A representative example is Automobile Dealer Services, a consulting firm that specialized in giving seminars for the employees of auto dealerships to train them to sell appearance protection products—rustproofing, paint protection, fabric protection and sound treatment—that are designed to make a car look better and last longer. By the time of the Chapter 11 petition, this business idea seemed to have played itself out and it was time for the entrepreneur—someone who had already formed a number of other businesses—to move on to new projects.

[73] Morrison, *supra* note 1, shows that bankruptcy judges are able to ferret out these cases quickly. Indeed, the evidence is consistent with the conjecture that the judges are as adept in making these shutdown decisions as market actors subject to the same constraints.

financial distress—asbestos liability arising from operations the business had discontinued nearly 40 years before. In total, about 74% of the reorganizations (17 of the 23) involved a firm that exhibited a classic marker of financial—not economic—distress. This statistic might suggest that Chapter 11 added value here because the firms were viable and suffered distress only because of a temporary mismatch between revenue and the cost of servicing debt.

A closer look at the data suggests otherwise, however. As Panel C also shows, the same markers of financial distress (such as overexpansion) can be found in a fifth of the businesses that were shutdown in bankruptcy. As we saw, these businesses exhibited strong indicators of lock-in as well. The traditional markers of financial distress, then, tell us little about the absence of lock-in. There are at least three reasons for this. First, we derive our "markers" of financial distress from the self-serving schedules and other reports the owner-operators fill out. They have every incentive to convince judges and other creditors that they were merely suffering temporary cash shortages. Second, financial distress is often a product of economic distress. An unprofitable business will often be one that loses significant clients or takes on business it cannot serve.

Finally, and most importantly, even a business suffering pure financial (not economic) distress is not necessarily one worth saving in Chapter 11. To be sure, a distressed business may become profitable again by reducing its scale of operations, but it may make more sense for the owner-operator to shut down the existing business and start over again. Starting from scratch would not make sense if the business used specialized assets, but Table 16 suggests that asset specificity is as insignificant in reorganized firms as it is in firms that suffered shut down or dismissal. Measuring asset specificity as the ratio of non-office equipment to total assets, the degree of specificity in re-

Table 16
Measures of Asset Specificity for the Median Firm, by Chapter 11 Outcome

Measure of Specificity	All Cases (n=104) (%)	Shutdowns & Dismissals (n=65) (%)	Reorganizations (n=23) (%)	Restructurings without plan (n=8) (%)	Going Concern Sales (n=8) (%)
Land & equipment	28.9	37.0	19.2	21.1	45.3
Equipment	16.5	16.5	12.9	13.7	38.9
Non-office equipment	5.5	5.3	8.5	9.1	22.3
			(0.72)	(0.92)	(0.30)

Note: parentheses provide p-values for a Wilcoxon rank-sum test of the difference between the median in that column and the median in "Shutdowns & Dismissals."

Table 17
Personal Liability of Owner-Manager

	All Cases (n=100) (%)	Shutdowns & Dismissals (n=62) (%)	Reorganizations (n=23) (%)	Restructurings without a plan (n=7) (%)	Going Concern Sales (n=8) (%)
Personal Guarantees	55.8	58.5	65.2	12.5	50.0
		(.57)		(.01)	(.46)
Personal Tax Liability	61.2	63.3	78.3	42.9	12.5
		(.20)		(.08)	(.00)
Any Personal Liability	85.0	90.3	91.3	57.1	50.0
		(.89)		(.03)	(.01)

Note: parentheses give p-values of a *t*-test for the difference between the percentage in that column and the percentage in "Reorganizations."

organizations (8.5%) is only slightly (and not statistically) greater than it is in firms that suffered shutdown or dismissal (5.3%). And, as we explained in Part II, these measures of specificity are upper bounds. There is little reason, then, to think that the reorganizations in our sample represented efforts to preserve going-concern surplus.

Why, then, was Chapter 11 attractive to owner-managers who could downsize their firms simply by starting over again? We get a sense of the answer by looking closely at the reorganization cases. A typical example is Luczak Brothers, in which an entrepreneur entered Chapter 11, confirmed a plan of reorganization, and continued to run the same business after it emerged from Chapter 11. Luczak Brothers is a family business founded in 1897 that does ornamental plasterwork. It encountered financial distress because it took on an enormous project—the plasterwork for the renovation of the home of the Chicago Symphony Orchestra—and underestimated its costs by $600,000. It made mistakes on other jobs as well. Luczak is a classic case of overexpansion and might seem a poster child for Chapter 11.

Did Chapter 11 preserve any going-concern surplus in this case? No. This business, like virtually all of those that successfully reorganized, had little in the way of firm-specific assets. By far its biggest asset was $500,000 in receivables. The other assets included real estate, several cars, and $10,000 of inventory. It had only $20,000 in equipment and a quarter of it was office equipment. James Luczak would run an ornamental plaster business if Luczak Brothers, Inc., disappeared. He would continue to employ the same people and exploit the same relationships he always had. There are only modest costs in starting a new business and no reason at all to encourage him to use the existing corporate entity—Luczak Brothers, Inc.—to conduct his affairs. The existing legal regime, however, encourages someone in the position of Luczak to do exactly this.

The overriding issue in Luczak Bros. was not keeping specialized assets together or saving jobs, but escaping personal tax liability. Like eighty percent of those who confirmed a plan of reorganization in Chapter 11 (see Table 17), Luczak invaded trust funds containing employee withholding taxes to keep the business running. By doing this, he converted what was a corporate obligation into a personal obligation. Even though he nominally did business in limited liability form, James Luczak did not have the option of walking away from this business and starting another on a clean slate.

Personal liability itself does not bias Luczak towards remaining with the existing business. In principle, the obligation exists whether the business survives or not. Hence, if personal liability for the debt were the only issue he would still choose the path that provided the best fit with his human capital. In practice, however, James Luczak has a better chance of compromising his tax obligations by keeping Luczak Brothers, Inc., alive in Chapter 11. The IRS is much more willing to compromise its claims (and release the principal from personal liability) in a Chapter 11 reorganization that outside. In other words, the way in which the IRS handles these sorts of tax liabilities pushed James Luczak towards running his plaster business under the aegis of Luczak Brothers Inc., even though there is little or no social benefit from organizing his business this way.

A simpler but similar case is Kosick, Inc. It performs fiberglass and gel-coat repair to boats and trucks. A majority of the work is contracted through various marinas and consists largely of warranty repairs on new boats. Kosick got into trouble by deciding to construct two 16-foot New Jersey speed skiffs, spending in excess of $30,000 on them. No buyers appeared. The only debt was to the IRS. Chapter 11 was merely a way to deal with government.

Again, then, we see lock-in. Chapter 11 is attractive because it gives owner-managers access to subsidies unavailable in the marketplace. By filing a corporate Chapter 11 petition, small entrepreneurs can haggle over (and defer payment of) tax claims and operate, at least temporarily, with a smaller fraction of their revenues going to service other debt. In this fashion Chapter 11 encourages owner-operators managers to remain with an existing business. While the owner-operator can return to running the old business and be successful, we do not know whether, absent the distortions brought about by Chapter 11, he would have been better off starting a different kind of business. There is still a lock-in effect. The owner-operator has a powerful incentive to return to his past, regardless of whether he could do better by trying something new.

To be sure, the costs of lock-in are not substantial in many reorganization cases. James Luczak would run an ornamental plaster business whether Luczak Brothers. Inc. continued or not. To the extent he needed to change his operations (such as scaling back the number of jobs and increasing his supervision of each one), he could do this as well using the existing legal shell as with another. The lock-in effect of Chapter 11 may be small when financial distress has been brought on by overexpansion. When the best match of the owner-operator's human capital is a return to a smaller, but more sound business using the same assets and exploiting the same relationships, Chapter 11 creates relatively few distortions. Indeed, as Table 18 shows, among the 11 firms that suffered overexpansion and reorganized, only one subsequently failed (and it did so four years after exiting bankruptcy).

Table 18 Characteristics of Reorganizations			
	Overexpansion cases	Asbestos case	Other cases
Frequency	11	1	11
100% plans	1		6
Failed within 1 year			4
Failed within 2 years			1
Failed within 5 years	1		3
Failed after confirming 100% plan			5

Overexpansion, however, characterizes only 11 of the 23 cases that resulted in reorganization. The remaining 12 cases are a mixed bag, some featuring other classic indicators of financial distress and others suffering some unspecified type of distress. For these businesses, the costs of Chapter 11 are larger. As Table 18 illustrates, four failed within one year, five within two, and eight within five. Three of the four that failed within a year had confirmed reorganization plans that promised repayment of 100% of the claims of unsecured creditors.[74] When financial distress is brought on by factors other than overexpansion, businesses commonly put forward excessively optimistic reorganization plans and then fail. Chapter 11 encourages these owner-operators to gamble (using money supplied by creditors and the government) on the resurrection of failing firms.

Thix Enterprises provides an illustration. Thomas Hix ran a gasoline and auto service station as Thix Enterprises. He had purchased the station in 1995; he had been service manager there for several years. The business was at best marginally profitable when Hix purchased it. Thix steadily lost money and fell behind in tax payments. Costs

[74] Among firms that entered bankruptcy for reasons other than overexpansion, *half* confirmed 100% plans. By comparison, only one of the overexpansion cases involved a 100% plan.

were reduced by slashing payroll from 24 to 10 employees, reducing employee health benefits, and outsourcing management of the gas pumps. When the IRS threatened to place a lien on its assets, Hix put the corporation in Chapter 11. A plan of reorganization was confirmed, but the problems with the business remained. Amoco refused to renew its lease. It appears that Hix lacked the skills to run this business and ultimately went to work for an auto service company. He filed his own personal Chapter 7 bankruptcy petition in 2002, still encumbered by the IRS obligations of Thix Enterprises. Without Chapter 11, he might have been able to start a different business or confront the fact that he was not cut out to be an entrepreneur earlier.

Apart from cases of overexpansion, only an odd conjunction of events leads the owner-operator to want to place a business in Chapter 11 and for that business to remain a good match for her human capital. The type of debt that makes Chapter 11 attractive—a tax obligation on which the owner-operator is personally liable—usually arises only when the business experiences extreme economic distress. Owner-operators typically invade trust funds (thereby incurring not only personal, but potentially criminal liability) as a last resort. Invasion of trusts funds follows from an inability to meet ongoing operating expenses. Unless things change, the business will fail, and, apart from cases of overexpansion, it is unlikely that things will change. Few businesses experience economic distress sufficiently severe to lead the owner-operators to invade the trust funds, yet remain sufficiently sound that running them on a going-forward basis is possible.

All this might suggest that Chapter 11 should be available only to firms seeking to reduce scale and return to a sound core business. But this would make sense only if judges can identify "overexpansion cases" at relatively low cost. It seems unlikely that judges could do this any faster than they identify, under current law, cases that should be dismissed or converted to Chapter 7 (they typically do this within three months in the Northern District). More data is needed—about the social benefit of Chapter 11 in overexpansion cases, about the social costs of the Code in other cases—before we can identify any implications for public policy.

Conclusion

The academic and political debates about small business bankruptcy need to change. Instead of viewing Chapter 11 as a tool for rehabilitating corporations, it should be viewed as a policy that either helps or hinders the career trajectories of small-business entrepreneurs. The focus should be on the small entrepreneurs themselves, not the businesses they happen to be running at the time the Chapter 11 petition is filed. The law should help small entrepreneurs find the optimal match between their skills and a business strategy, but Chapter 11 is not doing this. In contrast to government-subsidized loans or tax subsidies, Chapter 11 instead provides a subsidy only to those entrepreneurs willing to stay locked into their old firms.

Chapter 11 may bring some social benefits. It may reduce transaction costs in the few cases where lock-in is an optimal strategy (as in cases of overexpansion). The owner-operator may be able to reduce scale more cheaply in Chapter 11 than by starting over again. Chapter 11 may also have beneficial effects outside of the courtroom; the "shadow" of the law may have beneficial effects on out-of-court bargaining between the debtor and its creditors. These benefits, however, are hard to assess. For those anxious to promote small entrepreneurs or improve the operation of our bankruptcy laws, a re-assessment of Chapter 11 is long overdue.

Readers with comments should address them to:

Professor Douglas G. Baird
University of Chicago Law School
1111 East 60th Street
Chicago, IL 60637
dbaird@law.uchicago.edu

Chicago Working Papers in Law and Economics
(Second Series)

1. William M. Landes, Copyright Protection of Letters, Diaries and Other Unpublished Works: An Economic Approach (July 1991)
2. Richard A. Epstein, The Path to *The T.J. Hooper*: The Theory and History of Custom in the Law of Tort (August 1991)
3. Cass R. Sunstein, On Property and Constitutionalism (September 1991)
4. Richard A. Posner, Blackmail, Privacy, and Freedom of Contract (February 1992)
5. Randal C. Picker, Security Interests, Misbehavior, and Common Pools (February 1992)
6. Tomas J. Philipson & Richard A. Posner, Optimal Regulation of AIDS (April 1992)
7. Douglas G. Baird, Revisiting Auctions in Chapter 11 (April 1992)
8. William M. Landes, Sequential versus Unitary Trials: An Economic Analysis (July 1992)
9. William M. Landes & Richard A. Posner, The Influence of Economics on Law: A Quantitative Study (August 1992)
10. Alan O. Sykes, The Welfare Economics of Immigration Law: A Theoretical Survey With An Analysis of U.S. Policy (September 1992)
11. Douglas G. Baird, 1992 Katz Lecture: Reconstructing Contracts (November 1992)
12. Gary S. Becker, The Economic Way of Looking at Life (January 1993)
13. J. Mark Ramseyer, Credibly Committing to Efficiency Wages: Cotton Spinning Cartels in Imperial Japan (March 1993)
14. Cass R. Sunstein, Endogenous Preferences, Environmental Law (April 1993)
15. Richard A. Posner, What Do Judges and Justices Maximize? (The Same Thing Everyone Else Does) (April 1993)
16. Lucian Arye Bebchuk and Randal C. Picker, Bankruptcy Rules, Managerial Entrenchment, and Firm-Specific Human Capital (August 1993)
17. J. Mark Ramseyer, Explicit Reasons for Implicit Contracts: The Legal Logic to the Japanese Main Bank System (August 1993)
18. William M. Landes and Richard A. Posner, The Economics of Anticipatory Adjudication (September 1993)
19. Kenneth W. Dam, The Economic Underpinnings of Patent Law (September 1993)
20. Alan O. Sykes, An Introduction to Regression Analysis (October 1993)
21. Richard A. Epstein, The Ubiquity of the Benefit Principle (March 1994)
22. Randal C. Picker, An Introduction to Game Theory and the Law (June 1994)
23. William M. Landes, Counterclaims: An Economic Analysis (June 1994)
24. J. Mark Ramseyer, The Market for Children: Evidence from Early Modern Japan (August 1994)
25. Robert H. Gertner and Geoffrey P. Miller, Settlement Escrows (August 1994)
26. Kenneth W. Dam, Some Economic Considerations in the Intellectual Property Protection of Software (August 1994)
27. Cass R. Sunstein, Rules and Rulelessness, (October 1994)
28. David Friedman, More Justice for Less Money: A Step Beyond *Cimino* (December 1994)
29. Daniel Shaviro, Budget Deficits and the Intergenerational Distribution of Lifetime Consumption (January 1995)
30. Douglas G. Baird, The Law and Economics of Contract Damages (February 1995)
31. Daniel Kessler, Thomas Meites, and Geoffrey P. Miller, Explaining Deviations from the Fifty Percent Rule: A Multimodal Approach to the Selection of Cases for Litigation (March 1995)
32. Geoffrey P. Miller, Das Kapital: Solvency Regulation of the American Business Enterprise (April 1995)
33. Richard Craswell, Freedom of Contract (August 1995)
34. J. Mark Ramseyer, Public Choice (November 1995)
35. Kenneth W. Dam, Intellectual Property in an Age of Software and Biotechnology (November 1995)
36. Cass R. Sunstein, Social Norms and Social Roles (January 1996)

37. J. Mark Ramseyer and Eric B. Rasmusen, Judicial Independence in Civil Law Regimes: Econometrics from Japan (January 1996)
38. Richard A. Epstein, Transaction Costs and Property Rights: Or Do Good Fences Make Good Neighbors? (March 1996)
39. Cass R. Sunstein, The Cost-Benefit State (May 1996)
40. William M. Landes and Richard A. Posner, The Economics of Legal Disputes Over the Ownership of Works of Art and Other Collectibles (July 1996)
41. John R. Lott, Jr. and David B. Mustard, Crime, Deterrence, and Right-to-Carry Concealed Handguns (August 1996)
42. Cass R. Sunstein, Health-Health Tradeoffs (September 1996)
43. G. Baird, The Hidden Virtues of Chapter 11: An Overview of the Law and Economics of Financially Distressed Firms (March 1997)
44. Richard A. Posner, Community, Wealth, and Equality (March 1997)
45. William M. Landes, The Art of Law and Economics: An Autobiographical Essay (March 1997)
46. Cass R. Sunstein, Behavioral Analysis of Law (April 1997)
47. John R. Lott, Jr. and Kermit Daniel, Term Limits and Electoral Competitiveness: Evidence from California's State Legislative Races (May 1997)
48. Randal C. Picker, Simple Games in a Complex World: A Generative Approach to the Adoption of Norms (June 1997)
49. Richard A. Epstein, Contracts Small and Contracts Large: Contract Law through the Lens of Laissez-Faire (August 1997)
50. Cass R. Sunstein, Daniel Kahneman, and David Schkade, Assessing Punitive Damages (with Notes on Cognition and Valuation in Law) (December 1997)
51. William M. Landes, Lawrence Lessig, and Michael E. Solimine, Judicial Influence: A Citation Analysis of Federal Courts of Appeals Judges (January 1998)
52. John R. Lott, Jr., A Simple Explanation for Why Campaign Expenditures are Increasing: The Government is Getting Bigger (February 1998)
53. Richard A. Posner, Values and Consequences: An Introduction to Economic Analysis of Law (March 1998)
54. Denise DiPasquale and Edward L. Glaeser, Incentives and Social Capital: Are Homeowners Better Citizens? (April 1998)
55. Christine Jolls, Cass R. Sunstein, and Richard Thaler, A Behavioral Approach to Law and Economics (May 1998)
56. John R. Lott, Jr., Does a Helping Hand Put Others At Risk?: Affirmative Action, Police Departments, and Crime (May 1998)
57. Cass R. Sunstein and Edna Ullmann-Margalit, Second-Order Decisions (June 1998)
58. Jonathan M. Karpoff and John R. Lott, Jr., Punitive Damages: Their Determinants, Effects on Firm Value, and the Impact of Supreme Court and Congressional Attempts to Limit Awards (July 1998)
59. Kenneth W. Dam, Self-Help in the Digital Jungle (August 1998)
60. John R. Lott, Jr., How Dramatically Did Women's Suffrage Change the Size and Scope of Government? (September 1998)
61. Kevin A. Kordana and Eric A. Posner, A Positive Theory of Chapter 11 (October 1998)
62. David A. Weisbach, Line Drawing, Doctrine, and Efficiency in the Tax Law (November 1998)
63. Jack L. Goldsmith and Eric A. Posner, A Theory of Customary International Law (November 1998)
64. John R. Lott, Jr., Public Schooling, Indoctrination, and Totalitarianism (December 1998)
65. Cass R. Sunstein, Private Broadcasters and the Public Interest: Notes Toward A "Third Way" (January 1999)
66. Richard A. Posner, An Economic Approach to the Law of Evidence (February 1999)
67. Yannis Bakos, Erik Brynjolfsson, Douglas Lichtman, Shared Information Goods (February 1999)
68. Kenneth W. Dam, Intellectual Property and the Academic Enterprise (February 1999)
69. Gertrud M. Fremling and Richard A. Posner, Status Signaling and the Law, with Particular Application to Sexual Harassment (March 1999)
70. Cass R. Sunstein, Must Formalism Be Defended Empirically? (March 1999)

71. Jonathan M. Karpoff, John R. Lott, Jr., and Graeme Rankine, Environmental Violations, Legal Penalties, and Reputation Costs (March 1999)
72. Matthew D. Adler and Eric A. Posner, Rethinking Cost-Benefit Analysis (April 1999)
73. John R. Lott, Jr. and William M. Landes, Multiple Victim Public Shooting, Bombings, and Right-to-Carry Concealed Handgun Laws: Contrasting Private and Public Law Enforcement (April 1999)
74. Lisa Bernstein, The Questionable Empirical Basis of Article 2's Incorporation Strategy: A Preliminary Study (May 1999)
75. Richard A. Epstein, Deconstructing Privacy: and Putting It Back Together Again (May 1999)
76. William M. Landes, Winning the Art Lottery: The Economic Returns to the Ganz Collection (May 1999)
77. Cass R. Sunstein, David Schkade, and Daniel Kahneman, Do People Want Optimal Deterrence? (June 1999)
78. Tomas J. Philipson and Richard A. Posner, The Long-Run Growth in Obesity as a Function of Technological Change (June 1999)
79. David A. Weisbach, Ironing Out the Flat Tax (August 1999)
80. Eric A. Posner, A Theory of Contract Law under Conditions of Radical Judicial Error (August 1999)
81. David Schkade, Cass R. Sunstein, and Daniel Kahneman, Are Juries Less Erratic than Individuals? Deliberation, Polarization, and Punitive Damages (September 1999)
82. Cass R. Sunstein, Nondelegation Canons (September 1999)
83. Richard A. Posner, The Theory and Practice of Citations Analysis, with Special Reference to Law and Economics (September 1999)
84. Randal C. Picker, Regulating Network Industries: A Look at *Intel* (October 1999)
85. Cass R. Sunstein, Cognition and Cost-Benefit Analysis (October 1999)
86. Douglas G. Baird and Edward R. Morrison, Optimal Timing and Legal Decisionmaking: The Case of the Liquidation Decision in Bankruptcy (October 1999)
87. Gertrud M. Fremling and Richard A. Posner, Market Signaling of Personal Characteristics (November 1999)
88. Matthew D. Adler and Eric A. Posner, Implementing Cost-Benefit Analysis When Preferences Are Distorted (November 1999)
89. Richard A. Posner, Orwell versus Huxley: Economics, Technology, Privacy, and Satire (November 1999)
90. David A. Weisbach, Should the Tax Law Require Current Accrual of Interest on Derivative Financial Instruments? (December 1999)
91. Cass R. Sunstein, The Law of Group Polarization (December 1999)
92. Eric A. Posner, Agency Models in Law and Economics (January 2000)
93. Karen Eggleston, Eric A. Posner, and Richard Zeckhauser, Simplicity and Complexity in Contracts (January 2000)
94. Douglas G. Baird and Robert K. Rasmussen, Boyd's Legacy and Blackstone's Ghost (February 2000)
95. David Schkade, Cass R. Sunstein, Daniel Kahneman, Deliberating about Dollars: The Severity Shift (February 2000)
96. Richard A. Posner and Eric B. Rasmusen, Creating and Enforcing Norms, with Special Reference to Sanctions (March 2000)
97. Douglas Lichtman, Property Rights in Emerging Platform Technologies (April 2000)
98. Cass R. Sunstein and Edna Ullmann-Margalit, Solidarity in Consumption (May 2000)
99. David A. Weisbach, An Economic Analysis of Anti-Tax Avoidance Laws (May 2000, revised May 2002)
100. Cass R. Sunstein, Human Behavior and the Law of Work (June 2000)
101. William M. Landes and Richard A. Posner, Harmless Error (June 2000)
102. Robert H. Frank and Cass R. Sunstein, Cost-Benefit Analysis and Relative Position (August 2000)
103. Eric A. Posner, Law and the Emotions (September 2000)
104. Cass R. Sunstein, Cost-Benefit Default Principles (October 2000)

105. Jack Goldsmith and Alan Sykes, The Dormant Commerce Clause and the Internet (November 2000)
106. Richard A. Posner, Antitrust in the New Economy (November 2000)
107. Douglas Lichtman, Scott Baker, and Kate Kraus, Strategic Disclosure in the Patent System (November 2000)
108. Jack L. Goldsmith and Eric A. Posner, Moral and Legal Rhetoric in International Relations: A Rational Choice Perspective (November 2000)
109. William Meadow and Cass R. Sunstein, Statistics, Not Experts (December 2000)
110. Saul Levmore, Conjunction and Aggregation (December 2000)
111. Saul Levmore, Puzzling Stock Options and Compensation Norms (December 2000)
112. Richard A. Epstein and Alan O. Sykes, The Assault on Managed Care: Vicarious Liability, Class Actions and the Patient's Bill of Rights (December 2000)
113. William M. Landes, Copyright, Borrowed Images and Appropriation Art: An Economic Approach (December 2000)
114. Cass R. Sunstein, Switching the Default Rule (January 2001)
115. George G. Triantis, Financial Contract Design in the World of Venture Capital (January 2001)
116. Jack Goldsmith, Statutory Foreign Affairs Preemption (February 2001)
117. Richard Hynes and Eric A. Posner, The Law and Economics of Consumer Finance (February 2001)
118. Cass R. Sunstein, Academic Fads and Fashions (with Special Reference to Law) (March 2001)
119. Eric A. Posner, Controlling Agencies with Cost-Benefit Analysis: A Positive Political Theory Perspective (April 2001)
120. Douglas G. Baird, Does Bogart Still Get Scale? Rights of Publicity in the Digital Age (April 2001)
121. Douglas G. Baird and Robert K. Rasmussen, Control Rights, Priority Rights and the Conceptual Foundations of Corporate Reorganization (April 2001)
122. David A. Weisbach, Ten Truths about Tax Shelters (May 2001)
123. William M. Landes, What Has the Visual Arts Rights Act of 1990 Accomplished? (May 2001)
124. Cass R. Sunstein, Social and Economic Rights? Lessons from South Africa (May 2001)
125. Christopher Avery, Christine Jolls, Richard A. Posner, and Alvin E. Roth, The Market for Federal Judicial Law Clerks (June 2001)
126. Douglas G. Baird and Edward R. Morrison, Bankruptcy Decision Making (June 2001)
127. Cass R. Sunstein, Regulating Risks after ATA (June 2001)
128. Cass R. Sunstein, The Laws of Fear (June 2001)
129. Richard A. Epstein, In and Out of Public Solution: The Hidden Perils of Property Transfer (July 2001)
130. Randal C. Picker, Pursuing a Remedy in *Microsoft*: The Declining Need for Centralized Coordination in a Networked World (July 2001)
131. Cass R. Sunstein, Daniel Kahneman, David Schkade, and Ilana Ritov, Predictably Incoherent Judgments (July 2001)
132. Eric A. Posner, Courts Should Not Enforce Government Contracts (August 2001)
133. Lisa Bernstein, Private Commercial Law in the Cotton Industry: Creating Cooperation through Rules, Norms, and Institutions (August 2001)
134. Richard A. Epstein, The Allocation of the Commons: Parking and Stopping on the Commons (August 2001)
135. Cass R. Sunstein, The Arithmetic of Arsenic (September 2001)
136. Eric A. Posner, Richard Hynes, and Anup Malani, The Political Economy of Property Exemption Laws (September 2001)
137. Eric A. Posner and George G. Triantis, Covenants Not to Compete from an Incomplete Contracts Perspective (September 2001)
138. Cass R. Sunstein, Probability Neglect: Emotions, Worst Cases, and Law (November 2001)
139. Randall S. Kroszner and Philip E. Strahan, Throwing Good Money after Bad? Board Connections and Conflicts in Bank Lending (December 2001)
140. Alan O. Sykes, TRIPs, Pharmaceuticals, Developing Countries, and the Doha "Solution" (February 2002)

141. Edna Ullmann-Margalit and Cass R. Sunstein, Inequality and Indignation (February 2002)
142. Daniel N. Shaviro and David A. Weisbach, The Fifth Circuit Gets It Wrong in *Compaq v. Commissioner* (February 2002) (Published in *Tax Notes*, January 28, 2002)
143. Warren F. Schwartz and Alan O. Sykes, The Economic Structure of Renegotiation and Dispute Resolution in the WTO/GATT System (March 2002, *Journal of Legal Studies* 2002)
144. Richard A. Epstein, HIPAA on Privacy: Its Unintended and Intended Consequences (March 2002, forthcoming *Cato Journal*, summer 2002)
145. David A. Weisbach, Thinking Outside the Little Boxes (March 2002, *Texas Law Review*)
146. Eric A. Posner, Economic Analysis of Contract Law after Three Decades: Success or Failure (March 2002)
147. Randal C. Picker, Copyright as Entry Policy: The Case of Digital Distribution (April 2002, The Antitrust Bulletin)
148. David A. Weisbach, Taxes and Torts in the Redistribution of Income (April 2002, Coase Lecture February 2002)
149. Cass R. Sunstein, Beyond the Precautionary Principle (April 2002)
150. Robert W. Hahn and Cass R. Sunstein, A New Executive Order for Improving Federal Regulation? Deeper and Wider Cost-Benefit Analysis (April 2002)
151. Douglas Lichtman, Copyright as a Rule of Evidence (May 2002, updated January 2003)
152. Richard A. Epstein, Steady the Course: Property Rights in Genetic Material (May 2002; revised March 2003)
153. Jack Goldsmith and Cass R. Sunstein, Military Tribunals and Legal Culture: What a Difference Sixty Years Makes (June 2002)
154. William M. Landes and Richard A. Posner, Indefinitely Renewable Copyright (July 2002)
155. Anne Gron and Alan O. Sykes, Terrorism and Insurance Markets: A Role for the Government as Insurer? (July 2002)
156. Cass R. Sunstein and Adrian Vermeule, Interpretation and Institutions (July 2002)
157. Cass R. Sunstein, The Rights of Animals: A Very Short Primer (August 2002)
158. Cass R. Sunstein, Avoiding Absurdity? A New Canon in Regulatory Law (with Notes on Interpretive Theory) (August 2002)
159. Randal C. Picker, From Edison to the Broadcast Flag: Mechanisms of Consent and Refusal and the Propertization of Copyright (September 2002)
160. Eric A. Posner, A Theory of the Laws of War (September 2002)
161 Eric A. Posner, Probability Errors: Some Positive and Normative Implications for Tort and Contract Law (September 2002)
162. Lior Jacob Strahilevitz, Charismatic Code, Social Norms, and the Emergence of Cooperation on the File-Swapping Networks (September 2002)
163. David A. Weisbach, Does the X-Tax Mark the Spot? (September 2002)
164. Cass R. Sunstein, Conformity and Dissent (September 2002)
165. Cass R. Sunstein, Hazardous Heuristics (October 2002)
166. Douglas Lichtman, Uncertainty and the Standard for Preliminary Relief (October 2002)
167. Edward T. Swaine, Rational Custom (November 2002)
168. Julie Roin, Truth in Government: Beyond the Tax Expenditure Budget (November 2002)
169. Avraham D. Tabbach, Criminal Behavior: Sanctions and Income Taxation: An Economic Analysis (November 2002)
170. Richard A. Epstein, In Defense of "Old" Public Health: The Legal Framework for the Regulation of Public Health (December 2002)
171. Richard A. Epstein, Animals as Objects, or Subjects, of Rights (December 2002)
172. David A. Weisbach, Taxation and Risk-Taking with Multiple Tax Rates (December 2002)
173. Douglas G. Baird and Robert K. Rasmussen, The End of Bankruptcy (December 2002)
174. Richard A. Epstein, Into the Frying Pan: Standing and Privity under the Telecommunications Act of 1996 and Beyond (December 2002)
175. Douglas G. Baird, In Coase's Footsteps (January 2003)

176. David A. Weisbach, Measurement and Tax Depreciation Policy: The Case of Short-Term Assets (January 2003)
177. Randal C. Picker, Understanding Statutory Bundles: Does the Sherman Act Come with the 1996 Telecommunications Act? (January 2003)
178. Douglas Lichtman and Randal C. Picker, Entry Policy in Local Telecommunications: *Iowa Utilities* and *Verizon* (January 2003)
179. William Landes and Douglas Lichtman, Indirect Liability for Copyright Infringement: An Economic Perspective (February 2003)
180. Cass R. Sunstein, Moral Heuristics (March 2003)
181. Amitai Aviram, Regulation by Networks (March 2003)
182. Richard A. Epstein, Class Actions: Aggregation, Amplification *and* Distortion (April 2003)
183. Richard A. Epstein, The "Necessary" History of Property and Liberty (April 2003)
184. Eric A. Posner, Transfer Regulations and Cost-Effectiveness Analysis (April 2003)
185. Cass R. Sunstein and Richard H. Thaler, Libertarian Paternalizm Is Not an Oxymoron (May 2003)
186. Alan O. Sykes, The Economics of WTO Rules on Subsidies and Countervailing Measures (May 2003)
187. Alan O. Sykes, The Safeguards Mess: A Critique of WTO Jurisprudence (May 2003)
188. Alan O. Sykes, International Trade and Human Rights: An Economic Perspective (May 2003)
189. Saul Levmore and Kyle Logue, Insuring against Terrorism—and Crime (June 2003)
190. Richard A. Epstein, Trade Secrets as Private Property: Their Constitutional Protection (June 2003)
191. Cass R. Sunstein, Lives, Life-Years, and Willingness to Pay (June 2003)
192. Amitai Aviram, The Paradox of Spontaneous Formation of Private Legal Systems (July 2003)
193. Robert Cooter and Ariel Porat, Decreasing Liability Contracts (July 2003)
194. David A. Weisbach and Jacob Nussim, The Integration of Tax and Spending Programs (September 2003)
195. William L. Meadow, Anthony Bell, and Cass R. Sunstein, Statistics, Not Memories: What Was the Standard of Care for Administering Antenatal Steroids to Women in Preterm Labor between 1985 and 2000? (September 2003)
196. Cass R. Sunstein, What Did *Lawrence* Hold? Of Autonomy, Desuetude, Sexuality, and Marriage (September 2003)
197. Randal C. Picker, The Digital Video Recorder: Unbundling Advertising and Content (September 2003)
198. Cass R. Sunstein, David Schkade, and Lisa Michelle Ellman, Ideological Voting on Federal Courts of Appeals: A Preliminary Investigation (September 2003)
199. Avraham D. Tabbach, The Effects of Taxation on Income Producing Crimes with Variable Leisure Time (October 2003)
200. Douglas Lichtman, Rethinking Prosecution History Estoppel (October 2003)
201. Douglas G. Baird and Robert K. Rasmussen, Chapter 11 at Twilight (October 2003)
202. David A. Weisbach, Corporate Tax Avoidance (January 2004)
203. David A. Weisbach, The (Non)Taxation of Risk (January 2004)
204. Richard A. Epstein, Liberty versus Property? Cracks in the Foundations of Copyright Law (April 2004)
205. Lior Jacob Strahilevitz, The Right to Destroy (January 2004)
206. Eric A. Posner and John C. Yoo, A Theory of International Adjudication (February 2004)
207. Cass R. Sunstein, Are Poor People Worth Less Than Rich People? Disaggregating the Value of Statistical Lives (February 2004)
208. Richard A. Epstein, Disparities and Discrimination in Health Care Coverage; A Critique of the Institute of Medicine Study (March 2004)
209. Richard A. Epstein and Bruce N. Kuhlik, Navigating the Anticommons for Pharmaceutical Patents: Steady the Course on Hatch-Waxman (March 2004)
210. Richard A. Esptein, The Optimal Complexity of Legal Rules (April 2004)
211. Eric A. Posner and Alan O. Sykes, Optimal War and *Jus Ad Bellum* (April 2004)
212. Alan O. Sykes, The Persistent Puzzles of Safeguards: Lessons from the Steel Dispute (May 2004)

213. Luis Garicano and Thomas N. Hubbard, Specialization, Firms, and Markets: The Division of Labor within and between Law Firms (April 2004)
214. Luis Garicano and Thomas N. Hubbard, Hierarchies, Specialization, and the Utilization of Knowledge: Theory and Evidence from the Legal Services Industry (April 2004)
215. James C. Spindler, Conflict or Credibility: Analyst Conflicts of Interest and the Market for Underwriting Business (July 2004)
216. Alan O. Sykes, The Economics of Public International Law (July 2004)
217. Douglas Lichtman and Eric Posner, Holding Internet Service Providers Accountable (July 2004)
218. Shlomo Benartzi, Richard H. Thaler, Stephen P. Utkus, and Cass R. Sunstein, Company Stock, Market Rationality, and Legal Reform (July 2004)
219. Cass R. Sunstein, Group Judgments: Deliberation, Statistical Means, and Information Markets (August 2004, revised October 2004)
220. Cass R. Sunstein, Precautions against What? The Availability Heuristic and Cross-Cultural Risk Perceptions (August 2004)
221. M. Todd Henderson and James C. Spindler, Corporate Herroin: A Defense of Perks (August 2004)
222. Eric A. Posner and Cass R. Sunstein, Dollars and Death (August 2004)
223. Randal C. Picker, Cyber Security: Of Heterogenity and Autarky (August 2004)
224. Randal C. Picker, Unbundling Scope-of-Permission Goods: When Should We Invest in Reducing Entry Barriers? (September 2004)
225. Christine Jolls and Cass R. Sunstein, Debiasing through Law (September 2004)
226. Richard A. Posner, An Economic Analysis of the Use of Citations in the Law (2000)
227. Cass R. Sunstein, Cost-Benefit Analysis and the Environment (October 2004)
228. Kenneth W. Dam, Cordell Hull, the Reciprocal Trade Agreement Act, and the WTO (October 2004)
229. Richard A. Posner, The Law and Economics of Contract Interpretation (November 2004)
230. Lior Jacob Strahilevitz, A Social Networks Theory of Privacy (December 2004)
231. Cass R. Sunstein, Minimalism at War (December 2004)
232. Douglas Lichtman, How the Law Responds to Self-Help (December 2004)
233. Eric A. Posner, The Decline of the International Court of Justice (December 2004)
234. Eric A. Posner, Is the International Court of Justice Biased? (December 2004)
235. Alan O. Sykes, Public vs. Private Enforcement of International Economic Law: Of Standing and Remedy (February 2005)
236. Dougals G. Baird and Edward R. Morrison, Serial Entrepreneurs and Small Business Bankruptcies (March 2005)