

## The Microeconomics of Chapter 11 – Part 2

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*In the first part of this paper (Volume 4, No. 1) I introduced a new sample of almost 4,000 time entries in chapter 11 cases filed between 2001 and 2003. Using this data, I showed how up to 60% of the attorneys fees in these chapter 11 cases were arguably exogenous to chapter 11 itself, and were better seen as costs of financial distress or general legal expenses.*

*In this part of the paper I examine the issue of staffing in chapter 11. I then develop the broader argument that ex ante costs of chapter 11 are virtually irrelevant to current discussions of chapter 11. Specifically, while the costs of chapter 11 might be relevant if the status quo is extremely inefficient or a proposed new bankruptcy system results in substantial cost reductions, neither situation presently holds. Thus I reject the recurrent fixation with the ex ante costs of chapter 11 in the academic literature.*

### C. Staffing in chapter 11

While the question of the unique costs of chapter 11 is key to academics, the question of more relevance to judges, trustees, and outside critics of chapter 11 is whether there is evidence that chapter 11 cases are run in a way that benefits the professionals, at the expense of the debtor and its creditors.<sup>99</sup> Arguably this issue should also be relevant to academics, inasmuch as any transfer of value from creditors to professionals is unlikely to be socially efficient. This article's new, internal perspective on the question of professional fees can again provide new insights.

Table 6 begins the analysis with some basic information about the distribution of the time records in the sample. As would be expected, the numbers increase as the decades become more recent.

What is immediately surprising about these data, however, is that the cumulative percentages make clear

that a large portion of the time entries in the sample relate to attorneys who are either senior or mid-level attorneys. Very senior attorneys (*i.e.*, attorneys admitted before 1980) are more prevalent in cases that do not involve serious allegations of fraud.<sup>100</sup>

Figure 2 illustrates this further by dividing the sample along a three-point scale, ranking attorneys based on their graduation from law school, with 1 corresponding to the most senior attorneys. To increase the comparability of these figures, seniority was standardised by comparing the attorney's graduation date with the mean date of the relevant fee application. I examined the issue of seniority with a variety of standardised and unstandardised variables, but use the most conservative variable for all calculations in this paper. In particular, an attorney is considered senior (coded as '1') only if they had more than ten or more years of experience at the time of the fee application, while an attorney is considered junior (coded as '3') if they had five or less years of experience.<sup>101</sup>

Arguably one would expect an optimal staffing strategy would result in this graph showing increasingly larger steps moving to the right. Nevertheless, Figure 2 alone does not show staffing inefficiencies inasmuch as the total number of senior and mid-level attorneys would not be meaningful without some evidence these attorneys were involved in the chapter 11 cases to the same extent as the junior attorneys.

Upon calculating the average fees and hours associated with the three classes of attorneys, however, a problem becomes apparent. Senior, Mid-Level, and Junior attorneys all seem to work about the same number of hours per month on cases and, more perplexingly, they all seem to generate between USD 14,000 and USD 15,000 in fees per month.<sup>102</sup>

### Notes

99 See generally Sol Stein, *A Feast for Lawyers: Inside Chapter 11* (1989).

100 See Appendix B. This may be, at least partially, a Weil, Gotshal effect, since that firm's time records reflect fewer attorneys admitted to the bar before 1980 than the average (11.9% vs. 14.8%).

101 In particular, I began by creating a standardised seniority index which reflected the difference between the mean date of the relevant fee application and January 1 of the year of the attorney's graduation from law school. This difference was then coded into the seniority variable, as described in the text.

102 See Appendix C.

103 The Spearman's rho correlation for ranked hourly rates and the standardised seniority variable is .065, which is significant at the .01 level.

104 The interquartile range is only USD 195 dollars.

**Table 6: Time entries by decade of bar admission/law school graduation**

	Frequency	Percent	Cumul. Percent
Before 1960	11	.3	.3
1960 – 1969	98	2.5	2.8
1970 – 1979	418	10.7	13.7
1980 – 1989	638	16.3	30.3
1990 – 1994	626	16.0	46.5
1995 – 1999	860	22.0	68.9
After 2000	1198	30.6	100.0
Total	3849	98.5	
Missing	60	1.5	
Total	3909	100.0	

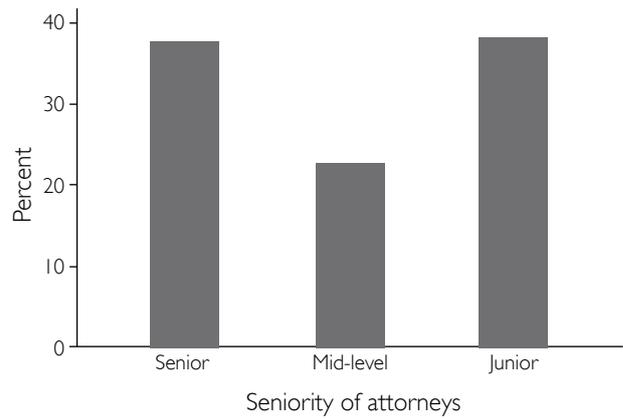
The problem is that years in practice are only partially related to an attorney’s hourly rate.<sup>103</sup> In particular, the picture is clouded by the realisation that some attorneys advance more quickly than others and that hourly rate structures vary among firms – even within the confines of very large chapter 11 cases. And, while hourly rates are spread over a very wide range (from USD 85 to USD 800), most attorneys’ hourly rates are bunched around the mean hourly rate of USD 428.19.<sup>104</sup> This bunching of fees around the mean confounds attempts to sort the attorneys by their years in practice.

Accordingly, I created a new variable that ranked the attorneys’ hourly rate by quartile, with ‘1’ corresponding to the attorneys with the highest hourly rate. Table 7 then shows the fees per month and hours per month for these attorneys. Hourly rate information for the four groups is also included.

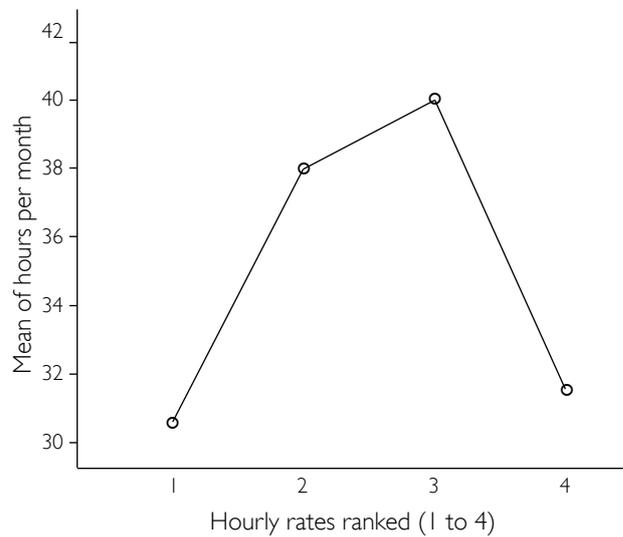
The monthly costs of attorneys declines with their hourly rate, although not as rapidly as intuition might suggest. Indeed, there is no statistically significant difference between the monthly costs of the two top quartile groups, even though there is a more than USD 150 per hour difference in their average hourly rates.<sup>105</sup> As shown in Appendix D, *infra*, the cases involving allegations of fraud show a similar pattern but are uniformly more expensive.

Similarly, while intuition would suggest an upward sloping trend for hours per month, Figure 3 actual shows that the mean hours per month have an inverted ‘U’ shape.<sup>106</sup> And there is no meaningful difference be-

**Figure 2**



**Figure 3**



tween the hours per month logged by the most senior and junior attorneys (using hourly rates as a proxy for seniority).

To be sure, the sample is heavily weighted in the left tail in terms of hours per month. Only 1,600 of the 3,900 time entries in the sample relate to attorneys who worked more than 30 hours per month on any one bankruptcy case. Nevertheless, the expected pattern of a line sloping upward from right to left does not develop when the two groups are considered separately. Instead the line becomes essentially flat for both groups, as shown in Tables 7A and 7B.

Thus, even when the sample is partitioned to reflect ‘full time’ efforts on a case, the essential point of Figure 3 remains: many of the hours spent on the case are

**Notes**

105 Because the overall F tests were significant for each of the three major categories, Tamhane *post hoc* comparisons were conducted to evaluate pairwise differences among the means of the groups.

106 The same basic pattern in Figure 3 results when committee and debtor attorneys are considered separately.

Table 7: Hourly rate ranked

		<i>Fees Per Month</i>	<i>Hours per Month</i>	<i>Hourly Rate</i>
1	Mean	\$19,406.3859	30.6577	\$627.1949
	N	993	993	997
	Std. Deviation	\$29,613.30880	46.1355	\$70.65185
	Skewness	2.311	2.199	.208
	Median	\$5,800.1397	9.6807	\$618.1800
2	Mean	\$17,282.0186	38.0382	\$455.9022
	N	957	957	958
	Std. Deviation	\$24,132.90302	53.0077	\$29.49152
	Skewness	1.971	1.936	.171
	Median	\$6,308.0000	13.9500	\$450.0000
3	Mean	\$14,720.2856	40.0355	\$366.1831
	N	990	990	992
	Std. Deviation	\$19,512.05548	52.7983	\$24.35179
	Skewness	1.792	1.791	-.164
	Median	\$5,861.8141	16.3255	\$370.0000
4	Mean	\$8,315.3908	31.6440	\$258.2924
	N	960	960	962
	Std. Deviation	\$11,929.86662	43.8746	\$37.91958
	Skewness	2.135	1.928	-.692
	Median	\$2,955.0791	11.2249	\$260.0000
Total	Mean	\$14,965.4592	35.0921	\$428.1910
	N	3900	3900	3909
	Std. Deviation	\$22,687.79810	49.2679	\$142.69648
	Skewness	2.521	1.979	.457
	Median	\$4,891.9163	12.4338	\$406.0000

concentrated in the middle range attorneys, and junior attorneys are not billing substantially more hours per month than their senior colleagues on these cases, despite conventional wisdom. It may be that this staffing pattern is ultimately the most efficient, even if it appears counterintuitive. Mid-level attorneys may offer clients, including debtors, an optimal combination of skill and hourly rates that may be more valuable than either high-priced partners or novice junior associates.

An alternative, and perhaps somewhat controversial, interpretation of these data might even suggest that junior attorneys appear too frequently in the sample, given their high cost to knowledge ratio. More directly, the junior attorneys and the most senior attorneys are both spending about 30 hours per month on the debtors'

cases, but it seems doubtful that the value to the client is equivalent, even after giving effect to the difference in hourly rates.

Less optimistically, it should also be noted that the internal structure of most law firms provides few incentives for mid-level associates to delegate work to their junior colleagues, whose inexperience could have negative effects on the mid-level's partnership aspirations. Thus, the staffing pattern seen in Figure 3 and on Table 7 may simply reflect friction created by the traditional incentive structures within law firms.

On the other hand, it is unclear that this problem should so pronounced among mid-level associates, as the fear of delegation is probably rife throughout attorneys in big firms. Perhaps the frequent focus on the top

Table 7A: Hours per month by billing rate groupings ( $\leq 30$  hrs./ month attorneys only)

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	700	7.228	8.104	.306	6.627	7.829	.000	29.824
2	620	8.195	8.282	.333	7.542	8.849	.000	29.930
3	609	8.337	8.072	.327	7.694	8.979	.008	29.800
4	671	8.396	7.670	.296	7.815	8.977	.008	30.000
Total	2600	8.020	8.040	.158	7.711	8.329	.000	30.000

Table 7B: Hours per month by billing rate groupings ( $> 30$  hrs./ month attorneys only)

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	293	86.633	51.126	2.987	80.754	92.511	30.029	325.034
2	337	92.942	56.582	3.082	86.879	99.005	30.025	309.517
3	381	90.704	54.467	2.790	85.217	96.190	30.050	260.793
4	289	85.621	45.718	2.689	80.328	90.915	30.044	227.586
Total	1300	89.237	52.493	1.456	86.380	92.093	30.025	325.034

level attorneys is actually justified, as directing these attorneys to delegate more work to the mid-level attorneys would have a cascade effect, ultimately resulting in the upward-sloping distribution of time initially predicted. This explanation is consistent with the argument that heavy mid-level staffing of cases is optimal, but suggests that the senior attorneys are still handling sub-optimal levels of work.

Yet another explanation for this pattern is that junior attorneys are more heavily staffed on non-bankruptcy matters, where the client may exercise more billing oversight. Mid-level attorneys are then widely available for staffing on bankruptcy cases and the relaxed level of client oversight allows this to occur with little complaint. This explanation comes closest to the usual assertion that large firms manipulate chapter 11 staffing to their own advantage, while also accounting for the new information provided by Figure 3.

Or it may be that the firms in question were simply so overwhelmed with bankruptcy cases in this period

that they lacked sufficient junior attorneys and assigned the work to mid-level associates. This explanation is difficult to test – without access to at least one firm's entire billing system – and difficult to assess. It also raises several important policy considerations. On the one hand, should the junior creditors' bear the costs of a law firm's decision to adopt a lean hiring strategy? But what of the normal laws of supply and demand, and if non-bankruptcy clients bear these expenses why should they subsidise chapter 11 cases?<sup>107</sup>

Plainly a complete answer to this conundrum must await a larger and richer dataset. Nevertheless, the staffing patterns identified in this section of the paper do suggest that the frequent focus by courts and the United States Trustee on the number of partners staffed on a case may be misguided, to the extent the bulk of a case's expense may actually come from the heavy use of mid-level attorneys. Indeed, staffing of chapter 11 cases seems to be far more complex than conventional wisdom would suggest.

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107 Moreover, one purpose of enactment of the current Bankruptcy Code in 1978 'was to compensate bankruptcy attorneys at the same level as non-bankruptcy attorneys. The clearest path to that goal is to rely on the market, subject to the modification that the court will, in practical terms, act as a surrogate for the estate, reviewing the fee application much as a sophisticated non-bankruptcy client would review a legal bill.' In re Busy Beaver Bldg. Ctrs., 19 F.3d 833, 848 (3d Cir. 1995).

### III. Bankruptcy theory and microeconomics

Much like the war in Northern France from 1914 onward,<sup>108</sup> corporate bankruptcy scholarship seems to have stalled in an unproductive stalemate. On one side, a variety of theoretical proposals to replace or automate chapter 11, most with their ancestry in the late 1980s or early 1990s, still lurk about, purporting to offer net improvements in efficiency, but being all too vague about where those improvements will come from.<sup>109</sup> On the other side, critics of these proposals answer, but then often draw in related but distinct issues like distributional equity and the legitimacy of scholarship that fixates on a rare and elite group of cases, making it too easy to dismiss the overall criticism out of hand.<sup>110</sup>

Proposals to radically change chapter 11 were easy to float in prior decades, when it was often assumed that Eastern Airlines and other early cases were prototypical examples of how chapter 11 worked.<sup>111</sup> In light of these cases, and based on an early, and somewhat peculiar empirical study showing that direct costs of corporate reorganisation were quite high, it seemed safe to assume that chapter 11 was wildly expensive.<sup>112</sup>

But then came the empirical studies of chapter 11 professional fees that showed that the direct costs of chapter 11 are in line with other large corporate transactions.<sup>113</sup> This fact alone suggests that efficiency gains are more likely to come from general improvements in the market for professional services, rather than any bankruptcy-specific innovation.

The creators of these alternatives to chapter 11 rightly retort that the costs of chapter 11 entail something more than mere professional fees. Indeed, cost in this context has two basic components.<sup>114</sup> Direct bankruptcy costs are the expenditures associated with the bankruptcy proceeding itself, the most important part of which is professional fees. Indirect costs are reflected in lost opportunities: lost sales, lost profits, the inability to obtain credit, and lost investment opportunities. With a broad definition, we can also include system-specific reductions in the value of the debtor's assets as among the indirect costs of bankruptcy. Unfortunately,

empirically capturing indirect bankruptcy costs is almost impossible – there are good reasons to believe that markets in shares of bankrupt companies are inefficient, thwarting most attempts at event studies. So we measure direct costs and then take our best guess at the indirect costs.<sup>115</sup>

But in all cases, criticism of chapter 11 returns to the *ex ante* effects of the system. Assuming a very strong correlation between *ex ante* and *ex post*, these critics argue that a bankruptcy system that maximises the creditors' bad state return minimises the interest rate that firms must pay to finance projects. In short, reducing bankruptcy costs will maximise social welfare by reducing finance costs.

Of course, one can agree with this analysis and still reject the notion that chapter 11 should be replaced by one of the proffered alternatives. Unless the proposed replacement for chapter 11 plus switching costs is less costly than the *status quo*, the change would be inefficient.

Additionally, because this and prior studies have suggested that the endogenous costs of chapter 11 are likely much smaller than previously believed, an argument in favour of radical change also depends on the relevance of very fine adjustments to the *ex ante* costs of capital. In particular, if *ex post* costs are incompletely reflected in *ex ante* finance prices, the magnitude of improvement that will be needed to justify a change increases, making it vital to identify the specific ways in which a new, alternative bankruptcy system will reduce costs.

Thus, I use this final part of the paper to address the dual questions that undergird bankruptcy scholarship's protracted focus on *ex ante* costs: are bankruptcy costs ever relevant *ex ante* and, if so, should we assume that bankruptcy costs are fully reflected in *ex ante* debt price? I ultimately question the broad claim that chapter 11 hurts all firms, but concede the possibility that chapter 11 could have serious implications for *ex ante* debt prices with regard to a distressed firm. But I also question the claim that *ex ante* finance costs are sensitive to small-scale improvements in corporate bankruptcy. This is

#### Notes

108 See generally John Keegan, *The First World War* (1999).

109 See, e.g., Barry E. Adler & Ian Ayers, 'A Dilution Mechanism for Valuing Corporations in Bankruptcy', 111 *Yale L.J.* 83, 140-49 (2001); Robert K. Rasmussen, 'Debtor's Choice: A Menu Approach to Corporate Bankruptcy', 71 *Tex. L. Rev.* 51, 55-68 (1992) (corporations should be allowed to commit to insolvency rules in advance of financial distress); Alan Schwartz, 'A Normative Theory of Business Bankruptcy', 91 *Va. L. Rev.* 1199, 1238-58 (2005); Alan Schwartz, 'A Contract Theory Approach to Business Bankruptcy', 107 *Yale L.J.* 1807, 1820-39 (contracts should set the desired bankruptcy system, choose from a menu of options) (1998).

110 See, e.g., Elizabeth Warren & Jay Lawrence Westbrook, 'Contracting Out of Bankruptcy: An Empirical Intervention', 118 *Harv. L. Rev.* 1197 (2005).

111 See Lubben, *The Direct Costs of Corporate Reorganization*, *supra* note 2, at 543.

112 Cf. Jerold B. Warner, 'Bankruptcy Costs: Some Evidence', 32 *J. Fin.* 337, 340 (1977) (discussing a sample of eleven railroad cases filed under section 77 between 1933 and 1955).

113 See Lubben, *The Direct Costs of Corporate Reorganization*, *supra* note 2, at 542.

114 For a good summary of this issue, see Stephen A. Ross et al., *Corporate Finance* 456-57 (2007).

115 For one attempt at more precision, albeit in the context of a case that is arguably singular, see Cutler & Summers, 'The Costs Of Conflict Resolution And Financial Distress: Evidence From The Texaco-Pennzoil Litigation', 19 *J. Fin. Econ.* 151 (1988).

not to say *ex ante* pricing does not matter at all. Rather, *ex ante* pricing probably does not matter in the United States, because the system is reasonably efficient and the alternatives are not clearly superior.

### A. The relevance of bankruptcy costs to *ex ante* debt prices

When the critics of chapter 11 contend that overly expensive reorganisation results in *ex ante* inefficiencies, they often refer to two different temporal periods, sometimes within the same argument. First, the claim that inefficient bankruptcy structures raise capital costs for all firms necessarily considers cost at some point in time ( $T_0$ ) when all firms are equally likely to fail.<sup>116</sup>

The total *ex ante* costs of chapter 11 at  $T_0$  are the present value of the expected costs resulting from a chapter 11 case, seen from the time of the financing transaction. The expected costs of any bankruptcy system at  $T_0$  are minimal, regardless of the actual costs of that system, because relatively few large corporate borrowers ultimately file for relief under the Bankruptcy Code. For example, on average only 0.84% of all public firms seek relief under chapter 11 in any year.<sup>117</sup> Even if we assume that the total direct and indirect costs of chapter 11 total 10% of a firm's assets,<sup>118</sup> for a firm with USD 100 million in assets the expected costs of bankruptcy at  $T_0$  would equal less than USD 85,000 per year. When these expected costs are then discounted to their present value, and compared with other corporate expenses, they become trivial in a world where corporate managers are imperfect agents of shareholder-investors.

And changes to the corporate bankruptcy system are also inconsequential at  $T_0$ . On a most basic level, *ex ante* debt costs (interest rates) are comprised of three key elements – a risk free rate, a risk premium, and (sometimes) profit – and changes in the costs of chapter 11

only influence the risk premium.<sup>119</sup> Consider a lender who is poised to make a USD 1 million unsecured loan to our USD 100 million company at  $T_0$ , when the chance of a default is approximately 1%. Assume that any default will occur shortly after making the loan, so we can ignore the time value of money. The current risk-free rate is 5% and the lender believes that the debtor will have approximately USD 200 million in unsecured claims when a chapter 11 filing happens.

Under these facts, if a default occurs the lender can expect that the administrative and indirect costs of chapter 11 will reduce the assets available for the creditors to USD 90 million.<sup>120</sup> In other words, the lender would recover USD 450,000 on its USD 1 million claim. Before adjusting the interest rate, this loan would then have an expected value of USD 1.044 million, as contrasted with USD 1.05 million for the comparable risk free loan.<sup>121</sup> Then lender will thus charge a risk premium of 0.61%, in addition to the risk free rate of 5%, for a total interest rate of 5.61% to give the loan an expect value equal to its risk-free equivalent.

Then assume – very charitably<sup>122</sup> – that one of the alternatives to chapter 11 is adopted and total costs are cut in half – to 5% of assets. Using the same assumptions as before, the lender will now charge 5.58% on its USD 1 million. In other words, cutting the costs of corporate bankruptcy in half will reduce the *ex ante* costs of debt at  $T_0$  by 0.003%; in short, USD 300 per year on the USD 1 million loan or USD 60,000 per year on the firm's total unsecured debt.

Alternatively, the claim that overly expensive reorganisation structures result in *ex ante* inefficiencies could look at a firm at some point in time ( $T_1$ ) when firms have divided themselves into healthy firms and distressed firms. The claim that all borrowers pay for a costly bankruptcy system no longer works at  $T_1$ , because lenders can identify the distressed firms and impose the costs of bankruptcy only on those firms. At

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- 116 If lenders could anticipate which firms are more likely to fail at  $T_0$  they would pass on the costs of bankruptcy to these risky firms, and the inefficiency in the bankruptcy system would only affect distressed firms. See my discussion of  $T_1$ , *infra*.
- 117 Lynn M. LoPucki & Sara D. Kalin, 'The Failure of Public Company Bankruptcies in Delaware and New York: Evidence of a "Race to the Bottom"', 54 *Vand. L. Rev.* 231, 242 (2001).
- 118 As noted, *supra* Part I, total direct costs have been found to average between 2.5% and 2.8% of assets for large firms, but I argue in this paper that perhaps half of those costs are exogenous to chapter 11. Some have argued that the indirect costs of chapter 11 may exceed 25% of firm value. Karen Hopper Wruck, 'Financial Distress, Reorganization, and Organizational Efficiency', 27 *J. Fin. Econ.* 419, 436-39 (1990), but arguably these estimates again overstate the issue by inclusion of costs that are not specific to chapter 11, but rather the result of financial distress generally. See A. Mechele Dickerson, 'A Behavioral Approach to Analyzing Corporate Failures', 38 *Wake Forest L. Rev.* 1, 34 (2003). Moreover, it may be that the indirect costs that are endogenous to chapter 11 have declined as creditors have become increasingly familiar with chapter 11 over the past twenty-five years. Cf. Stephen J. Lubben, 'Chief Justice Traynor's Contract Jurisprudence and the Free Law Dilemma: Nazism, the Judiciary, and California's Contract Law', 7 *S. Cal. Interdisc. L.J.* 81 (1998) (making a similar argument with regard to the unique aspects of California's parole evidence rule).
- 119 Richard A. Posner, *Economic Analysis of the Law* 194-95 (6th ed., 2003).
- 120 See, *supra* note 118.
- 121 Throughout I assume that no interest is paid on the defaulted loan. See 11 U.S.C. § 502(b)(2).
- 122 Many of the proposed 'reforms' would doubtlessly increase the costs of corporate financial distress as a result of their complexity. See generally Susan Block-Lieb, 'The Logic and Limits of Contract Bankruptcy', 2001 *U. Ill. L. Rev.* 503, 516; ('Despite claims about the cost-saving effect of [bankruptcy choice], commentators are dubious that contractual substitutes will be less costly than the current bankruptcy process.'): Stephen J. Lubben, 'Some Realism About Reorganization: Explaining the Failure of Chapter 11 Theory', 106 *Dick. L. Rev.* 267 (2001).

$T_1$  the claim must be that costly bankruptcy will result in denial of financing to some subset of the distressed firms that will be unable to carry the resulting increased costs of capital and therefore result in too many failed firms. Maybe, but if the majority (or even half) of the putative direct costs of chapter 11 are actually the exogenous costs of financial distress, a reform proposal that addressed those costs – to the extent they are not fixed – would seem to offer equal or greater promise.

Consider a lender who is poised to make a USD 1 million unsecured loan to our USD 100 million company at a point ( $T_L$ ) that is closer to  $T_1$ , so that the lender believes that there is a 25% chance the debtor will default. At  $T_L$  the lender will increase the interest rate to a point above the risk-free rate, to account for the 25% chance of realising this reduced amount on its loan. In particular, the lender will demand an interest rate of 25% for this debtor – which suggests a risk premium of 20%.<sup>123</sup> Only with this interest rate would the lender receive as much as it would for making a risk free loan (or buying government securities).

Contrast this scenario with the same reform proposal discussed earlier – resulting in a reduction of bankruptcy-specific costs to 5% of assets. At time the lender will now expect the debtor to have more assets, which reduces the risk premium charged on the loan. Specifically, the lender will now demand a risk premium of 19.17% (representing a total interest rate of 24.17%). The reduction in bankruptcy costs will have reduced *ex ante* expenses on the firm's USD 200 million debt by USD 1.7 million. Alternatively stated, under the assumptions made herein, a distressed firm could be expected to incur USD 850,000 per USD 100 million of debt as a result of chapter 11.

In short, at least on a theoretical level, the *ex ante* costs of chapter 11 might have some significance for a firm nearing default, especially in contrast to an alternative system that offered substantial reductions in bankruptcy-specific costs. Of course, it is not clear that any such alternative system currently exists: while the authors of existing theoretical proposals regarding chapter 11 have typically ignored calls to quantify the savings realised from switching to their systems, it seems reasonably certain that these savings do not amount to a 50% reduction in bankruptcy-specific costs.

And it is likewise unclear that transition costs to such a system will be worth the benefits, unless those

benefits are substantial. Most of the proposed alternative systems would require considerable lead times to implement the changes: changes to corporate charters,<sup>124</sup> financial structures,<sup>125</sup> or contracts<sup>126</sup> can not be effectuated overnight. Structures that remain unchanged when the new system is adopted will result in substantial wealth transfers, the size of which may swamp the near-term benefits of the new system. Moreover, financial institutions have invested more than 25 years in learning how to draft agreements to account for chapter 11, an expense that would have to be incurred again upon a radical change to corporate bankruptcy. Nevertheless, the *ex ante* effect of chapter 11 costs is at least of theoretical interest in a narrow range of cases.

### B. The relationship between bankruptcy costs to *ex ante* debt prices

To this point we have assumed that *ex post* chapter 11 costs fully translate into *ex ante* debt prices, but there are good reasons to doubt that situation obtains. This is a result of both the parameter uncertainty involved in any real world estimation of bankruptcy costs and the nature of interest rates, which is arguably more complex than the simply theoretical assumptions that populate most bankruptcy scholarship.

Recall that inefficiency only results with regard to those distressed firms that would have been able to finance their projects under the alternative system but that are priced out of the debt market under the current chapter 11. Under the examples used in this part of the paper, the *ex ante* costs of corporate bankruptcy are only relevant to the group of firms that could borrow at 24.17% but not at 25%.

But this implies far too much precision. The true value of a debtor's assets and liabilities upon default, the probability of default, and the actual costs of any particular debtor's chapter 11 case are parameters that can only be estimated *ex ante* within some range.<sup>127</sup> And the capital structure of a large debtor is typically far too complex to specify recovery to particular claimants in the event of default.

Because these inputs are necessarily crude, and subject to a good deal of variation, estimates of the actual significance of changes in bankruptcy systems are also crude. Efforts to predict the effects of particularly fine

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123 For simplicity, I ignore any possible 'profit' in these loans. In a fully competitive market, this is realistic. The market for distressed loans may not be fully competitive, but the addition of lender rents would be uniform among my examples and thus would not alter the results. For similar reasons I ignore the effects of financial distress costs that are exogenous to the relevant corporate bankruptcy mechanism.

124 Robert K. Rasmussen, 'Debtor's Choice: A Menu Approach to Corporate Bankruptcy', 71 *Tex. L. Rev.* 51 (1992).

125 Barry E. Adler, 'A Theory of Corporate Insolvency', 72 *N.Y.U. L. Rev.* 343 (1997).

126 Alan Schwartz, 'A Contract Theory Approach to Business Bankruptcy', 107 *Yale L.J.* 1807 (1998).

127 To take an extreme example, in 2001 ten debtors had investment-grade ratings within a year of default. See David T. Hamilton, et al., 'Default & Recovery Rates of Corporate Bond Issuers: A Statistical Review of Moody's Ratings Performance 1970-2001' at 9 (2002).

changes in the law are thus largely exercises in futility. For example, if the risk of default is really 20% at  $T_1$ , the move to the new bankruptcy system reduces *ex ante* costs by 0.62% as opposed to the 0.83% reduction seen with a 25% chance of default. Conversely, increasing the chance of default to 30% raises the spread between the status quo and the hypothetical new system to 1.07%.

And our conception of what is reflected in interest rates may be far too theoretical, depending on assumptions in the Capital Asset Pricing Model that everyone knows are not fully realised in the real world.<sup>128</sup> For example, throughout the legal literature, it is widely assumed that all of the spread between the interest rate a borrower pays and the risk free rate is attributable to the costs of chapter 11, but why should this be? Some fraction of debt price variation no doubt reflects supply, liquidity, systemic risk premiums, and tax effects.<sup>129</sup> The proportion of credit spreads which can be attributed to default risk is the subject of much debate in the finance literature,<sup>130</sup> a fact that is rarely acknowledged in the legal literature.

In short, there are good reasons to believe that, even in the case of risky debtors, the role of *ex ante* bankruptcy costs in interest rates has been overstated. And in a world of uncertain parameters, moving to a new bankruptcy system is of doubtful value unless the *status quo* is extremely inefficient or the new system results in undreamed of cost reductions. While it may have once been reasonable to assume that chapter 11 was widely expensive, this and other papers have seriously undercut that belief.<sup>131</sup> Thus, the most likely avenue for such a project is to produce a new system that demonstrates its ability to clearly and substantially reduce the costs of financial distress – marginal or supposed reductions are not sufficient to make *ex ante* cost cutting relevant.

In the absence of these kinds of extreme circumstances, increases in efficiency are more likely to result from legal changes occurring outside of chapter 11. For example, current tax law encourages reorganisation in

the presence of significant net operating losses, even if such reorganisation is ultimately inefficient relative to a liquidation of the same debtor. The Trust Indenture Act hinders many out of court workouts with bondholders. And the Supreme Court's recent 11<sup>th</sup> Amendment jurisprudence effectively exempts governmental creditors from large swaths of the Bankruptcy Code, effectively thwarting the goal of a single resolution to financial distress in many cases.<sup>132</sup> Changes to any of these legal regimes might have a greater effect on social wealth, and would allow bankruptcy scholarship to move beyond the twenty-five year project of railing against chapter 11.

Indeed, this analysis suggests that the time has come to reject chapter 11's effect on *ex ante* debt costs as the singular principle for measuring chapter 11's efficiency. If debt prices are only moderately sensitive to the details of chapter 11, the obsessive quest to reduce the costs of debt financing may miss other opportunities to enhance overall social efficiency. For example, some of the features of chapter 11 that increase *ex post* recoveries (*i.e.*, preference actions) might be defensible on the basis of social wealth, because they are not fully priced *ex ante*, even in the limited situations where such pricing is relevant.<sup>133</sup>

## Conclusion

This paper has presented the first internal look at the staffing of lawyers in large corporate chapter 11 cases. Bankruptcy attorneys are outnumbered by non-bankruptcy attorneys in these cases, although the bankruptcy attorneys account for a large share of the fees in the cases. Approximately 55% of the attorneys' fees are arguably exogenous to chapter 11, providing further evidence that attempts to reform chapter 11 may be unhelpful unless these efforts address the costs of financial distress comprehensively.

## Notes

128 Franklin Allen, Richard A. Brealey, & Stewart C. Myers, *Principles of Corporate Finance* 195-197 (8th ed. 2006).

129 See, e.g., Tao-Hsien Dolly King & Kenneth Khang, 'On The Importance Of Systematic Risk Factors In Explaining The Cross-Section Of Corporate Bond Yield Spreads', 29 *J. Bank. & Fin.* 3141 (2005). See also Dominic O'Kane, et al., *The Lehman Brothers Guide to Exotic Credit Derivatives* 33 (2003) ('the credit spread of an asset contains not just a compensation for pure default risk; it also depends on the market's risk aversion expressed through a risk premium, as well as on supply-and demand imbalances.').

130 See, e.g., Georges Dionne et al., *Default Risk in Corporate Yield Spreads*, Draft of Nov. 9, 2005 (on file with author).

131 Of course, the expense of corporate reorganisation may have relevance in jurisdictions where reorganisation entails substantial wealth transfers among creditors or other serious inefficiencies.

132 The Court's recent decision in *Central Virginia Community College v. Katz*, No. 04-885, 2006 WL 151985 (2006), which held that the Bankruptcy Clause partially abrogates sovereign immunity, may ultimately solve this problem, depending on the breath of subsequent interpretations of this opinion.

133 Further progress toward a theory of chapter 11 that promotes efficiency without perfect *ex ante* pricing must, of course, await a separate article.

### Appendix B. (Time entries by decade of bar admission/law school graduation; Fraud and No Fraud Cases)

	<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Before 1960	7	.3	.3	.3
1960 – 1969	71	3.3	3.3	3.6
1970 – 1979	285	13.0	13.3	16.9
1980 – 1989	355	16.3	16.5	33.4
1990 – 1999	784	35.9	36.5	69.9
After 2000	647	29.6	30.1	100.0
Subtotal	2149	98.4	100.0	
Missing	35	1.6		
Total	2184	100.0		

	<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Before 1960	7	.4	.4	.4
1960 – 1969	27	1.6	1.6	2.0
1970 – 1979	133	7.7	7.8	9.8
1980 – 1989	283	16.4	16.6	26.4
1990 – 1999	702	40.7	41.2	67.6
After 2000	551	31.9	32.4	100.0
Subtotal	1703	98.7	100.0	
Missing	22	1.3		
Total	1725	100.0		

## Appendix C. (Attorneys by Seniority)

Seniority (stand-5/10)		Fees per Month	Hours per Month	Standardised Monthly Fees (per month/assets)	Standardised Monthly Hours (per month/assets)	Hourly Rate
Senior	Mean	\$15,811.7101	35.744	\$3.250111	.01	\$438.5420
	N	1498	1498	1498	1498	1500
	Std. Deviation	\$24,170.07638	50.266	\$11.8085180	.027	\$145.09457
	Skewness	2.403	1.986	9.527	8.920	.352
	Median	\$4,938.9604	11.900	\$.294154	.00	\$425.0000
Mid-Level	Mean	\$14,781.8264	35.679	\$2.115955	.01	\$423.3392
	N	901	901	901	901	902
	Std. Deviation	\$22,383.90957	49.995	\$6.3233615	.015	\$141.33392
	Skewness	3.057	2.074	5.519	6.832	.526
	Median	\$5,241.6201	13.071	\$.212873	.00	\$400.0000
Junior	Mean	\$14,231.1283	34.089	\$2.071243	.01	\$420.7921
	N	1501	1501	1501	1501	1507
	Std. Deviation	\$21,284.92480	47.817	\$7.1376919	.020	\$140.56433
	Skewness	2.267	1.901	9.819	13.800	.522
	Median	\$4,563.5294	12.517	\$.239376	.00	\$395.0000
Total	Mean	\$14,965.4592	35.092	\$2.534379	.01	\$428.1910
	N	3900	3900	3900	3900	3909
	Std. Deviation	\$22,687.79810	49.268	\$9.0932417	.022	\$142.69648
	Skewness	2.521	1.979	10.358	10.723	.457
	Median	\$4,891.9163	12.434	\$.252640	.00	\$406.0000

## Appendix D. (Table 7; Subdivided by Fraud and No-Fraud Cases)

Hourly Rate Ranked (1 to 4)	Case with signif. fraud?		Fees per Month	Hours per Month	Hourly Rate
1	No	Mean	\$14,399.4954	23.021	\$627.1773
		N	590	590	594
		Std. Deviation	\$23,920.44282	38.430	\$67.21990
		Skewness	2.596	2.649	.139
		Median	\$3,646.3235	5.698	\$625.0000
	Yes	Mean	\$26,736.5731	41.838	\$627.2208
		N	403	403	403
		Std. Deviation	\$35,142.54737	53.643	\$75.51214
		Skewness	1.879	1.723	.278
		Median	\$10,428.2773	17.749	\$600.0000
	Total	Mean	\$19,406.3859	30.658	\$627.1949
		N	993	993	997
		Std. Deviation	\$29,613.30880	46.135	\$70.65185
		Skewness	2.311	2.199	.208
Median		\$5,800.1397	9.681	\$618.1800	
2	No	Mean	\$13,143.2895	28.858	\$455.2096
		N	530	530	531
		Std. Deviation	\$20,799.59856	45.252	\$29.92657
		Skewness	2.488	2.401	.134
		Median	\$3,965.4475	8.623	\$450.0000
	Yes	Mean	\$22,419.0830	49.432	\$456.7635
		N	427	427	427
		Std. Deviation	\$26,869.84432	59.395	\$28.95322
		Skewness	1.545	1.531	.230
		Median	\$10,880.0000	23.748	\$450.0000
	Total	Mean	\$17,282.0186	38.038	\$455.9022
		N	957	957	958
		Std. Deviation	\$24,132.90302	53.008	\$29.49152
		Skewness	1.971	1.936	.171
Median		\$6,308.0000	13.950	\$450.0000	
3	No	Mean	\$11,484.9096	31.215	\$367.6116
		N	501	501	503
		Std. Deviation	\$17,761.92911	48.046	\$24.36160
		Skewness	2.353	2.332	-.213
		Median	\$3,422.8346	9.443	\$374.1900
	Yes	Mean	\$18,035.0573	49.073	\$364.7137
		N	489	489	489
		Std. Deviation	\$20,653.86259	55.881	\$24.27894
		Skewness	1.409	1.422	-.116
		Median	\$9,595.8101	27.800	\$370.0000

<i>Hourly Rate Ranked (1 to 4)</i>	<i>Case with signif. fraud?</i>		<i>Fees per Month</i>	<i>Hours per Month</i>	<i>Hourly Rate</i>
	Total	Mean	\$14,720.2856	40.036	\$366.1831
		N	990	990	992
		Std. Deviation	\$19,512.05548	52.798	\$24.35179
		Skewness	1.792	1.791	-.164
		Median	\$5,861.8141	16.326	\$370.0000
4	No	Mean	\$7,269.5519	27.107	\$259.8308
		N	556	556	556
		Std. Deviation	\$12,205.65414	43.697	\$38.27981
		Skewness	2.603	2.416	-.612
		Median	\$2,221.9550	8.916	\$260.0000
	Yes	Mean	\$9,754.7136	37.888	\$256.1857
		N	404	404	406
		Std. Deviation	\$11,398.34272	43.401	\$37.36484
		Skewness	1.490	1.359	-.827
		Median	\$4,605.9235	18.628	\$250.0000
	Total	Mean	\$8,315.3908	31.644	\$258.2924
		N	960	960	962
		Std. Deviation	\$11,929.86662	43.875	\$37.91958
		Skewness	2.135	1.928	-.692
		Median	\$2,955.0791	11.225	\$260.0000
Total	No	Mean	\$11,601.9551	27.371	\$432.0669
		N	2177	2177	2184
		Std. Deviation	\$19,443.32701	43.865	\$144.76002
		Skewness	2.789	2.462	.389
		Median	\$3,083.2268	8.100	\$410.0000
	Yes	Mean	\$19,215.2262	44.847	\$423.2837
		N	1723	1723	1725
		Std. Deviation	\$25,600.65716	53.796	\$139.92808
		Skewness	2.218	1.573	.546
		Median	\$8,538.7500	21.771	\$400.0000
	Total	Mean	\$14,965.4592	35.092	\$428.1910
		N	3900	3900	3909
		Std. Deviation	\$22,687.79810	49.268	\$142.69648
		Skewness	2.521	1.979	.457
		Median	\$4,891.9163	\$14,399.495	23.02086796966736