# What Drives Bankruptcy Forum Shopping?
# Evidence from Market Data

*Over the past thirty years, the majority of large firms that filed for bankruptcy did so in the Federal Bankruptcy Courts of the Southern District of New York and Delaware. Some believe these experienced courts attract firms because their expertise make bankruptcy more predictable. Critics dispute this explanation, arguing instead that "predictability" is a cloak for the true, self-interested motivation of the managers, lawyers and senior creditors that influence the debtor's venue decision. In this paper, I look for evidence supporting the views of the proponents and detractors of bankruptcy forum shopping in a large sample of market data. My results suggest that the market is better at predicting the outcomes of bankruptcy cases in the two destination venues, consistent with the hypothesis that the law there is more predictable. I do not find evidence supporting the view that those courts are biased in favor of managers or senior creditors.*

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When large firms file for bankruptcy, they tend to do so in the Federal Bankruptcy Courts of the District of Delaware and the Southern District of New York. These two *de facto* national bankruptcy courts have jointly overseen more than 60% of all large bankruptcy cases in the past twenty-five years. While this equilibrium is now a well-entrenched feature of American bankruptcy law, it was not obvious that massive forum shopping would be the outcome when Congress passed the Bankruptcy Reform Act of 1978. The new venue statute was flexible, providing troubled businesses the choice of the bankruptcy court of their state of incorporation as well as any jurisdictions home to major assets or the firm's headquarters. However, the bankruptcy code is federal law and the only advantages one jurisdiction might offer over another are the body of judicially-created precedent, the quality and experience of the judges and geographic convenience. The managers of large firms generally make the bankruptcy venue decision in consultation with their lawyers and secured lenders. This paper is concerned with a much-debated question among academics and lawyers: Why do these managers, lawyers and lenders appear to prefer the bankruptcy process in two courts that are often far from firm headquarters? What has driven a generation of bankruptcy forum shopping?

A voluminous literature offers distinctly different answers to these questions. The Senate Judiciary Committee recently asked the Government Accountability Office to interview a large panel of bankruptcy lawyers and ask what leads them to file for bankruptcy in one venue over another (GAO 2015). The lawyers' responses echoed the arguments of academic forum shopping proponents (e.g. Cole 2002), who hypothesize that firms are attracted to the destination courts because their combination of judicial expertise and developed legal precedent makes the bankruptcy process more predictable and efficient. Critics strongly contest this narrative and argue that predictability is a "code word" that provides a cloak for the self-interest of lawyers,

managers and secured lenders (LoPucki 2005). For example, a judge in Texas recently cast doubt on the value of judicial expertise, pointing out that the federal statute is the same in all jurisdictions. A better explanation, he implied, was geographic convenience for the east coast lawyers and bankers who dominate corporate bankruptcy practice.[2] Other critics see darker motives, alleging that managers and secured lenders prefer the destination courts because those judges are biased in their favor (LoPucki 2005).

This paper comes to the question of bankruptcy forum shopping with a new methodology and a hand-collected dataset of 352 large bankrupt companies linked to the trading price records of 1,484 distinct financial contracts. This new sample of the claims of bankrupt firms is, to my knowledge, the largest yet studied in the empirical literature in law or finance. Forum shopping critics argue that bankruptcy lawyers have reasons to disguise their true motivation, making it difficult to understand what actually explains the current equilibrium. I sidestep this bias by looking for evidence supporting the predictions of forum shopping proponents and critics in theoretically unbiased market data. I focus primarily on the main claim of bankruptcy forum shopping proponents: that predictable law and judges drive forum shopping. In theory, the prices of a bankrupt firm's financial claims at the beginning of the bankruptcy process incorporate a vast amount of information that amount to an unbiased guess about the outcome of the bankruptcy process and the future value of the firm. If the proponents of forum shopping are correct, we would expect the market to be better at predicting bankruptcy outcomes in Delaware and the Southern District of New York. Is it?

[2] See e.g. In re Crosby Nat'l Golf Club, LLC, 534 B.R. 888 (Bankr. N.D. Tex. 2015) (arguing that forum shopping proponents' explanations are "unconvincing")

My empirical strategy grapples with the same identification challenges as the empirical literature on corporate chartering (e.g. Daines 2001) as well as some unique to the institutional setting of bankruptcy. First, I do not observe random assignment of firms to bankruptcy courts. In fact, every firm in the sample likely had the option of filing for bankruptcy in several different jurisdictions. 80% of the firms in the study are Delaware-domiciled at the parent company level, and it is likely that many of the remaining 20% have Delaware-domiciled subsidiaries. While fewer firms have obvious connections to New York, cases exist where firms manufacture such connections on relatively short notice.[3] This means that there is no way to identify a subset of firms that "could not" file for bankruptcy in Delaware or New York or even were less likely to file for bankruptcy there because of geographic distance.

Second, a research design that relies purely on comparing the market reaction to bankruptcy filings in different venues assumes that the bankruptcy filing and the venue represent surprises to the market. In reality, firms seldom file for bankruptcy without months of negotiations with creditors, and the venue decision is often make in consultation with creditors. For example, GeoKinetics Inc., a Houston-based energy data firm, issued a press release announcing it would file for bankruptcy in Delaware – two months prior to filing for bankruptcy.[4] At least some traders may know, and may have known for quite a while, where a newly bankrupt firm intended to file for bankruptcy and it is impossible to identify the bankruptcy filings where either the venue or filing constitute a true "surprise" to the market.

[3] For example, one company filed for bankruptcy in the Southern District of New York on the basis of two affiliates headquarter in New York – both of which had been created 38 days prior to the bankruptcy petition date (Tomich 2012). The ability of firms without an obvious connection to New York or Delaware to file for bankruptcy there at a relatively low transaction cost can be thought of as a "shadow venue choice" in the same way that Coates (2000) pointed out that firms without poison pill provisions in their corporate charter can add one, making research designs that aimed to identify the impact of antitakeover defenses potentially misleading.

[4] See http://www.law360.com/articles/407926/geokinetics-plans-ch-11-filing-to-shed-300m-bond-debt

Accordingly, my research design is in the spirit of Barzuza and Smith (2014). I study the cross-section of Chapter 11 debtors and look for evidence that supports the various theories that emerge from the bankruptcy forum shopping literature. In my main results, I adapt a methodology from the asset pricing literature and calculate absolute returns for the financial claims in the sample. To illustrate the test statistic, consider a debtor which borrowed $100 from a Bank. When the company falls into distress, expert distressed investors will usually buy claims like this one at discounts from pre-bankruptcy creditors. In this example, suppose the vulture investor bought the claim for 50 cents on the dollar ($50) and the claim received an ultimate payoff at the end of the bankruptcy process equal to 60 cents on the dollar ($60). This investor earned a 20% return on their investment, or $\frac{60-50}{50} = \frac{10}{50} = .2$. The absolute return is the absolute value of that number, or $|.2| = .2$. Importantly, if the investor had sustained a 20% loss, the absolute return on the investment would be $|-.2| = .2$. Thus, the test statistic measures the absolute distance between the market's recovery expectations at the beginning of the bankruptcy process and the discounted present value of the ultimate bankruptcy payoff, which I refer to as the pricing deviation. All else being equal, a higher observed pricing deviation suggests that the market's pricing assumptions were relatively less accurate.

My results generally support the view that the market is able to form more accurate recovery expectations for the firms that reorganize in the two destination jurisdictions. In my preferred specification, the observed pricing deviation for the median sample claim is 24.08% smaller for firms reorganizing in Delaware and 35.03% smaller for firms reorganizing in the Southern District of New York. This statistically significant relationship is robust to controls for firm size, the lawyers and investment bankers advising the debtor, the industries of the sample firms, the duration of the bankruptcy case, changes in market conditions over the bankruptcy

period, pre-packaged or pre-negotiated filings and other potential confounding variables. The median financial claim in the sample has an observed pricing deviation of 26.7%. The regression coefficients imply that moving the claim from a less experienced venue to Delaware would reduce the pricing deviation by 6.43% (24.08% of 26.7%) and a move to the Southern District of New York would reduce the pricing deviation by 9.35% (35.03% of 26.7%).

Of course, this paper observes the outcome of a selection process, and it may very well be the case that the market is simply better informed ex ante about the firms that reorganize in the destination courts or that those firms are inherently more predictable and less uncertain. On the face of it, the firms that reorganize in Delaware appear to be extremely similar to the firms reorganizing in the less experienced courts. They are similarly sized and drawn from a similar distribution of industries. The cohort of firms in the Southern District of New York is generally larger but the vast majority of firms in all three venues were subject to SEC public disclosure rules pre-bankruptcy. I do observe a small group of four firms that were transferred from the destination venues to less experienced courts and the mean pricing deviation increased after the transfer, consistent with a causal explanation and the predictions of forum shopping proponents. However, it is difficult to read too much into a small group of non-random transfers and I cannot eliminate the possibility that the groups of firms differ in some fundamental way.

I can, however, examine two of the more obvious confounding variables using proxy variables from the literature. Other research has studied the level of information in the market using the rate of Wall Street analyst coverage and by looking for differences in the observed bid-ask spread.[5] Neither of these measures suggests that the market was better informed about the

[5] While the bid-ask spread is usually a proxy for informational asymmetry, some papers have used it as a proxy for informedness on the theory that if one group of firms (usually after a shock) has a persistently higher (or lower) bid-ask spread it might indicate reduced (or increased) levels of information.

firms that chose to reorganize in the destination courts prior to bankruptcy. Similarly, pre-bankruptcy stock variance and cash flow volatility have been used by other research as proxies for firm-specific uncertainty. I examine both and neither suggest a systematic difference in the inherent predictability of the firms across the venue cohorts. To be sure, these proxies are imperfect and it remains possible that the three cohorts of firms vary in their relative level of market informedness, inherent riskiness, uncertainty or some other factor that might drive the results, but these tests provide some comfort that they do not obviously appear to be different.

Further, I look for additional evidence suggesting that the observed venue correlation does, in fact, measure the impact of predictable law. Theoretically, we would expect predictable law to aid the market the most for the claims that the market understands the best (as measured by relatively low pricing deviations) and to be the least helpful if the market appears to have badly misjudged the firm ex ante (as measured by relatively higher pricing deviations). I test this hypothesis using quantile regression, a method that estimates the conditional response of the dependent variable at different points along the sample distribution. The results are consistent with theoretical expectations. I find that the magnitude of the observed venue correlation appears to be largest for the smallest pricing deviations and that the statistical relationship appears to disappear as the pricing deviation becomes extremely large.

I also investigate the persistence of the observed venue correlation through the bankruptcy process. In theory, the influence of predictable law and legal precedent should be strongest at the beginning of the bankruptcy process. As the firm moves through the bankruptcy process, the judge will issue the orders that the market was previously anticipating and the theoretical benefit of ex ante predictability should diminish. My results are again consistent with theoretical expectations. The observed pricing advantage persists in the early part of the

bankruptcy case, but disappears in the data as the case advances deep into the plan of reorganization process and the firm prepares to emerge from bankruptcy protection. Interestingly, when I examine the pricing deviation of the three cohorts of firms in the three months prior to the petition date, I find that the Delaware and New York cohorts were actually harder for the market to predict prior to filing for bankruptcy. This is consistent with the view of practitioners that those courts attract the most complex cases and provides further comfort that the destination courts do not simply reorganize more predictable firms.[6] The results suggest that the market's observed advantage in price accuracy only persists during the period in which knowledge of law and the judge would appear to matter the most.

Additionally, I study the theoretical losers of increased predictability: holders of junior claims. Creditors of bankrupt firms usually expect to sustain losses in the bankruptcy process. Junior claimants such as unsecured creditors have incentives to reduce their expected bankruptcy losses and extract hold-up payments by using litigation to impose costs and uncertainty on senior creditors. In theory, the bargaining leverage that junior claimants expect to acquire through litigation tactics might be reduced if the law has fewer ambiguities to exploit and the judge has the experience to filter weak claims. Consistent with this hypothesis, I find that out-of-the-money claims of Delaware-venued bankrupt firms appear to be worth relatively less at the beginning of the Chapter 11 process as compared to claims of firms reorganizing in less experienced venues, controlling for heterogeneity in capital structure, market conditions and the

[6] It does not appear to be the case that the firms that file for bankruptcy in New York and Delaware simply arrive more prepared to exit bankruptcy than the firms that file elsewhere. Of the firms in the sample, 60% filed in pre-negotiated bankruptcies where negotiations were complete with some, but not all, creditor groups (52% in Delaware, 65% in New York and 70% in the less experienced courts) and 13% filed in prepackaged bankruptcies (13% in Delaware, 18% in New York and 9% in the less experienced courts). In total, 75% of cases were either prepackaged or prenegotiated (65% in Delaware, 82% in New York and 77% in the less experienced courts).

ultimate pay-off.[7] I do not find evidence of the same relationship for the New York-venued sample. Importantly, as further explained below, this does not appear to be the result of a transfer of value or bias towards senior creditors.

Finally, I examine the degree of correlation of trading in the claims of bankrupt firms with trading in the equity of other firms in the same industry. As has been noted elsewhere, investment returns correlate across industries as the market absorbs news that affect similar firms. I hypothesize that greater legal predictability might enable a relatively larger proportion of the trading in the claims of bankrupt firms to be based on firm fundamentals rather than the relatively more certain legal bankruptcy process. I find that all three groups of firms were similarly correlated with their industry peers prior to bankruptcy but only the Delaware- and New York-venued firms remain correlated with their industries during bankruptcy.

I also briefly consider some of the predictions of detractors of forum shopping. I find no evidence that bankruptcy judges in the destination venues disproportionately approve plans of reorganization that transfer value to senior creditors from junior claimants. I also examine a proxy for pro-management bias and do not find evidence suggesting that the market believes that entrenched managers systematically overestimate the value of the firm in the destination venues. Clearly, there are other channels through which a pro-manager or secured creditor bias could be expressed and further research is needed. While this paper offers suggestive evidence supporting the views of the proponents of bankruptcy forum shopping, I cannot rule out the possibility that the predictions of both the proponents and detractors of forum shopping are correct. I also cannot say that the firms that reorganized elsewhere would have been better off filing for

[7] In the language of option pricing theory, the value of the out-of-the-money claim theoretically increases in the volatility of the bankruptcy case. The results in this paper suggest that the greater certainty of more experienced courts effectively reduces the volatility of the bankruptcy case and the pricing consequences appear to be consistent with what option pricing theory would predict.

bankruptcy in a destination venue. The paper's main conclusion is that the market appears to be better at predicting the outcome of the bankruptcy process in more experienced bankruptcy courts and that this correlation is robust to controls and further substantiated by other evidence.

It is important to note that this methodology focuses on identifying the market's ability to anticipate the outcome of a judicial process. None of my findings suggest that Delaware or New York judges issue rulings that are better than judges elsewhere; they simply bear on the question of predictability. With that said, it has long been maintained that healthy businesses benefit from predictability (e.g. Fisch 2000) and it is plausible to imagine similar benefits accruing to the advantage of distressed firms (e.g. Westbrook 1999). For example, the lenders who provide debtor-in-possession financing could be more willing to extend credit when the legal process is more certain. Even the observed difference in price accuracy might be helpful, perhaps by facilitating the entrance of activist investors into badly managed firms, improving the market's ability to discipline agency problems (Edmans et al. 2012).

This paper proceeds as follows. Section II details the law governing venue selection in bankruptcy and reviews the bankruptcy forum shopping literature. Section III introduces the sample studied in the paper and provides summary statistics. Section IV presents the paper's research design and main results. Section V concludes in the backdrop of various proposals in Congress to reform the venue statute to end forum shopping. The results suggest that venue reform might increase the uncertainty of the bankruptcy system, at least in the short term while the market adjusts. The effect may not persist long, but it might persist longer in smaller venues, perhaps creating a new disadvantage for firms located outside of major commercial centers. Additionally, the results in this paper suggest that the destination courts may now be

significantly more predictable than other courts, perhaps creating a different balance of power between judges and firms that might have existed in the early years of forum shopping.

## II. Institutional Background and Literature Review: The Rise of Bankruptcy Forum Shopping.

The scholarly debate over bankruptcy forum shopping began with LoPucki and Whitford (1991)'s finding that firms with little connection to New York were filing for bankruptcy in the Southern District of New York, exploiting the versatility of the new Bankruptcy Act of 1978. Under the bankruptcy code, financially distressed corporations have the choice of filing for bankruptcy in their states of incorporation, the site of their headquarters or the site of their "principal assets."[8] In interviews, lawyers told LoPucki and Whitford (1991) that New York had become the preferred bankruptcy jurisdiction because of its financial industry and capable law firms. This advantage built on itself. As more companies reorganized in New York, the local bench was enriched with expertise and a body of precedent emerged, reducing uncertainty and making the interpretation of the new bankruptcy law more predictable. In later work, LoPucki and his collaborators noticed a startling change: the bankruptcy court in Delaware had begun to attract firms with little connection as well.[9] Skeel (1998) attributes Delaware's lure to the high-profile, successful bankruptcy of Continental Airlines in 1991, which attracted additional firms hoping for successful reorganizations.

[Figure 1 about here]

LoPucki and Whitford (1991) expressed concern over the emerging pattern of forum shopping. They worried, in effect, that as courts competed to oversee large bankruptcy cases, this might lead to a problem of "deference" to the lawyers, managers and creditors that decided

[8] 28 USC 1408.
[9] Space constraints restrict from citing every contribution to this voluminous literature.

where large companies would reorganize, biasing the bankruptcy process in their favor. LoPucki and Eisenberg (1999) studied a sample of all large public companies filing for bankruptcy (n=284) between 1980 and 1997. They failed to find evidence that firms reorganizing in Delaware enjoyed a quicker bankruptcy process – as measured by the duration of the bankruptcy case – and they paradoxically found that New York appeared to be relatively slower than other jurisdictions. They concluded that "[t]he benign reasons offered for forum shopping- efficiency and convenience - do not find support in the data" (LoPucki and Eisenberg 1999, 1001).

Subsequently, LoPucki and Kalin (2001) showed that public companies that emerged from bankruptcy between 1991 and 1996 refiled for bankruptcy within five years at starkly different rates depending on where they reorganized. In New York, that rate was 23%, in Delaware that rate was 30% and in the non-destination courts that rate was only 5%. LoPucki (2005) attributed this finding to corruption created by regulatory competition. As judges in Delaware and New York sought to maximize their share of major bankruptcy filings, they became overly deferential to the lawyers representing the debtor. This led to firms emerging from bankruptcy in these destination courts with plans of reorganization that were the product of "less-than-thorough" negotiations between creditor groups. Consequently, firms reorganizing in the destination courts left bankruptcy with too much debt and without fixing the underlying problems in their business. In a follow-up study, LoPucki (2005) found that in the 1997 to 2000 period the refiling rate of firms reorganizing in Delaware and New York remained relatively consistent, but the refiling rate of the "other courts" group caught up with the two destination venues. He blamed the corrupting influence of regulatory competition – as other courts began to compete to retain the bankruptcy filings of local firms, they adopted Delaware's procedures which resulted in incomplete bankruptcy reorganizations.

Other scholars offered an alternative explanation. Ayotte & Skeel (2004) studied a sample of 303 large firm bankruptcies between 1990 and 1999 and found evidence supporting the view that firms filed for bankruptcy in Delaware because of advantages in terms of speed and administrative efficiency and the expertise of its bankruptcy judges. Cole (2002) took a different empirical approach, performing a large number of interviews with bankruptcy lawyers and judges to learn what mattered to them in identifying their preferred venue. He found that the first factor that most lawyers identified as important was "predictability." He found this took on two different meanings. First, lawyers believed Delaware judges were "good judges."[10] Second, the existence of precedent in Delaware made the cases more predictable. "Precedent," to these lawyers, included not only the traditional legal definition of precedent as constituting judicial decisions but also "unpublished but widely understood results of prior procedural rulings." Cole (2002) reports:

> According to one New York bankruptcy attorney, "When I file a retailer case in Delaware, I know that the judge will understand the special issues surrounding inventory, for example, and I also have an idea how those issues will be resolved." One lawyer who has recently moved to Delaware reports that "process and predictability are 90% of [the decision of where to file], and we have judges who understand that." (Cole 2002 at 1860).

Recent evidence suggests that lawyers continue to justify bankruptcy forum shopping by pointing to the quality and predictability of the judges. The Senate Judiciary Committee, contemplating venue reform to eliminate forum shopping, recently asked the United States Government Accountability Office (2015) (the "GAO") to report on the topic. The GAO interviewed 39 bankruptcy lawyers and judges and reported that 33 of them named prior court rulings as an important determinant of the venue filing decision, far more than any other reason. The second most popular reason, mentioned by half of the interviewees, was lender preference

[10] At the time, Delaware had only two bankruptcy judges (it now has 6, after the 2005 bankruptcy reforms).

"for the predictability of certain courts." The third most popular reason, cited by about 40% of respondents, was the experience of the judges. No other reason was mentioned by more than a third of the respondents.

While the scholarly debate died down in the mid-2000s, the controversy over bankruptcy forum shopping among judges and Congress has not abated.[11] Some of the earlier literature did not appear to believe that the forum shopping equilibrium would endure. Delaware's ability to attract major bankruptcies was strongly correlated with its status as the leading state in the corporate chartering competition and the academic debate over that regulatory competition cast a shadow over the related bankruptcy scholarship. Adler and Butler (2003) pointed out that Delaware's advantages as a bankruptcy court would be smaller than advantages of Delaware's corporate law because the plausible benefits of judges alone seemed much smaller than a substantive body of legislature-made law. LoPucki and Eisenberg (1999, 972) argued that "differences in law and procedure [between jurisdictions] cannot drive the shopping because the governing law and procedure are federal."

This paper builds on the previous generation of scholarship in studying the world that emerged over a more recent sample period – 2001 through 2012 – when the Delaware and New York bankruptcy courts were well entrenched as the centers of corporate bankruptcy practice. I bring a new methodology to bear that controls for the market's expectations at the beginning of the bankruptcy process before studying the cross-section of bankrupt firms, which is an advance over prior research that looked at the cross-section if firms without the benefit of market data.

[11] For example, on August 3, 2015, Judge Nelms of the Bankruptcy Court for the Northern District of Texas lamented the "tendency of some debtors to file cases in venues that have almost no connection to the debtor or its creditors …" See In re Crosby Nat'l Golf Club, LLC, 534 B.R. 888, 894 (Bankr. N.D. Tex. 2015).

In addition to the bankruptcy literature, this paper contributes to the larger literature on corporate chartering (e.g. Daines 2001; Barzuza and Smith 2015). Although predictable courts and expert judges are always a theoretical mechanism that contributes to the attraction of Delaware law, this paper is the first, to my knowledge, to use a methodology that measures the role of courts and judges directly. In other settings, the legislature-made law is entangled with the judge-made law and they are difficult to measure separately.[12] This paper studies a unique institutional environment where the statute is constant and the only difference is the judge and judge-made precedent and the findings suggest that judges standing alone can be important.

III. Sample.

At a high level, my methodology tests how well the market predicts the outcome of the bankruptcy process. When large firms file for bankruptcy, their claims -- both debt and equity -- continue to trade in the marketplace.[13] There is no readily available source that links the trading records of bankrupt firms to a dataset of bankrupt companies. Accordingly, I compiled a large dataset by hand. I provide detailed information about sample construction in the Appendix. My final sample consists of 352 firms that filed for bankruptcy between 2001 and 2012 linked to the pricing records of 1,484 financial contracts.[14] As bond markets only became transparent with the introduction of TRACE in 2002, this sample goes as far back as any research design that relies

[12] In the closest prior example of which I am aware, Kahan (2006) uses a survey regarding judicial quality as a proxy for differences in judicial quality in the cross-section to explain why firms choose to incorporate in Delaware over their home jurisdiction.

[13] A secondary market also exists in the trade claims (the claims owed by the debtor to trade creditors, as opposed to financial creditors) of bankrupt firms (Ivashina et al. 2015), but that trading market is thought to be relatively small compared to the much larger claims of financial creditors and is largely outside the scope of this article.

[14] My source for bond data only goes back to 2002, so I do not have bond pricing information for 2001, although many of the bonds for the 2001 sample enter the dataset when the bankruptcy case advanced into 2002. The bond data was particularly challenging to study. I cleaned the data as described in Jens-Nielsen (2014), but there is no authoritative list matching bond contracts to the unique bond identifiers such as CUSIPs. I relied on MergentFISD's list of bonds to make my initial list of potential bond matches, but those data are very incomplete. For many observed bond contracts, I was able to identify the matching pricing record only after a significant investigation of the firm's SEC disclosures. It is possible that a more complete list of bonds might identify more candidate firms for the sample, but none exists to the best of my knowledge.

on debt trading prices can feasibly go with the data sources that are commonly used in the literature. This sample contains, to the best of my knowledge, all large company bankruptcies during the sample period with debt that traded in public or private markets during the bankruptcy case, with the exception of cases for which data were missing as the Appendix explains.

[Table 1 here]

[Table 2 here]

Panel A of Table 1 summarizes the venue and Panel B provides summary statistics on the financial characteristics of the sample firms. As Panel B of Table 1 shows, Delaware and the non-destination courts seem to administer similarly sized debtors, while the firms filing in the Southern District of New York are significantly larger, consistent with its status of venue of choice for the largest cases such as Lehman Brothers and General Motors. Table 2 provides summary statistics of the industries of the various sample firms. As Table 2 shows, the sample is relatively balanced in terms of industry between Delaware and the "other courts." Table 3 provides additional summary statistics on the public filing responsibilities of the sample firms.

[Table 3 here]

For each firm in the dataset, I gathered information on the underlying bankruptcy from the firm's court docket. In addition to basic financial information, I identified the venue, the judge, the debtor's law firm and investment bank and other information. I also identified important hearings and orders in the bankruptcy process and any objections filed by creditors to identify dates where the judge's actions would be particularly important. I summarize law firm and investment banker information in the Internet Appendix.[15]

[15] I divide the list of law firms into four categories for fixed effects in the regressions below – elite national practices as ranked by Chambers & Partners, elite New York law firms that do not have elite national debtor-side practices and bankruptcy boutiques ranked by Chambers & Partners, large regional firms listed on the American Lawyer's list of the 250 largest law firms and a fourth category of "other firms."

## IV. Research Design and Results

In this section, I first develop the hypothesis before explaining my research design and presenting my results.

### A. Hypothesis development and conceptual framework.

This paper builds on a literature in law and finance that is concerned with a simple question: What makes the price of financial assets more accurate? In the asset pricing literature, this is referred to as forecasting price efficiency (e.g. Bond et al. 2012), the question of "whether the price of a given security accurately predicts the future value of that security." A related series of papers in law, accounting and finance refers to this question as price accuracy. Fox (2004) argues that one of the most important determinants of price accuracy is "the amount of information concerning [the asset's ultimate value] that exists in the hands of one or more person in the world…." In the context of a healthy firm, this could be information regarding, for example, the quality of a yet-unreleased new product. It could also be information about competitors, customers, suppliers or virtually anything else – a vast industry of research analysts specialize in identifying this valuable information and profiting from its insights.

Chapter 11 bankruptcy adds an extra layer of uncertainties on top of the unknowns that healthy businesses face. What will the costs of bankruptcy be and is the firm strong enough to pay them? Will the transaction costs of bankruptcy alter the firm's investment policy? What will the firm's new business plan look like and will it be altered through the bankruptcy process? Bankruptcy law also imposes unique risks on pre-bankruptcy investors. Financial contracts create hierarchies of claim priority and the firm commits to paying senior creditors before junior creditors and creditors before shareholders. Will management honor those promises or overpay

some creditors at the expense of others? Will the judge allow management to extract private benefits at the expense of creditors? Weighting these questions requires knowledge, which is why specialized investors like hedge funds have emerged who buy and sell the claims of bankrupt firms based, at least in part, on their expertise in bankruptcy law (Jiang et al. 2012; Ellias 2015; Lewis 2016). Indeed, the majority of public bond debt appears to turn over in the first month of bankruptcy (Lewis 2016) as many types of institutional investors have regulatory constraints that force them to sell the claims of firms that file for bankruptcy (Jankowitsch et. al 2014). Accordingly, the pricing of claims at the outset of the bankruptcy process is important.

My research design is motivated by the possibility that more experienced bankruptcy courts might make it easier for the market to understand the answer to these questions, improving observed price accuracy. If, as Cole (2002) suggests, bankruptcy law in Delaware (and New York) is more predictable than in less experienced courts, presumably that might result in improvements in the market's ability to price the claims of the bankrupt firms that reorganize in those venues. Investors, for example, will not have to weigh probabilities foreclosed by Delaware precedent. They might be able to project the administrative costs of bankruptcy with greater certainty. The debtor's case may present issues that were recently resolved by the same judge in a different case, allowing the market to predict with greater certainty how the judge might rule. The intuition is that a "Delaware bankruptcy filing" as opposed to a "St. Louis bankruptcy filing" communicates more information to the market, resulting in improved observable forecasting price efficiency. Thus,

> **Hypothesis:** All else equal, the prices of claims of firms reorganizing in Delaware and the Southern District of New York on the petition date should be closer to the ultimate bankruptcy payout than firms reorganizing in less experienced venues.

Other researchers have explored the forecasting price efficiency of the claims trading market, albeit with less focus on the legal institutions. Eberhart et al. (1990) studied the equity claims of 30 debtors from 1979 to 1986 and found evidence that the market correctly anticipated violations of the absolute priority rule. Eberhart and Sweeney (1992) studied 136 bonds from 59 firms that filed for bankruptcy between 1980 and 1990 and found evidence that the bond market was also informationally efficient in predicting violations of the absolute priority rule. Coehlo, John & Taffler (2010) studied the stock returns of 351 debtors between 1979 and 2005 and found that the market appeared to be inefficient. They suggest this inefficiency might be driven by uninformed retail investors.[16] Moody's finds that the market price at default is closely related to the ultimate recovery (Emery 2005).

B. Research Design.

In order to test the hypothesis directly, I adapt a methodology from the asset pricing literature and use a measure of pricing accuracy called absolute returns (e.g. Tarun, Roll, and Subrahmanyam 2002). At a high level, absolute returns are simply the absolute value of the traditional formula for calculating investment returns. More formally, absolute returns are:

$$|r_c| = \left|\frac{bp_c - p_c}{p_c}\right|$$

$|r_c|$ is the absolute value of the buy-and-hold return of an investor who bought the claim $c$ at the beginning of the bankruptcy process and held it until receiving the bankruptcy payoff $bp_c$. I follow the defaulted bond literature and define $p_c$ as the first observed price following the filing of the bankruptcy petition within a ten day window.[17] Throughout the paper, I discount $bp_c$ to

[16] The results displayed below are the same if I remove equity from the sample, and the debt market is likely significantly more difficult for retail investors to access. Many corporate loans, for example, trade in face value increments of $1,000,000 or higher, which implies a significant investment even at a deep discount.

[17] I use the average price across all weighted trades on the first observed trading day in the trading window or the quoted price for the loan data. Of the 1,006 claims in the main result in Table 9, 700 are based on petition-date

present value as of the petition date to account for the time-value of money.[18] Eberhart et al. (1990) suggests that the market value of a claim against a bankrupt firm "should reflect the amount [claimholders] expected to receive upon reorganization, discounted to account for the expected delay in payment and adjusted for risk."

Absolute returns are studied in the context of analyzing price volatility, which fits the hypothesis well.[19] The test statistic can be interpreted as a measure of price accuracy and it measures the observed pricing deviation. To illustrate, consider an investor who purchased a claim for $10 that produced a discounted payoff of $15. This investor received a 50% return on her investment. $|r_c|$ for this investor would be: $\left|\frac{15-10}{10}\right| = .5$. Importantly, if this investor has sustained a 50% loss, $|r_c|$ for this investor would be: $\left|\frac{5-10}{10}\right| = .5$. If the market were accurately pricing the claims of bankrupt firms, the investor would neither sustain a gain or a loss and $|r_c|$ would equal 0 since the pay-off has been discounted to present value. Realistically, the market likely uses a different discount rate so we would expect $|r_h|$ to usually be larger than zero. All values of $|r_c|$ are positive, thus $|r_c|$ measures the distance of the return from the ideal of perfect

prices. Jankowitsch et al. (2014) found evidence of petition date selling pressure for bond dates and many of claims enter the dataset slightly later because the bankruptcy filing took place on a weekend or a national holiday. The results below are the same if I use the sample ten day window around the date that debtor-in-possession financing was approved (which is generally a month after the bankruptcy filing), which correlates with Janksowitch et. al (2014)'s finding that measured selling pressure dissipates over time, suggesting my choice of the petition date as the primary reference point for most of the paper does not result in bias. I plan to revisit the microstructure of the claims trading market in a future paper, but space constraints keep me from doing so here.

[18] I follow Li and Zhong (2013) and use the one-year yield on treasury bonds as the risk-free rate. The results are not sensitive to different treasury bond maturities. In practice, the risk free rate of return (defined here as the one year yield on treasury bonds) is low enough during this period and the bankruptcy period is brief enough that there is very little time value of money lost during most of the sample cases. For the specifications below that examine pricing at hearings later in the bankruptcy process, I discount the pay-off to present value as of that important hearing date.

[19] In a contemporaneous working paper studying the accuracy of court-ordered valuations, Demiroglu et al. (2015) use a similar test statistic, the absolute value between court-valuations and subsequent market evidence. I adopt their terminology of referring to that test statistic as measuring "error" and "deviation."

price accuracy. As $|r_c|$ increases, the pricing deviation implied by the test statistic appears to be relatively higher.

[Table 4 here]

The main advantage of this test statistic is that it facilitates straightforward interpretation of signed coefficients in a regression model. A variable that is negatively associated with the absolute return is a variable that is associated with the magnitude of that return being smaller, all else equal, and can be thought of as being associated with the petition price being relatively more accurate. Conversely, a variable might be associated with relatively less accurate pricing if it appears to be positively associated with the absolute return. Table 4 summarizes the absolute returns of the sample claims that are traded at the beginning of the bankruptcy process.

Two important patterns emerge from the tables. First, attributes of the financial contract, such as claim priority, appear to be extremely important. Secured claims appear to be priced relatively more accurately than unsecured claims and equity, for example.[20] Table 5 summarizes the capital structures of the sample firms and there do not appear to be enormous differences in ex ante capital structure when sorted by venue. However, the Table demonstrates that it is important to control for observable attributes of the financial claims to test the hypothesis. Second, Table 4 shows that the means and medians are very different. For example, the mean absolute return for the sample of unsecured debt contracts is 2.31 (meaning, a 231% pricing deviation) while the sample median is much lower -- a 64% pricing deviation.[21] This is driven

[20] In the specifications below, I generalize financial contracts with variables that measure relative seniority (through the percentage of the capital structure senior to the claim) and collateral. I do not follow the traditional approach in the literature of using dummy variables for claim characteristics like security and seniority because my approach appears to be more precise and introducing additional dummy variables would raise problems of multicollinearity. The results are similar if I rely on dummy variables instead. In sample construction, I analyzed the capital structure at the contract level, which provides for a more generalizable set of control variables than previous work.

[21] These numbers sound extremely high because unsecured claims often trade at a low level at the beginning of a bankruptcy, making a small nominal price movement (from say $2 to $6) enormous in percentage terms.

by the outlying returns in the sample – investors in one unsecured claim earned a return that was 2089% different from the petition date return.

I account for the problem of outliers in the sample in two ways. First, I display the main results for both the full sample and a trimmed sample without the outlying 2% of observations to make sure that any observed relationship is not improperly measured as a result of outlying observations.[22] Second, I use estimation methods that are more robust to outliers. In particular, I follow a contemporaneous working paper, Billett et al. (2015) that confronts the same problem of skewed debt returns and supplement results from traditional ordinary least squares models with quantile regression models. Quantile regression models estimate the conditional median of the observed sample, as opposed to ordinary least squares models which calculate the conditional mean. Quantile regression models are often used to test the robustness of OLS results because they are less sensitive to the presence of outliers. They can also be used, as I do below, to learn more about the observed relationship between the bankruptcy court and different points along the distribution of returns. As a further check, I also use the weighted regression technique deployed by Billett et al. (2015) that reduces the weight of outlying variables (Li 1985).

C. Results.

1. Does the Market Appear to Predict the Outcomes of More Experienced Bankruptcy Courts Better?

My basic model of the absolute return for each observed claim $_C$ is:

$$\ln(|r_c|) = \alpha + \beta \text{Delaware}_c + \beta\, \text{SDNY}_c + \delta \text{Controls}_c + \varepsilon \qquad (1)$$

The dependent variable "$|r_c|$" is the observed absolute return. $\text{Delaware}_c$ and $\text{SDNY}_c$ are dummy variables for the venue in which the claim is being reorganized. "$\text{Controls}_c$" is a vector

[22] It is also possible that some of the outliers are improperly recorded trades.

of variables that account for other possible determinants of $|r_c|$, some relating to observable firm and claim characteristics and others that capture elements of the bargaining environment.

When large firms file for bankruptcy, they can proceed in one of two ways. First, they can seek permission from the judge to sell their assets in a section 363 sale, which the judge can schedule and rule on relatively quickly. Second, they can follow the plan of reorganization process created by the bankruptcy code. The plan process is generally longer and requires the judge to make more legal findings than a section 363 sale. Judges are only supposed to agree to quick sales when the firm is not capable of surviving the longer plan process, which is the code's default. For my main specifications, I limit the sample to the cases where law should theoretically be most important to price accuracy – the cases involving a plan of reorganization.[23]

[Table 6 here]

Table 6 presents estimates of the relationship between the bankruptcy venues and the accuracy with which the market appears to have priced the claim using different estimation methods. In the first three Models, I study the trimmed sample and control for many observable attributes of the firm and financial contract. I use the amount of the debt of the sample firms as a proxy for firm size. Bankrupt firms file for Chapter 11 with different levels of readiness to proceed through the bankruptcy process. In a "prepackaged" bankruptcy, management has reached an agreement with all of its creditors and has already solicited a vote on the plan of reorganization. In a "prenegotiated" bankruptcy, management has reached an agreement with some of its creditors, but perhaps not all, and no vote has been solicited. I control for both of

[23] My decision to exclude the cases in which the firm's assets are sold outside of the plan process removes 142 claims of an additional 82 debtors from the sample used for Table 6. If I were to estimate the OLS Model 3 with full controls from Table 6 over the full sample of claims I can price on the petition date, the coefficient for the SDNY dummy variable falls in magnitude (from -.737 to -.590) but remains significant at the 5% level. This is what we would expect if the law helped the market form more accurate recovery expectations. The coefficient on the Delaware dummy remains negative and also falls in magnitude (from -.586 to -.333) but is only statistically significant at the unconventional 20% level.

these filing postures and find evidence that both are associated with improved price accuracy – which makes sense, as the market should have a better sense of where management wants to take the bankruptcy if part of the negotiations have already concluded. Notably, as expected, prepackaged bankruptcies appear to have a larger effect in improving price accuracy.

Hotchkiss et al. (2014) find that private equity sponsored distressed firms appear to reorganize more efficiently than non-private equity sponsored distressed firms, controlling for observable firm characteristics. Accordingly, I control for pre-bankruptcy private equity sponsorship and I find a statistically significant and negative relationship in some of the models. This suggests that, at least in some specifications, the market appears to be able to predict the outcome of the bankruptcies of private equity sponsored portfolio companies better than the non-private equity backed firms. This is perhaps surprising, because non-private equity sponsored firms in the sample are mostly publicly traded firms. I hypothesize that private equity firms view the failure of portfolio companies as an event that requires protecting their reputation with debt investors, perhaps leading them to run bankruptcy processes that are more predictable, controlling for observable firm characteristics, consistent with de Fontenay (2014).

I also control for the absolute return of firms in the same industry over the bankruptcy period, to capture changes in the firm's industry. As expected, the coefficient of this control variable takes on a statistically significant, positive relationship. In other words, the market appears to be more surprised by the result of the bankruptcy case when industry conditions appear to have changed. I control for the length of the bankruptcy case, on the theory that longer bankruptcy cases provide more opportunities for the market's pricing assumptions on the petition date to change, and the variable takes on the expected positive relationship.[24]

[24] The results are qualitatively similar if I omit this control variable.

I use three variables to control for heterogeneity in the financial contract that created each of my sample claims. First, I control for the claim's relative position in the capital structure by controlling for the percentage of the debt capital structure that is higher priority than the claim. This number ranges from 0 (generally, for senior debt claims) to 1 (for equity). As Table 4 suggested, the market appears to be relatively less accurate in pricing claims that are more junior in the capital structure. I also control for whether the contract gave the creditor a lien on one of the firm's specific assets, such as real estate, inventory, a plant or an airplane.[25] Financial theory predicts that borrowers convey liens on specific assets in order to provide the lender with the ability to protect her investment without having to monitor the firm as a whole (Scott 2004). As theory would suggest, lenders who have claims against specific assets appear to have more predictable bankruptcy outcomes as opposed to claimants whose recovery is dependent on the more nebulous going-concern value.

I also use fixed effects for the debtor's law firm, bankruptcy filing year and the industries of the various sample firms. As Models 1-3 show, after controlling for these characteristics of the underlying business, the bankruptcy and the financial contract, the market appears to price the claims of debtors reorganizing in the two experienced bankruptcy courts more accurately. In Models 4-6, I re-estimate the same models over the entire population of claims with two additional control variables. I control for whether the firm announces at the beginning of the bankruptcy process that it intends to liquidate, which unsurprisingly the market appears to be much better at predicting. I also add fixed effects for the debtor's investment banker. Controlling for all of these variables, I find a persistent and statistically significant negative

[25] I analyzed the capital structure of each sample thoroughly, so this variable includes cases where the creditor has a claim against a subsidiary corporation with one of the firm's assets (i.e. the land for a hotel case) as well as cases where the loan was structured by conveying a lien on a specific asset to the lender.

correlation between reorganizing in the two experienced bankruptcy courts and the observed pricing deviation. Stated differently, the market seems to be better at predicting the ultimate value of the claims of firms reorganizing in more experienced bankruptcy courts.[26]

Interpreting the economic magnitude of these coefficients requires additional context. As Table 6 shows, the range of coefficients produced through the various estimation techniques is significant, even though the observed correlation is persistently negative. Notably, OLS regression provides very different estimates of the magnitude of the improvement in price accuracy than quantile regression does. This is consistent with the wide distribution of returns and suggests that relying on the OLS estimate of the response of the conditional mean might be misleading – but relying on the conditional median, as with quantile regression, and extrapolating that relationship across all of the returns in the sample might also be misleading and result in inferences that go beyond what we might expect law to do.

This paper's conceptual framework suggests that experienced bankruptcy courts should reduce some of the uncertainty that the bankruptcy process creates, on top of the existing uncertainty that is endogenous to the business. If investors are well informed and making accurate predictions with respect to the firm's value, we would expect to observe the effect from Table 6 – increased price accuracy when the law is also well known to investors. If, however, the market's ex ante pricing expectations are completely off, we would expect law to be relatively less important. For example, if a pharmaceutical firm were to announce an unexpected drug breakthrough during a bankruptcy case, the market would be very "off" in pricing, but the predictability of the law and the judge would be significantly less important.

[26] In unreported results, the results are qualitatively similar if I omit the cases in which avoidance actions were prosecuted, suggesting that the differential distribution of claims subject to avoidance is not what appears to drive the results in Table 6.

[Table 7 here]

Accordingly, I use quantile regression to estimate the response of the absolute return at different points in the distribution of absolute returns. My preferred specification is Model 7 from Table 6, which estimates the response of the conditional median controlling for everything other than the firm's investment banker. In Table 7, I extend Model 7 and estimate the response of the dependent variable at other points in the distribution. Table 7 summarizes the model's estimates of the regression coefficient of interest. As expected, the magnitude of the coefficient drops as the absolute return increases. For a claim at the 30$^{th}$ percentile, the magnitude of the coefficient implies that the pricing is 40% more accurate on the petition date for a claim of a Delaware-venued firm and 45% more accurate for a firm reorganizing in the Southern District of New York. However, the 30$^{th}$ percentile absolute return is only 7.00%, meaning the nominal implied change for that firm in Delaware would be -2.82% and in New York, -2.38% -- smaller real economic effects than the raw coefficient might imply. When I turn quantile regression onto the most badly "mispriced" claims in the highest part of the distribution, the Delaware and SDNY venue coefficients lose statistical significance – Delaware at the 70$^{th}$ quantile and New York at the 90th. Figure 2 and 3 display the quantile regression coefficient for the Delaware and SDNY variables.

[Figures 2 and 3 here]

This leads to a more refined interpretation of the results: claims of firms reorganizing in Delaware and New York appear to be priced more accurately, but the effect is strongest in relative terms for the claims that are well-understood by the market and becomes progressively less important as the market becomes relatively less accurate in pricing the claim. For the median claim in the sample, the results imply a 24% improvement in price accuracy for

Delaware-venued claims and a 35% improvement for SDNY-venued claims – but the economic significance of these estimates is less important than those coefficients would suggest at first blush. And I fail to find evidence suggesting that predictable law improves the market's ability to predict the outcome when the market has badly mispriced the claim.

2. Does an Omitted Variable Explain the Relatively Higher Pricing Accuracy of the Claims Trading in More Experienced Courts?

It is important to qualify these results by returning to the limitations of the research design. The cross-sectional results suggest that the market appears to be able to predict better the outcome of the bankruptcy process when firms reorganize in more experienced courts. However, the research design does not allow for a strong causal claim as the firms that file for bankruptcy in Delaware or New York did not do so randomly and there could be an omitted variable that actually drives the results.[27] Ideally, I would test the hypothesis by randomly transferring firms that filed for bankruptcy in the destination courts to less popular jurisdictions and randomly transferring firms from less experienced courts to the destination venues.

Obviously, such an experiment is not possible given the flexibility of the venue statute and the ethical problems associated with experimenting on firms that employ many thousands of workers. Virtually every firm could reach a destination court with a creative bankruptcy lawyer, even if they had minimal contacts prior to bankruptcy.[28] However, in four cases in the sample, the judge in either Delaware or New York granted a creditor's motion filed early in the bankruptcy case transferring the case to a less experienced court. The moving party was never a

[27] LoPucki and Doherty (2002) studied a sample of public company bankruptcies from 1991 through 1996 and concluded that their cohort of firms filing for bankruptcy in Delaware was not different, based on observable financial characteristics, from the cohort filing in other cohorts.

[28] Patriot Coal, for example, created new New York-domiciled subsidiaries with minimal assets to use as a basis for filing the company for bankruptcy in the Southern District of New York. These subsidiaries were created essentially on the eve of bankruptcy.

financial creditor – it was either the United States Trustee, arguing that venue was improper, a government official or a union that wanted the firm to reorganize in a venue closer to home. While caution is required in interpreting the trading activity surrounding these non-randomly selected transfers, the average pricing deviation of the claims of these firms appear to have increased 1.3% comparing the day after the transfer order to the day before. Setting aside an outlying case, the average pricing deviation increased 3.9%.[29]

Moreover, while I cannot eliminate the concern that an omitted variable is driving the correlations observed in Table 6, I can look for evidence of two potential confounds: the level of firm-specific knowledge in the market and variation in firm-specific uncertainty.[30] First, the most obvious omitted variable is that the market might simply be better informed about the underlying business of the firms reorganizing in the two more experienced courts. If investors simply know more about those firms, they would be able to price those claims with greater precision and the observed correlation with the bankruptcy venue would be spurious. There do not appear to be any obvious reasons why this would be true. As Table 3 shows, the vast majority of firms filing for bankruptcy in Delaware (82%), SDNY (85%) and the less experienced courts (88%) were SEC registered public filers prior to bankruptcy. Many firms stop filing SEC disclosures as they fall into distress. Continued compliance does not appear to correlate with venue. For the Delaware cohort, 35% of sample firms continue to file SEC

[29] In the one case in the sample where pricing became more accurate after a transfer from New York to St Louis, Patriot Coal, a closer look at the facts suggests that a major issue in the case was the split of value between current and former employees. When the union won the motion moving the bankruptcy case to a "home forum," the market appears to have anticipated that this meant that former employees had improved their bargaining leverage. Setting aside this plausibly outlying case, the mean change in price accuracy before-and-after the transfer was 3.9%.

[30] As an additional check, I calculate pricing deviation of the three groups of firms prior to bankruptcy below in Section IV.3. I do not find evidence that the pre-bankruptcy pricing deviation of the three cohorts of firms displayed the same relationship prior to the bankruptcy filing.

disclosures for the year preceding bankruptcy, as compared to 39% of the SDNY cohort and 36% of the other courts cohort.

One common proxy for the information levels of investors in the accounting literature is whether or not the firm is covered by Wall Street research analysts (e.g. Barth et al. 2001). Research analysts expend resources producing detailed reports on covered firms, leading many to believe that firms covered by research analysts will have more accurate prices. In unreported results, I compared the sample firms to the historic information on analyst predictions maintained by Zacks Investment Research to see if there were any patterns in the data.[31] I find that 25% of sample firms appear to have contemporaneous analyst coverage.[32] I do not find evidence of systematic differences in analyst coverage between the three groups of firms. If anything, the analyst coverage of the firms reorganizing in less experienced courts appears to be slightly more comprehensive (30% in the year prior to bankruptcy, as compared to 24% of the firms reorganizing in Delaware and 24% for firms in the Southern District of New York).

Some researchers have used the bid-ask spread as a proxy for the level of information in the market. The bid-ask spread is the difference between the offers to buy a claim in the market place (the bid) as compared to the offers to sell the claim (the ask). Some portion of the bid-ask spread is thought to reflect informational asymmetry between informed and uninformed traders, as uninformed traders demand a risk premium when they are at an informational disadvantage. Some research has shown that reforms like accounting disclosures that increase the informedness level of the market as a whole have the effect of reducing bid-ask spreads (e.g. Greenstein and

[31] Zacks Investment Research is a commonly used dataset of analyst recommendations in the literature (e.g. Barber et. al. 2001).

[32] Analyst coverage of firms with public equity is significantly better: 41% of sample firms as opposed to 10% of firms with privately trade equity. Of publicly traded firms, analysts appear to cover 44% of Delaware-venued bankrupt firms in the year prior to bankruptcy as compared to 32% of New York-venued firms and 45% of the firms reorganizing in less experienced venues.

Sami 1994), suggesting that a higher bid-ask spread might indirectly reflect a marketplace that is less well-informed as well as higher informational asymmetry between traders.

The LSTA loan data provides information on the dealer quoted bid-ask spread for a subset of the sample in the week before the firm filed for bankruptcy (272 loans issued by 103 firms, with 34% of the firms reorganizing in Delaware as compared to 26% in New York and 40% in the less experienced courts) from their survey of dealers. In unreported results, I find that the mean bid-ask spread for the Delaware-venued loans appears to be statistically significantly larger than the firms reorganizing in the less experienced courts (one-sided t-test: diff = .735; p=0.0001). However, the sample mean of the New York cohort appears to be statistically significantly lower than the less experienced cohort (diff = .497; p=0.0013) and the Delaware group (diff = 1.233; p = 0.0000). This correlation disappears after controlling for firm size in regression analysis.

Corwin and Schulz (2012) developed a method for estimating bid-ask spreads for markets with observed daily high and low trades and no observed bid-ask spread. I calculate their high-low spread estimator spread for the bond and equity trades in the dataset. In unreported results, I find that the observed relationship from the loan data also appears in the estimated bid-ask spread for the 225 bonds issued by 84 debtors and 112 public equity claims in the Table 6 sample that trade actively in the week prior to bankruptcy. The raw means of the bid-ask spread estimate again suggest that the firms reorganizing in New York have the lowest bid-ask spread and the firms reorganizing in the less experienced courts appear to have a slightly higher bid-ask (-.002%) spread compared to the firms reorganizing in Delaware.[33] These differences in mean are all statistically significant, but they disappear in regression analysis after controlling for firm

[33] The same hierarchy appears in the data when looking at the trading activity of the larger sample of 282 bonds issued by 118 debtors and 164 equity claims, including the cases excluded from Table 9.

size. On the whole, these results are not supportive of the view that the market is systematically less well informed about the underlying businesses of the firms reorganizing in less experienced courts, but at best this is only an indirect measure of market informedness.[34]

Moreover, none of this evidence bears squarely on another potential confounding variable: the level of firm-specific uncertainty. It may be the case that the market is equally well-informed about all three groups of firms, but the cohort reorganizing in less experienced courts is systematically more uncertain than the groups reorganizing in Delaware or New York for reasons that have nothing to do with bankruptcy law or the experience of the judges and was not otherwise captured by the control variables in Table 6. If the uncertainty surrounding a firm is greater, the market will have a more difficult time forming accurate bankruptcy recovery expectations. Unfortunately, uncertainty, like market informedness, cannot be observed directly.

Accordingly, I use two methods from the literature to examine the possibility that the uncertainty of the three cohorts of firms is different. First, Bloom and Van Reenen (2002) proxy for firm-specific uncertainty by measuring the variance of the firm's publicly traded common stock return. I follow their methodology and examine the variance of the firms with public equity that trade actively in the week, month, year and two years prior to bankruptcy. In unreported results, I do not find evidence of a systematic difference between the three groups of firms. Cash flow volatility is an alternative measure of uncertainty. I follow Rountree et al. (2008) and use the standard deviation of firm revenue, scaled by firm assets, as a proxy for cash flow volatility. I am able to calculate the pre-bankruptcy cash flow volatility for the firms that continue to file disclosures with the SEC that covered the year prior to bankruptcy. In unreported results, I find the median standard deviation of pre-bankruptcy cash flow in the year

[34] I also examined the first week following the petition date and found the same general relationship persisted in the data.

proceeding bankruptcy is similar for the Delaware group (0.0219), the SDNY group (0.0181) and the less seasoned courts cohort (0.0231).

### 3. Does the Market's Observed Pricing Advantage in the Destination Courts Persist Through the Bankruptcy Process?

Beyond the main results, I look for additional evidence consistent with the hypothesis. If the venue correlation documented above does, in fact, reflect the impact of predictable law and courts we might expect that relationship to disappear as the firm moves through bankruptcy. Chapter 11 is a structured bargaining process, and management negotiates with creditors in the backdrop of intermediate judicial orders. While every case is different, on average the bulk of this bargaining takes place between the petition date and the approval of the disclosure statement. To test the persistence of the venue correlation over time, I calculate the pricing deviation at three additional points in the bankruptcy process: the date the judge approves debtor-in-possession financing, the date the restructuring transaction's disclosure statement is approved and the date the plan is confirmed. Figure 4 displays the regression coefficient for the Delaware venue coefficient from estimating Model 7 from Table 6 using the observed pricing deviation on these important hearing dates.[35]

[Figure 4 here]

As the Figure shows, the market's observed advantage in predicting the outcome of the bankruptcy process endures through the approval of the financing motion and disappears in the data by the time the disclosure statement is approved. This suggests the observed pricing advantage at the beginning of the process might in fact be due to the ex ante predictability of the

[35] I omit the Southern District of New York venue graph, but the results are qualitatively the same.

destination jurisdictions – something that becomes less important as the judge actually issues the decisions that the market was previously anticipating.

[Figure 5 here]

As an additional check, I calculate pre-bankruptcy pricing deviations to see whether the market was also better at predicting the ultimate bankruptcy payoff of the New York- and Delaware-venue cohorts of firms prior to any bankruptcy filing. Figure 5 displays the pricing deviation for the Delaware-venue coefficient approximately 90, 60 and 30 days prior to bankruptcy.[36] Caution is due in interpreting these results for at least three reasons. First, the model uses control variables – like law firm identity – that may not have been public knowledge or may not actually be constant over the pre-bankruptcy period. Second, the model assumes that the market is pricing the claims prior to bankruptcy in terms of their discounted bankruptcy payoff, which may be less true for some firms than for others. Third, there is no way to know when the market became aware that bankruptcy was immediately imminent or what the identity of the venue would be and there could be a systematic difference across venue cohorts.

With those caveats, the results suggest the market was actually less accurate in pricing the eventual Delaware and New York-venued claims prior to bankruptcy. This result is consistent with the anecdotal belief of practitioners that more experienced courts attract more complicated cases, which are perhaps more difficult to price when the market lacks specific knowledge of bankruptcy venue. After the firm files for bankruptcy, bankruptcy law might become a larger component of the market's pricing model. The rich body of precedent in Delaware and New York appears to assist the market for a brief moment when bankruptcy law matters the most – the time between bankruptcy filing and the approval of a disclosure statement.

[36] I again omit the Southern District of New York coefficient graph, but the results are qualitatively the same.

This is consistent with the theoretical role predictable law might play in assisting the market in pricing and supportive of the views of bankruptcy forum shopping proponents.

4. Are "Out-of-the-money" Claims Less Valuable When the Law is More Certain?

The results thus far have focused on measuring the theoretical benefits of increased legal certainty. But there is also a constituency that loses from increased certainty and more efficient bankruptcy procedures: out-of-the-money junior claimants. When a firm files for bankruptcy, its value has often fallen to the point that some pre-bankruptcy financial investors will find themselves with no recovery at the end of the bankruptcy process. Junior claimants like shareholders or unsecured creditors have long been studied as holding the equivalent of call options on the bankruptcy estate (Merton 1974). If the firm's value were to increase during the bankruptcy case, it is possible that the claim would come into the money. If, however, the bankruptcy case ends before that happens, the out-of-the-money claimant will be discharged with no recovery. This dynamic explains the well-known bias of junior constituencies to delay the end of bankruptcy. We would expect the trading price of junior claims to reflect the possibility the firm's value increases before the bankruptcy case ends (Lewis 2016).

Moreover, junior claimants have incentives to engage in strategic litigation to both prolong the bankruptcy process and inflict risk and uncertainty on senior creditors to extract hold-up value settlements (Ellias 2015). Franks and Torous (1989) referred to this portion of the value of an out-of-the-money junior claims as the right to be paid "to avoid future legal and administrative costs." Thus, we have a plausible class of potential losers from increased certainty: out-of-the-money claimants, who the market might view as having fewer routes to

delay the end of bankruptcy or litigate strategically in a more experienced venue where there are fewer legal ambiguities to seize on.[37]

To learn more about out-of-the-money junior claims, I first identify a group of claims with a senior claimant holding a blanket lien trading at less than 75 cents on the dollar on the petition date.[38] These claims are deeply out of the money if the absolute priority rule is applied. Based on the aggregate market value of senior claims, the median claim would require the firm's market value to increase by $72 million for the junior claimant to "come into the money" and the largest junior claimant in this subsample is more than $473 million out of the money.

[Table 8 here]

Table 8 shows the determinants of the price of the "out of the money" claim on the petition date. In Model 1, I control for the value of the ultimate bankruptcy payoff. As expected, the value of the ultimate pay-off is positively related to the price and this variable alone accounts for a huge percentage of the variation in the dependent variable. In Model 2, I add controls for whether the case was prepackaged or prenegotiated, the duration of the bankruptcy case and a dummy for equity. The equity dummy takes on the expected negative relationship with the dependent variable, implying that equity claims trade at a relatively lower price, all else being equal. I also add fixed effects for petition year and law firm. For Model 4, I calculate the difference between the market value of all senior claims and the face amount of those claims. This proxies for how much the value of the firm would have to improve for the junior claimant to receive a distribution pursuant to the absolute priority rule. The coefficient of this control

[37] In a similar setting, Mirvis (2007) argues that shareholder class action plaintiffs choose to file complaints in less experienced venues (as opposed to Delaware's Chancery Court, which adjudicates many such disputes) because the "greater variation in possible outcomes" creates settlement leverage.

[38] I identify my sample of out of the money claims by using the price of senior claims, as the firm's pre-bankruptcy capital structure is endogenous and likely reflects investors' pre-bankruptcy assumptions about what the firm might be worth in bad states of the world. The results are the same if I use a deeper discount – 50 cents – as the boundary for identifying "out of the money" claims.

variable takes on the expected negative relationship, suggesting that claims trade at a relatively lower value the more "out of the money" they are. In Model 5, I control for the weighted return of firms in the same industry over the bankruptcy period, and the results are the same.[39]

This analysis produces mixed results. While the Delaware dummy was persistently and negatively associated with the dependent variable, the SDNY dummy was not. I hypothesize that this might be driven by differences in culture at these two courts. Alternatively, perhaps the raw experience level of Delaware – which receives almost twice as many large filings as New York with a smaller bench – makes a difference. Overall, the observed Delaware relationship is consistent with the view that judicial experience might be associated with reduced "option value" for out-of-the-money claims.

5. Do Claims of Firms Reorganizing in More Experienced Courts Trade More Like the Stock of Non-Bankrupt Companies?

Next, I consider whether trading in the claims of firms reorganizing in destination courts might, due to comparatively less speculation on the results of a more-predictable bankruptcy process, correlate more closely with trading of other firms in the same industry. Research (e.g. Chan, Lakonishok and Swaminathan 2007) shows that trading in firms is often correlated within industry group, as investors buy and sell entire sectors. For example, oil companies might all experience a similar shock, resulting in an industry-wide sell down. I hypothesize that a more predictable bankruptcy process might cause traders to focus comparatively less on buying and selling the claim based on bankruptcy uncertainties and more on firm fundamentals.[40]

[39] Results are also the same if I include a dummy variable for the cases in which management prosecuted avoidance actions.

[40] My theoretical logic is the inverse of the R2 methodology (e.g. Fox 2004), a common proxy for price accuracy. The R2 methodology is based on the idea that markets are more informationally efficient when there is less market- and industry-correlation and has been used in a series of papers showing that better developed legal rules correlate with a lower R2. However, while it may be the case that comparatively less industry co-movement indicates more accurate share prices – indicating that investors are able to trade on idiosyncratic information about the firm -- in theory there should still be *some* industry co-movement, as there was prior to bankuptcy. Here, the question is

To assess this, I focus on claims that have a high likelihood of trading "as if" the market anticipates the claimant becoming a shareholder post-bankruptcy. I use the final observed trading price of a claim as a proxy for the form of recovery, and hypothesize that any claimant whose claim is trading between 90 and 5 on the last day of the case might have been bought and sold by traders with a view towards becoming the shareholders of the reorganized firm. For each day I observe trading in the debt of the sample firms, I calculate the daily return. I use this information to calculate Pearson's correlation coefficient for the firm and its industry.[41]

[Table 9 here]

For illustrative purposes, I calculate a "pre-bankruptcy period" sample of returns for the sample firms showing the degree of correlation between the publicly traded equity of the firms that would later file for bankruptcy and their industry peers in the year before the year before bankruptcy. This provides a "clean" sample prior to financial distress for comparison to the bankruptcy period. As Table 9 shows, prior to bankruptcy the stock of all three groups of firms were statistically significantly and positively correlated with their industry peers. Post-bankruptcy, however, all three groups become much less correlated with their industries. This suggests that traders are either more cautious, less willing to buy and sell the claims or that the microstructure of the market for defaulted debt is different enough that the correlation becomes smaller. However, firms reorganizing in the destination courts remain statistically significantly correlated with their industry peers, while the claims of firms in less experienced courts lose their statistically significant association.

whether the idiosyncratic bankruptcy component of the asset price might dominate other sources of news that might move prices and the theory is that the idiosyncratic bankruptcy component will be smaller when the law is more predictable, leading to "more normal" trading.

[41] I exclude equity and debt with very low recovery rates due to the "option-like" features of bankruptcy equity and the significant percentage of the market characterized by uninformed retail traders as described by Coelho, John and Taffler (2010).

### 6. Do the Destination Courts Appear to be Overly Deferential to Managers or Biased Towards Secured Lenders?

Critics of bankruptcy forum shopping charge that regulatory competition has led judges to be overly deferential to managers and secured lenders and perhaps biased in their favor. This is a difficult claim to evaluate empirically, if for no other reason than LoPucki (2005) found evidence that some of the negative behavior that was only associated with Delaware and New York in an earlier era had now spread as other courts struggled to compete. Thus, we might expect that there would no longer be any variation associated with proxies for bias during the sample period of entrenched forum shopping. However, some data may help inform this debate.

First, one potential proxy for bias in favor of managers is the observed behavior of creditors. Do creditors appear to believe the judge is approving a bad deal out of a pro-manager bias? Creditors have the right to object to the plan of reorganization if they do not support it. Creditors object to 21% of the Delaware-venued plans, 20.8% of SDNY-venued plans and 29.8% of plans in less experienced courts. However, relying on observed objections to assess creditor behavior is problematic. Creditors may decide not to waste money objecting if they believe they will not get a fair hearing in a biased court.

Accordingly, I use market data to calculate an alternative proxy for creditor attitudes towards the plan. As part of the plan process, management usually estimates the value of the recovery that creditors will receive under the plan. A plausible measure for creditor opposition is the market price of the traded claims. If the market is trading a claim at a discount to management's promises, it might be a sign that creditors do not believe in the plan or that the plan is extremely risky. For example, if management described the creditor's recovery as equaling 80% of the claim, but the claim trades at 50% of its value, it is a potential sign that creditors do not believe in the plan. To assess this possibility, I calculate the difference between

the value of the recovery promised to creditors in the disclosure statement and the market price at the end of the bankruptcy process. I find that, if anything, the market appears to more doubtful of the promises made in disclosure statements in less experienced venues. Panel A of Table 10 compares disclosure statement recoveries to observed market prices and fails to show any systematic relationship that presents a concern.

[Table 10 here]

Finally, I consider the possibility that the destination courts are biased in favor of secured lenders. As a proxy for that bias, I consider how often I observe a claimant being paid "more than in full" – the situation where a debt claim is trading above 100 cents on the dollar at the end of the bankruptcy process.[42] The absolute priority rule says that no creditor should be paid more than in full and if creditors are systematically being paid more than 100 cents on each dollar they are owed in a destination venue, it could be evidence of bias in favor of the secured lenders that often influence the venue decision.[43] After all, any extra value paid to senior creditors is usually value that should have gone to unsecured creditors or shareholders. Panel B of Table 10 displays the percentage of claims being "more than in full" at different measurement levels. The results suggest that creditors do better than they deserve more often in the less experienced venues, but the difference between the three cohorts is slight and there is no evidence of a systematic pro-senior creditor bias in the destination venues.

These results must be qualified because they rely on observed behavior. If regulatory competition caused the less experienced courts to become just as deferential and biased, we would not expect to find any observable evidence of bias in the cross-section. Additionally, it is

[42] I use a window of [-15, 15] from the plan approval date or sale approval date (if the firm is sold) to identify the trading price at the end of the process.
[43] Some of these observations might be false positives, as an oversecured creditor could be paid accrued interest which would look like an overpayment in a naïve test statistic.

very possible that there were alternative restructuring transactions that might have been better – i.e. selling firms when secured lenders forced fire sales – and market data may not fully reflect any value redistributed through transaction choice. Clearly, further research is needed on the deference question, but an analysis of some of the data in the sample does not produce evidence of a judicial bias in favor of managers or senior creditors.

## V. Conclusion.

This paper studied a cohort of firms that filed for bankruptcy in the era after Delaware and New York came to dominate the market. The results raise the possibility that the bankruptcy process in those two courts is now observably more predictable than the bankruptcy process in other jurisdictions. This might provide important theoretical benefits to distressed firms. For example, settling important legal issues might be easier if the parties are able to collectively predict how the judge might rule. Lenders may feel more comfortable providing debtor-in-possession financing if they feel more confident they can predict their rights will be upheld (Bae and Goyal 2009). Further, lawyers may find it to be easier to advise their clients and set expectations in a more seasoned jurisdiction. Two lawyers told the GAO that choosing a bankruptcy venue without taking into account the prior rulings of the court would constitute malpractice (Governmental Accountability Office 2015).

This paper's conclusions are qualified by the limitations of the research design. The results suggest that the market appears to be able to better predict the outcome of the bankruptcy process in Delaware and New York as compared to the firms that file for bankruptcy in less seasoned venues. This remained true after controlling for firm size, industry, legal and financial advisors, changes in market conditions and other observable characteristics. There was some anecdotal evidence that suggested that transferring these same firms into less experienced venues

might decrease the market's ability to predict the outcome, but I cannot eliminate the possibility that these same firms would also have similarly predictable bankruptcies elsewhere. We might speculate, for example, that the Chicago-based law firm that represented Tribune in its bankruptcy would not choose the geographic inconvenience of Delaware over the Northern District of Illinois if all else would otherwise be equal, but this research design cannot answer that question directly.

I also cannot say for certain whether transferring the 40% of firms that reorganize in less seasoned venues to the destination courts would make their reorganizations more predictable. It may be that the reason these firms did not file in a destination court to begin with is that their particular legal issues would not benefit from the store of precedent or expertise in those jurisdictions and future research should investigate this possibility. Future research should continue to investigate why some firms choose destination courts and others stay closer to home.

With all of that said, the results of this paper support the view that the bankruptcy bar's forum shopping experiment might have decreased the uncertainty associated with the bankruptcy process by speeding up the process of judicial interpretation of statutory ambiguities and building concentrated benches of experienced judges. The result of this may be, in effect, the minimization of the aggregate transaction costs created by the bankruptcy statute, a benefit that could plausibly impact the cost of capital of large firms more generally. One puzzle that arises from these results is that out-of-the-money constituencies appear to fare worse in Delaware in particular, yet we seldom observe junior constituencies using involuntary bankruptcy petitions to force companies into bankruptcy elsewhere or filing motions to transfer venue. The results suggest that the value of an out-of-the-money claim increases in the legal volatility of the court, and most large firms could be pushed into bankruptcy in inexperienced (often hometown) courts.

A possible answer to this puzzle is that lender liability law and the applicable legal standard for transferring venue act as deterrents, but future research should consider why Delaware and New York have become the consensus choice when it is not obvious that all of a debtor's constituencies are best served by the plausible benefit of reduced transaction costs.

At this point, forum shopping is a well-established feature of corporate bankruptcy practice. In other contexts, researchers have used the concept of network effects to show how the market's initial preference for a product creates a "lock-in" effect as the preferred product accrues benefits that raise its value. For example, judicial precedent and expertise in Delaware business law makes it difficult for other states to compete for corporate incorporations because those benefits are not easily duplicated (Klausner 1995). Future research should investigate whether a similar process might have happened here, and whether the deference concerns raised by critics might be less pressing in an era where the judges in destination venues have more bargaining power than they had in an earlier time. Once a jurisdiction builds up advantages over time, alternatives may not be reasonable substitutes even if they would have been in a counterfactual world without massive forum shopping.

## Appendix – Sample Construction

In order to perform this study, I compiled a comprehensive dataset of bonds, loans and publicly traded stock of firms reorganizing in Chapter 11. I began by combining several sources of data, described further in Table A1. I joined records of trading prices and dealer quotes for loans, bonds and publicly traded stock. Next, I matched the unique firms observed in each dataset to the large list of bankrupt firms maintained by Bankruptcy DataSource that filed for Chapter 11 relief between 2001 and 2012. From this, I used the petition date from Bankruptcy DataSource to identify whether the potential match appeared to have trading price observations subsequent to the petition date. I was able to match 131 debtors from Ellias (2015) to the trading price data and to identify a list of 407 potential new debtors for the dataset.

For each of the 407 potential new matches, I located and examined the court docket on PACER and performed an initial analysis to see if the firm could be included in the sample. The theories in this study implicate Chapter 11 cases that involve the reorganization of large, operating businesses. Because my research design relies on analyzing claims trading data, I required each firm to have at least $25 million in debt that was owed to financial creditors (as opposed to trade creditors or tort creditors) such as bond debt or bank debt. However, the debt did not need to have observed trades during the sample period if there were observed trades in the public equity. I considered a firm for inclusion in the sample if it involved the Chapter 11 reorganization of an operating business with at least $25 million in debt.[44] I also required each firm to have sufficient publicly accessible information to understand what happened in the bankruptcy case and to reconstruct the firm's capital structure, either through disclosures made in the bankruptcy process or through SEC filings. In some cases, the potential match was a false positive. Firms without any debt were also excluded from the sample as they would not share the same underlying bargaining dynamic among creditors as firms that filed for bankruptcy with debt. Table A2 summarizes the attrition of data from the sample. Of the 407 potential matches, 279 came into the sample giving me a total sample of 400. Table A3 compares the sample to other recent studies relying on trading data from Chapter 11 debtors.

For each firm, I began by analyzing each firm's capital structure using the firm's court docket disclosures and debt contracts. I used this information to reconstruct each firm's state law

[44] Firms that liquidate in Chapter 7 are outside the scope of this study.

liquidation waterfall, which allows me to make an accurate distinction between "senior" and "junior" claims. Each debt contract was separately analyzed and entered into the dataset and manually linked to pricing data. This step is necessary, albeit labor-intensive, because the pricing information and name of the claim often left the claim's relative liquidation priority ambiguous. For example, a senior unsecured bond could be a senior claim, or a junior claim, depending on whether the firm had secured debt or not. As it turns out, the patterns in the data vary directly with the seniority of the claim so a careful examination was necessary to avoid measurement error. A term loan divided into three tranches could constitute three tranches of equal priority, or a strict hierarchy of contractually subordinated claims, depending on the firm. Revolving loans were sometimes effectively senior to term loans, with first liens on the firm's best collateral such as receivables, and they were sometimes equal in priority to a term credit facility. I dismissed firms from the sample if I could not reconstruct the prepetition capital structure with precision. Once the capital structure was identified, I linked the pricing records to its underlying debt contract. Subsequently, I gathered dates of interest from hearing transcripts and documents on the court docket.

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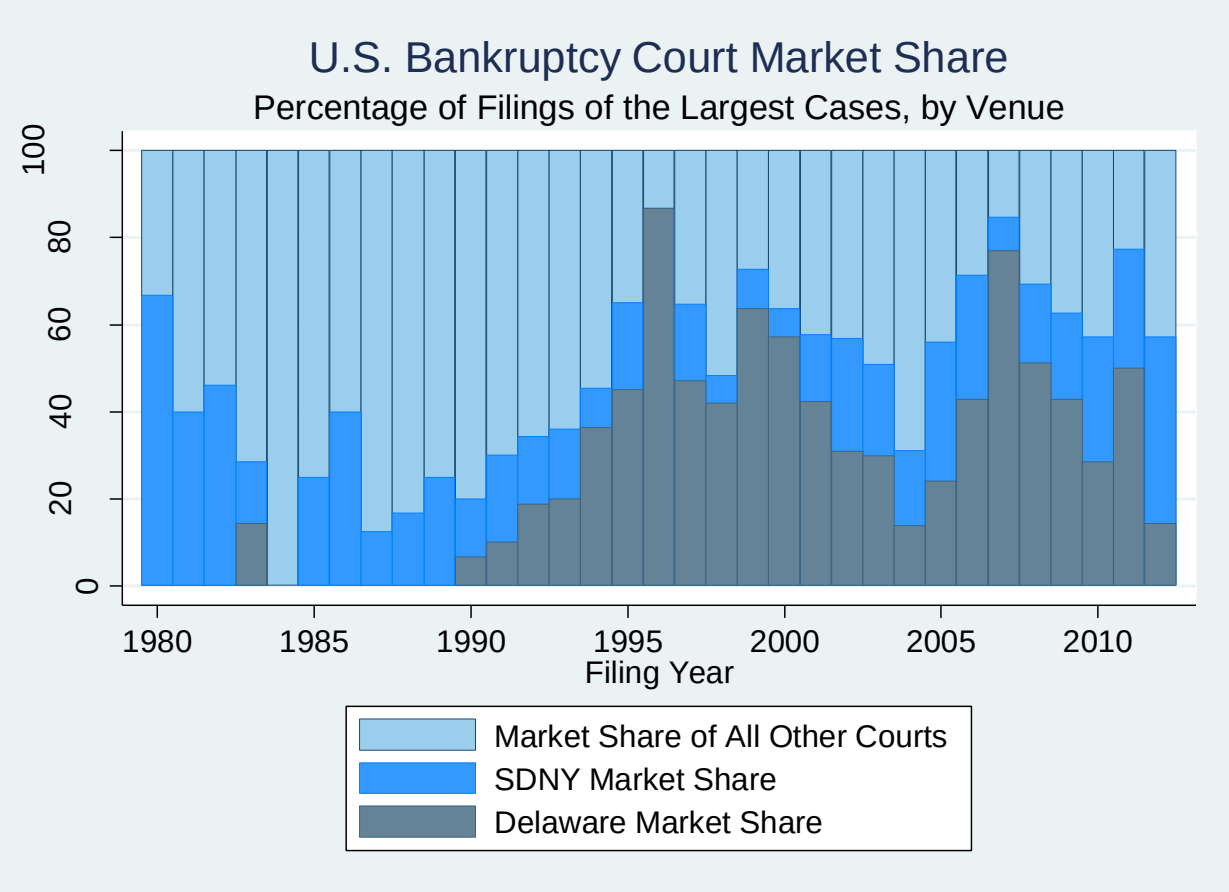
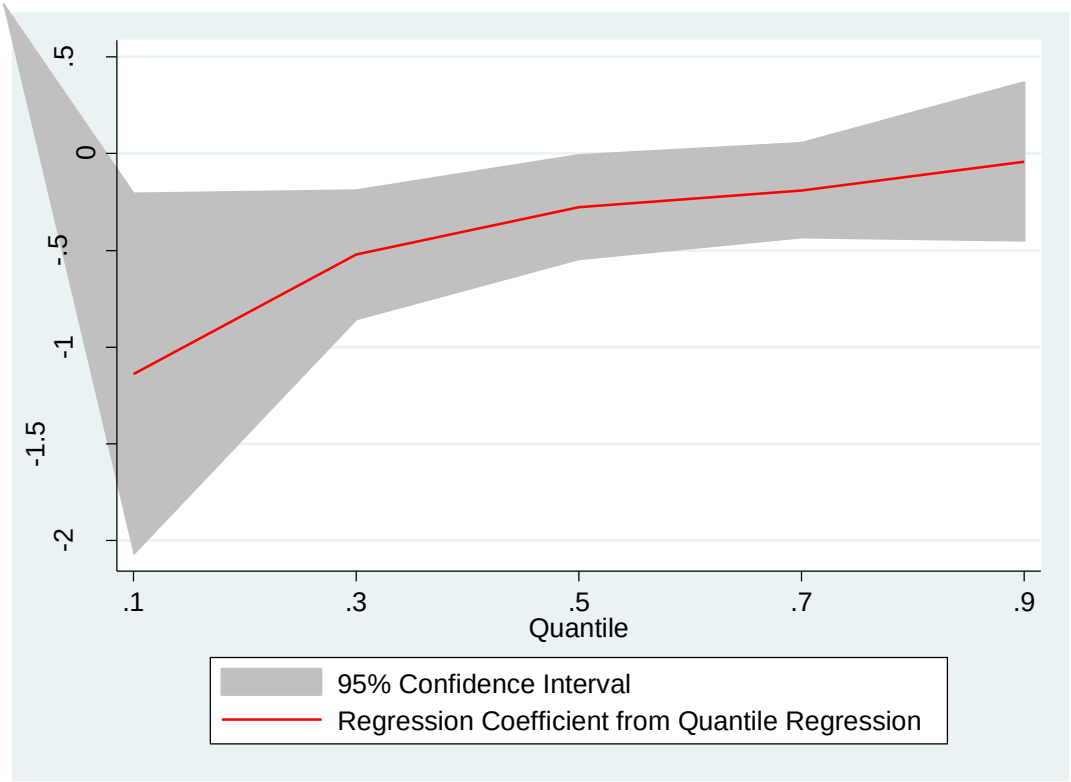
Figure 1. US Bankruptcy Court Market Share, by Venue and Year.



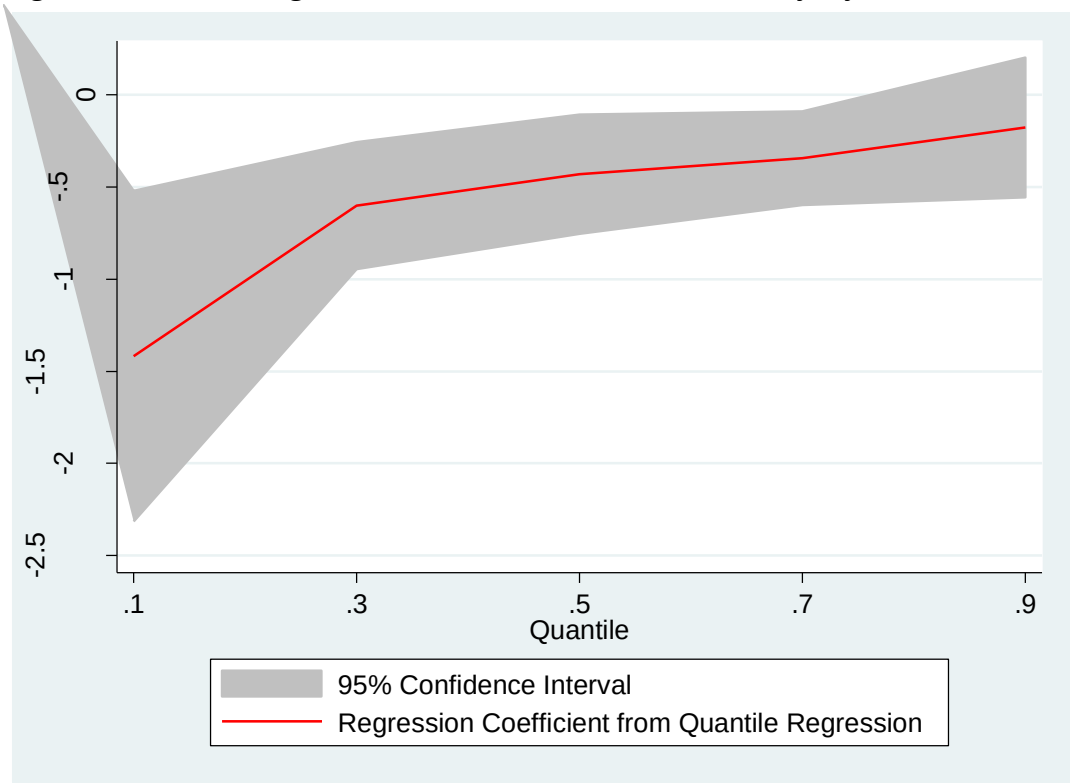

This graph is generated from the LoPucki BRD.

Figure 2. Quantile Regression Coefficients for Delaware Dummy, by Quantile.



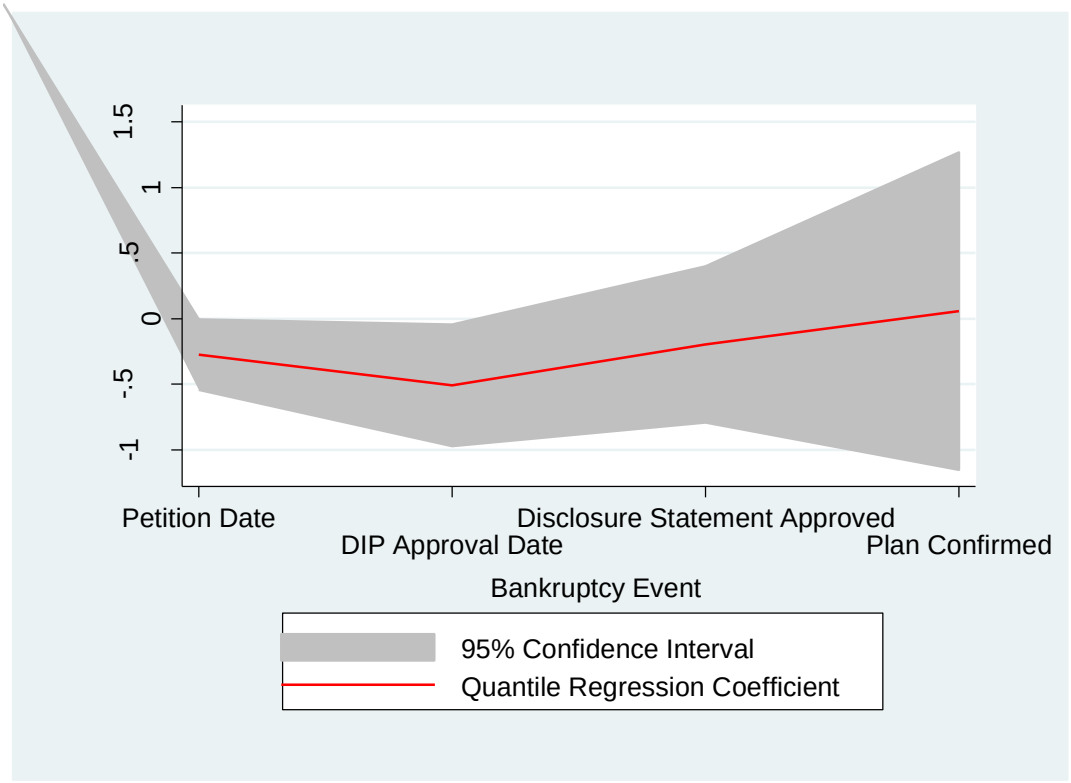

This graph shows the coefficient from quantile regressions of Model 7 from Table 6.

Figure 3. Quantile Regression Coefficients for SDNY Dummy, by Quantile.



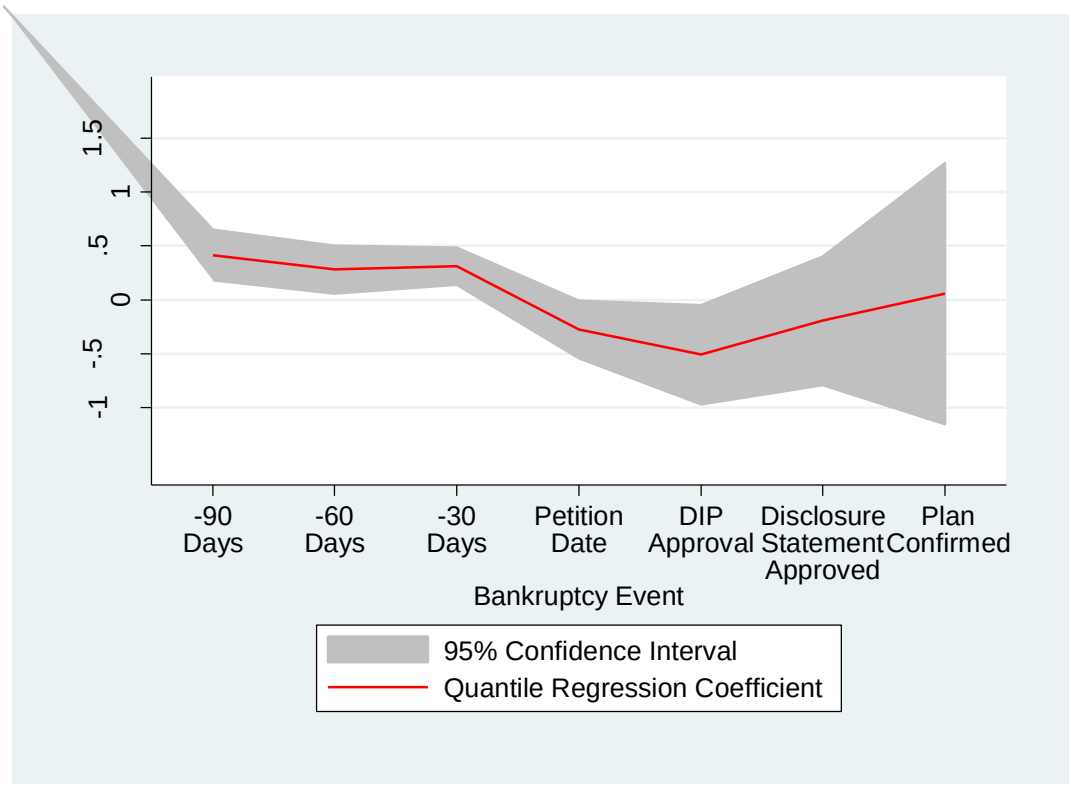

This graph shows the coefficient from quantile regressions of Model 7 from Table 6.

Figure 4. Observed Correlation Between Pricing Deviation and Delaware Venue during the Bankruptcy Plan Process.




The graph shows quantile (median) regression coefficients over the course of the bankruptcy process using Model 7 from Table 6. The Delaware venue is statistically significantly and negatively related to the pricing deviation on the petition date (coefficient = -.275; n=1,006) and the date the court approves debtor-in-possession financing (or an order allowing the debtor to use cash collateral) (coefficient = -.509; n=758). For the last two dates, the coefficient loses its statistical significance and is no longer precisely estimated.

Figure 5. Observed Correlation Between Pricing Deviation and Delaware Venue Before and During the Bankruptcy Plan Process.




The graph shows the quantile (median) regression coefficient of the Delaware dummy both prior to and over the course of the bankruptcy process using Model 7 from Table 6. The Delaware venue dummy statistically significantly and positively related to the pricing deviation -90 days, -60 days and -30 days prior to the petition date and then statistically significantly and negatively related to the pricing deviation on the petition date. For the last two dates, the coefficient loses its statistical significance and is no longer precisely estimated.

Table 1. Venue of Sample Firms and Summary Statistics.

Panel A. Venues of Sample Firms.

| Bankruptcy Court | Frequency | Percentage |
|---|---|---|
| DE | 157 | 44.60% |
| SD NY | 91 | 25.85% |
| ND IL | 10 | 2.84% |
| SD TX | 8 | 2.27% |
| ED MI | 7 | 1.99% |
| ND TX | 7 | 1.99% |
| NV | 7 | 1.99% |
| ND GA | 6 | 1.70% |
| NJ | 5 | 1.42% |
| SD OH | 5 | 1.42% |
| SD FL | 4 | 1.14% |
| Others (3 or fewer, 28 total courts) | 44 | 12.7900% |

Panel B. Summary Financial Statistics

| Variable | Court | n | Mean | 25th | Median | 75th | Max |
|---|---|---|---|---|---|---|---|
| **Funded Debt** | All | 352 | 1,927 | 285 | 536 | 1,251 | 73,576 |
| | Delaware | 157 | 930 | 260 | 482 | 899 | 12,012 |
| | SDNY | 91 | 4,757 | 515 | 1,041 | 2,927 | 73,576 |
| | Others | 104 | 956 | 266 | 391 | 970 | 9,500 |
| **Petition Assets** | All | 244 | 3,965 | 361 | 753 | 2,292 | 107,000 |
| | Delaware | 102 | 1,631 | 289 | 588 | 1,652 | 20,100 |
| | SDNY | 79 | 8,787 | 596 | 1,534 | 5,992 | 107,000 |
| | Others | 63 | 1,696 | 253 | 619 | 1,763 | 20,574 |
| **Secured Debt** | All | 352 | 491 | 79 | 229 | 442 | 23,998 |
| | Delaware | 157 | 317 | 75 | 200 | 355 | 2,700 |
| | SDNY | 91 | 941 | 148 | 406 | 800 | 23,998 |
| | Others | 104 | 359 | 63 | 164 | 331 | 6,650 |
| **Secured Debt as a Percentage of Debt** | All | 352 | 43.54% | 16.62% | 38.45% | 64.92% | 100.00% |
| | Delaware | 157 | 45.73% | 21.25% | 40.60% | 65.47% | 100.00% |
| | SDNY | 91 | 37.78% | 11.32% | 32.42% | 55.97% | 100.00% |
| | Others | 104 | 45.26% | 16.43% | 40.53% | 69.98% | 100.00% |

Numbers displayed are in millions. "Funded debt" means all debt owed pursuant to financial contracts, as opposed to trade debt or tort debt.

Table 2. Industry of Sample Firms, by Venue

| Fama-French 38 Industry Category | Full Sample | Delaware | SDNY | Other |
|---|---|---|---|---|
| Agriculture, forestry, and fishing | 0.02 | 0.03 | 0.00 | 0.02 |
| Mining | 0.01 | 0.00 | 0.02 | 0.01 |
| Oil and Gas Extraction | 0.02 | 0.01 | 0.00 | 0.06 |
| Construction | 0.03 | 0.02 | 0.00 | 0.07 |
| Food and Kindred Products | 0.02 | 0.02 | 0.00 | 0.04 |
| Textile Mill Products | 0.03 | 0.03 | 0.01 | 0.03 |
| Apparel and other Textile Products | 0.00 | 0.00 | 0.01 | 0.00 |
| Lumber and Wood Products | 0.01 | 0.01 | 0.00 | 0.00 |
| Furniture and Fixtures | 0.01 | 0.02 | 0.00 | 0.02 |
| Paper and Allied Products | 0.02 | 0.03 | 0.00 | 0.02 |
| Printing and Publishing | 0.05 | 0.05 | 0.08 | 0.04 |
| Chemicals and Allied Products | 0.05 | 0.04 | 0.07 | 0.03 |
| Petroleum and Coal Products | 0.00 | 0.01 | 0.00 | 0.00 |
| Rubber and Miscellaneous Plastics Produ | 0.02 | 0.03 | 0.01 | 0.01 |
| Stone, Clay and Glass Products | 0.02 | 0.03 | 0.01 | 0.01 |
| Primary Metal Industries | 0.05 | 0.06 | 0.04 | 0.04 |
| Fabricated Metal Products | 0.03 | 0.05 | 0.02 | 0.02 |
| Machinery, Except Electrical | 0.01 | 0.01 | 0.01 | 0.01 |
| Electrical and Electronic Equipment | 0.03 | 0.04 | 0.01 | 0.04 |
| Transportation Equipment | 0.05 | 0.04 | 0.08 | 0.03 |
| Instruments and Related Products | 0.02 | 0.01 | 0.02 | 0.02 |
| Miscellaneous Manufacturing Industries | 0.01 | 0.01 | 0.00 | 0.01 |
| Transportation | 0.06 | 0.04 | 0.08 | 0.06 |
| Telephone and Telegraph Communication | 0.07 | 0.06 | 0.13 | 0.05 |
| Radio and Television Broadcasting | 0.03 | 0.01 | 0.07 | 0.02 |
| Electric, Gas, and Water Supply | 0.03 | 0.03 | 0.04 | 0.02 |
| Wholesale | 0.04 | 0.05 | 0.01 | 0.04 |
| Retail Stores | 0.07 | 0.08 | 0.08 | 0.07 |
| Finance, Insurance, and Real Estate | 0.04 | 0.05 | 0.03 | 0.03 |
| Services | 0.16 | 0.12 | 0.16 | 0.21 |
| Almost Nothing | 0.01 | 0.01 | 0.00 | 0.00 |

Table 3. Public Filing Status of Sample Firms.

| Venue | Public Equity | | Public Bonds | | All Public Filers | |
|---|---|---|---|---|---|---|
| | n | % of Sample | n | % of Sample | n | % of Sample |
| DE | 78 | 49.68% | 114 | 72.61% | 127 | 80.89% |
| SDNY | 57 | 62.64% | 72 | 79.12% | 77 | 84.62% |
| Other | 56 | 53.85% | 80 | 76.92% | 92 | 88.46% |
| Full Sample | 191 | 54.26% | 266 | 75.57% | 296 | 84.09% |

Table 4. Summary Statistics for Petition Date Pricing Deviation, by Venue, Transaction and Contract Type.

| Category | Subsample | N | Mean | SD | Min | 25th | 50th | 75th | 90th | 95th | Max |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Full Sample | Full Sample | 1208 | 1.63 | 16.32 | 0.00 | 0.06 | 0.30 | 0.84 | 1.81 | 3.00 | 513.84 |
| | Delaware | 459 | 2.48 | 24.44 | 0.00 | 0.08 | 0.36 | 0.85 | 1.66 | 5.76 | 513.84 |
| | SDNY | 428 | 1.41 | 10.30 | 0.00 | 0.07 | 0.30 | 0.93 | 2.29 | 2.96 | 208.96 |
| | Other | 321 | 0.69 | 2.37 | 0.00 | 0.04 | 0.27 | 0.76 | 1.00 | 1.61 | 32.69 |
| | | | | | | | | | | | |
| No 363 Sales | Full Sample | 1006 | 1.86 | 17.87 | 0.00 | 0.06 | 0.30 | 0.88 | 2.08 | 4.52 | 513.84 |
| | Delaware | 357 | 3.02 | 27.69 | 0.00 | 0.07 | 0.38 | 0.89 | 2.08 | 7.66 | 513.84 |
| | SDNY | 391 | 1.50 | 10.77 | 0.00 | 0.07 | 0.30 | 0.96 | 2.45 | 3.45 | 208.96 |
| | Other | 258 | 0.77 | 2.64 | 0.00 | 0.04 | 0.26 | 0.75 | 1.10 | 2.01 | 32.69 |
| | | | | | | | | | | | |
| Only Sales | Full Sample | 202 | 0.49 | 1.11 | 0.00 | 0.10 | 0.33 | 0.76 | 0.93 | 0.99 | 15.30 |
| | Delaware | 102 | 0.57 | 1.52 | 0.00 | 0.14 | 0.32 | 0.71 | 0.90 | 0.97 | 15.30 |
| | SDNY | 37 | 0.46 | 0.45 | 0.00 | 0.07 | 0.37 | 0.82 | 0.99 | 1.60 | 1.62 |
| | Other | 63 | 0.38 | 0.35 | 0.00 | 0.05 | 0.33 | 0.79 | 0.93 | 0.98 | 1.05 |
| | | | | | | | | | | | |
| Secured Claim | All | 626 | 0.39 | 1.18 | 0.00 | 0.03 | 0.12 | 0.37 | 0.79 | 1.13 | 16.08 |
| | First Lien Blanket Lien | 246 | 0.25 | 0.41 | 0.00 | 0.03 | 0.12 | 0.29 | 0.58 | 0.90 | 2.69 |
| | Second Lien Blanket Lien | 61 | 0.43 | 0.54 | 0.00 | 0.06 | 0.30 | 0.54 | 0.90 | 1.05 | 3.00 |
| | Lien on Specific Asset | 208 | 0.62 | 1.89 | 0.00 | 0.03 | 0.14 | 0.43 | 0.96 | 2.04 | 16.08 |
| | | | | | | | | | | | |
| Unsecured Debt Claim | All | 370 | 2.31 | 11.44 | 0.00 | 0.16 | 0.64 | 1.65 | 3.40 | 8.71 | 208.96 |
| | Senior Unsecured | 301 | 2.18 | 12.33 | 0.00 | 0.15 | 0.62 | 1.70 | 2.82 | 5.72 | 208.96 |
| | Subordinated | 69 | 2.86 | 6.23 | 0.00 | 0.35 | 0.81 | 1.00 | 12.24 | 16.04 | 32.69 |
| Equity | Full Sample | 214 | 4.05 | 35.59 | 0.00 | 0.50 | 0.78 | 0.94 | 1.39 | 4.52 | 513.84 |
| Loan Contract | Full Sample | 647 | 0.27 | 0.48 | 0.00 | 0.03 | 0.11 | 0.33 | 0.69 | 0.98 | 6.07 |
| Revolving Loan | Full Sample | 166 | 0.26 | 0.56 | 0.00 | 0.02 | 0.09 | 0.30 | 0.73 | 1.10 | 6.07 |
| Term Loan | Full Sample | 451 | 0.26 | 0.43 | 0.00 | 0.03 | 0.11 | 0.33 | 0.66 | 0.91 | 4.83 |
| Senior Bond | Full Sample | 284 | 2.21 | 12.64 | 0.00 | 0.12 | 0.63 | 1.80 | 3.02 | 5.72 | 208.96 |
| Subordinated Bond | Full Sample | 107 | 2.65 | 5.52 | 0.00 | 0.30 | 0.75 | 1.17 | 11.47 | 15.30 | 32.69 |

This table summarizes the absolute returns for a hypothetical investor who buys a financial contract at the petition date market price and sells it at the market price at the end of the bankruptcy period. The bankruptcy payoff market price is discounted to present value as of the petition date. The absolute return variable measures price accuracy; the further the number is from 0, the greater the degree of initial mispricing. For example, if the hypothetical investor bought the median subordinated bond in the sample, she would have paid a number that was 82% inaccurate. The median secured claim, on the other hand, was priced on the petition date very close to its final payoff and the investor would only have mispriced the claim by 12%.

Table 5. Sample Firm Capital Structure Characteristics, by Venue.

| Capital Structure Characteristic | Variable | n | Mean | SD |
|---|---|---|---|---|
| Number of Distinct Levels of Debt Claim Priority | All Sample Firms | 352 | 3.20 | 1.57 |
| | DE | 157 | 3.13 | 1.50 |
| | SDNY | 91 | 3.70 | 1.96 |
| | Other | 104 | 2.87 | 1.12 |
| | | | | |
| Sample Firm has Bond Debt | All Sample Firms | 352 | 0.75 | 0.43 |
| | DE | 157 | 0.73 | 0.45 |
| | SDNY | 91 | 0.79 | 0.41 |
| | Other | 104 | 0.76 | 0.43 |
| | | | | |
| Sample Firm has Loan Debt | All Sample Firms | 352 | 0.82 | 0.39 |
| | DE | 157 | 0.79 | 0.41 |
| | SDNY | 91 | 0.86 | 0.35 |
| | Other | 104 | 0.82 | 0.39 |
| | | | | |
| Sample Firm has First Lien Blanket Loan | All Sample Firms | 352 | 0.69 | 0.46 |
| | DE | 157 | 0.73 | 0.45 |
| | SDNY | 91 | 0.71 | 0.45 |
| | Other | 104 | 0.62 | 0.49 |
| | | | | |
| Sample Firm has Second Lien Blanket Loan | All Sample Firms | 352 | 0.24 | 0.43 |
| | DE | 157 | 0.25 | 0.43 |
| | SDNY | 91 | 0.26 | 0.44 |
| | Other | 104 | 0.20 | 0.40 |
| | | | | |
| Sample Firm has Secured Debt | All Sample Firms | 352 | 0.89 | 0.31 |
| | DE | 157 | 0.92 | 0.28 |
| | SDNY | 91 | 0.92 | 0.27 |
| | Other | 104 | 0.84 | 0.37 |
| | | | | |
| Sample Firm has Unsecured Loan | All Have Unsecured Debt | 352 | 0.99 | 0.08 |
| | DE | 157 | 1.00 | 0.00 |
| | SDNY | 91 | 1.00 | 0.00 |
| | Other | 104 | 0.98 | 0.14 |
| | | | | |
| Sample Firm has Specific Asset Loan | All Have Asset Specific Debt | 352 | 0.29 | 0.45 |
| | DE | 157 | 0.29 | 0.46 |
| | SDNY | 91 | 0.34 | 0.48 |
| | Other | 104 | 0.23 | 0.42 |

Table 6. Determinants of Petition Date Pricing Deviation.

| | (1) OLS | (2) Quantile Regression | (3) Li (1985) Regression | (4) OLS | (5) Quantile Regression | (6) Li (1985) Regression | (7) Quantile Regression |
|---|---|---|---|---|---|---|---|
| Delaware Venue | -0.5059** | -0.371*** | -0.392*** | -0.586** | -0.521** | -0.659*** | -0.276** |
| | (0.2415) | (0.141) | (0.136) | (0.294) | (0.217) | (0.148) | (0.131) |
| SDNY Venue | -0.5678** | -0.521*** | -0.421*** | -0.737*** | -0.760*** | -0.696*** | -0.431*** |
| | (0.2242) | (0.182) | (0.146) | (0.261) | (0.206) | (0.155) | (0.158) |
| Log Funded Debt | 0.1393** | 0.218*** | 0.13*** | 0.073 | 0.145** | 0.129*** | 0.209*** |
| | (0.0681) | (0.050) | (0.045) | (0.083) | (0.063) | (0.049) | (0.044) |
| Prepackaged Bankruptcy | -1.478*** | -1.180*** | -1.206*** | -1.310*** | -1.159*** | -0.950*** | -1.386*** |
| | (0.3895) | (0.295) | (0.224) | (0.442) | (0.312) | (0.240) | (0.261) |
| Prenegotiated Bankruptcy | -0.6321*** | -0.778*** | -0.734*** | -0.514*** | -0.832*** | -0.824*** | -0.759*** |
| | (0.2223) | (0.131) | (0.122) | (0.243) | (0.158) | (0.127) | (0.108) |
| Private Equity Owned | -0.3709* | -0.111 | -0.298*** | -0.548*** | -0.340** | -0.346*** | -0.185 |
| | (0.2204) | (0.146) | (0.125) | (0.231) | (0.140) | (0.131) | (0.127) |
| Log Absolute Return of Industry Comparable Firms | 0.0452** | 0.042*** | 0.02*** | 0.047** | 0.041*** | 0.028** | 0.046*** |
| | (0.0222) | (0.012) | (0.125) | (0.022) | (0.015) | (0.013) | (0.011) |
| Log Observed Case Duration | 0.3385** | 0.363*** | 0.367** | 0.355** | 0.410*** | 0.361*** | 0.366*** |
| | (0.1333) | (0.071) | (0.076) | (0.142) | (0.103) | (0.080) | (0.063) |
| Percentage of Firm Capital Structure Senior to Claimant | 1.6978** | 1.584*** | 1.697*** | 1.882*** | 1.512*** | 1.729*** | 1.641*** |
| | (0.1997) | (0.101) | (0.119) | (0.222) | (0.128) | (0.114) | (0.083) |
| Lien on Unique Asset | -0.4259** | -0.571*** | -0.518** | -0.525** | -0.646*** | -0.461*** | -0.608*** |
| | (0.2161) | (0.151) | (0.119) | (0.241) | (0.163) | (0.127) | (0.113) |
| Liquidation Intended | | | | 2.820*** | 1.088 | 1.469 | -1.702 |
| | | | | (1.037) | (0.000) | (1.307) | (6.233) |
| Sample | No Outliers | No Outliers | No Outliers | Full Sample | Full Sample | Full Sample | Full Sample |
| R2/Pseudo R2 | 0.40 | 0.31 | - | 0.49 | 0.39 | - | 0.31 |
| N | 983 | 983 | 983 | 1,006 | 1,006 | 1,006 | 1,006 |
| Debtors | 267 | 267 | 267 | 269 | 269 | 269 | 269 |
| Industry FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Law Firm FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Banker FE | No | No | No | Yes | Yes | Yes | No |

* p<0.1; ** p<0.05; *** p<0.01 The dependent variable is the logged absolute value of the return that an investor who bought the claim on the petition date would have realized if she had sold the claim at the end of the bankruptcy process, based on the observed market value of the claim. The bankruptcy payoff is discounted to present value as of the petition date. The table displays ordinary least squares regression for Models 1 and 4, quantile (median) regression for Models 2, 5 and 7 and a regression model designed to be robust to outliers following Li (1985) for Models 3 and 6. Industry Fixed Effects are Fama-French 38. The OLS models display standard errors clustered standard errors at the firm level in parenthesis and the quantile regression models display robust standard errors.

Table 7. Quantile regression coefficients for the relationship between Bankruptcy Venue and the Observed Pricing Deviation.

| | Decile | | | | |
|---|---|---|---|---|---|
| | **.1** | **.3** | **.5** | **.7** | **.9** |
| ***Delaware*** | | | | | |
| Coefficient | -1.138 | -0.522 | -0.276 | -0.189 | -0.040 |
| Standard Error | 0.466 | 0.166 | 0.134 | 0.122 | 0.204 |
| p-value | 0.015 | 0.002 | 0.041 | 0.123 | 0.843 |
| Coefficient Implied Percentage Change in the Absolute Return | -67.95% | -40.66% | -24.08% | -17.22% | -3.94% |
| Absolute Return at Decile | 0.01% | 7.00% | 26.70% | 68.60% | 174.60% |
| | | | | | |
| Implied Nominal Change in Price Accuracy† | -0.01% | -2.85% | -6.43% | -11.81% | -6.88% |
| | | | | | |
| ***Southern District of New York*** | | | | | |
| Coefficient Estimate | -1.419 | -0.601 | -0.431 | -0.344 | -0.178 |
| Standard Error | 0.448 | 0.172 | 0.162 | 0.127 | 0.189 |
| p-value | 0.002 | 0.000 | 0.008 | 0.007 | 0.346 |
| Coefficient Implied Percentage Change in the Absolute Return | -75.82% | -45.16% | -35.03% | -29.10% | -16.34% |
| Absolute Return at Decile | 3.30% | 7.00% | 26.70% | 68.60% | 174.60% |
| | | | | | |
| Implied Nominal Change in Price Accuracy † | -2.50% | -3.16% | -9.35% | -19.96% | -28.53% |
| | | | | | |
| R2 | 0.307 | 0.295 | 0.31 | 0.295 | 0.32 |

This Table displays quantile regressions using Model 7 from Table 9 at different points along the distribution of absolute returns. Control value coefficients are omitted due to space constraints.

† The implied nominal change in absolute return is calculated by exponatiating the regression coefficient and subtracting the implied percentage change in the dependent return from the observed absolute return. For example, the Delaware venue coefficient at the median quantile has a coefficient of -0.25 and 1 - exp(-0.276) = 1 - 0.758812931= -24.08%. The median observed absolute return in this subsample was 26.7%, and 24.08% of 26.7% implies a change of 6.43% (24.8% * 26.7%), suggesting that the investor's return was 6.74% closer to 0.

Table 8. Determinants of "Out of the Money" Prices on the Petition Date.

| | (1) Log Petition Price | (2) Log Petition Price | (3) Log Petition Price | (4) Log Petition Price | (5) Log Petition Price |
|---|---|---|---|---|---|
| Delaware Venue | -0.709*** | -0.596*** | -0.594** | -0.604** | -0.622** |
| | (0.272) | (0.223) | (0.272) | (0.268) | (0.313) |
| SDNY Venue | -0.325 | -0.039 | -0.162 | -0.173 | -0.024 |
| | (0.258) | (0.222) | (0.271) | (0.252) | (0.291) |
| Log PV Bankruptcy Payoff | 0.632*** | 0.424*** | 0.413*** | 0.370*** | 0.409*** |
| | (0.034) | (0.059) | (0.059) | (0.063) | (0.071) |
| Log Funded Debt | | -0.213*** | -0.167* | 0.498*** | 0.294 |
| | | (0.071) | (0.085) | (0.156) | (0.192) |
| Prepackaged Bankruptcy | | 0.018 | -0.239 | -0.186 | -0.576 |
| | | (0.408) | (0.469) | (0.496) | (0.641) |
| Prenegotiated Bankruptcy | | 0.245 | 0.152 | 0.099 | 0.093 |
| | | (0.189) | (0.192) | (0.193) | (0.243) |
| Log Days of Bankruptcy | | 0.141 | 0.070 | 0.074 | 0.215* |
| | | (0.091) | (0.103) | (0.107) | (0.122) |
| Claim is Equity | | -2.065*** | -2.113*** | -1.866*** | -1.907*** |
| | | (0.367) | (0.377) | (0.342) | (0.383) |
| Log Distance to Money | | | | -0.625*** | -0.581*** |
| | | | | (0.143) | (0.186) |
| Log Return of Industry Comparable Firms | | | | | -8.009 |
| | | | | | (5.073) |
| $R^2$ | 0.72 | 0.8 | 0.81 | 0.82 | 0.84 |
| *N* | 260 | 260 | 260 | 255 | 192 |
| Unique Debtors | 148 | 148 | 148 | 146 | 105 |
| Year FE | No | No | Yes | Yes | Yes |
| Law Firm FE | No | No | Yes | Yes | Yes |

This Table displays OLS regression with standard errors clustered at the firm level in parenthesis. The dependent variable is the logged price of a junior claim that appears to be "out of the money," as indicated by an observed senior claim trading at 75 cents on the dollar or less. "*Log PV Bankruptcy Payoff"* is the logged market value of the bankruptcy payoff, discounted to present value. "*Log Days of Bankruptcy"* is the logged days elapsed between the petition date and the date the assets leave bankruptcy court administration (either the effective date of a plan or the date a sale is approved). "*Log Return of Industry Comparable Firms"* is the market-weighted return an investor would have received if he had bought the publicly traded group of stocks in the bankrupt firm's four digit SIC Code on the petition date and sold it at the conclusion of the bankruptcy process. "*Log Distance to Money"* is the logged difference between the face amount of the firm's liabilities and the market value of those financial claims on the petition date. * $p<0.1$; ** $p<0.05$; *** $p<0.01$.

Table 9. Return Correlation with Industry Median, by Bankruptcy Venue.

| Pre-Bankruptcy (*Full Sample)* | | | | In-Bankruptcy (*Full Sample)* | | |
|---|---|---|---|---|---|---|
| | Delaware | SDNY | Other | Delaware | SDNY | Other |
| Correlation Coefficient | 0.1760*** | 0.1923*** | 0.1429*** | 0.0156*** | 0.0274*** | 0.0102 |
| n | 40804 | 29225 | 24737 | 27714 | 19786 | 18257 |
| p-value | 0.0000 | 0.0000 | 0.0000 | 0.0092 | 0.0001 | 0.1678 |

| Pre-Bankruptcy (*Delaware-Incorporated Firms Only)* | | | | In-Bankruptcy (*Delaware-Incorporated Firms Only)* | | |
|---|---|---|---|---|---|---|
| | Delaware | SDNY | Other | Delaware | SDNY | Other |
| Correlation Coefficient | 0.1839*** | 0.1581*** | 0.1330*** | 0.0147** | 0.0222*** | 0.0135 |
| n | 36798 | 23409 | 15560 | 26225 | 14221 | 10387 |
| p-value | 0.0000 | 0.0000 | 0.0000 | 0.021 | 0.0082 | 0.1693 |

This table compares Pearson's correlation coefficient for the sample firms to the median stock return of the 4 digit SIC code of the sample firm's industry for each day trading is observed. In the Pre-Bankruptcy Period of the year before the year before bankruptcy, I illustrate the degree of correlation by comparing the observed return of publicly traded stock of the firms that later filed for bankruptcy to the median industry return. In the Post-Bankruptcy period, I compare trades in debt that appears likely to be "equity like" based on a final observed trading price < 90 and > 5 to the trading in publicly traded stock in the same industry on the same day.

* $p<0.1$; ** $p<0.05$; *** $p<0.01$

**Table 10. Judicial Bias Proxies, by Venue.**
**Panel A: Disclosure Statement Recoveries versus Market Value of Recoveries.**

| Variable | N | Mean | SD | Min | 25th | 50th | 75th | 90th | Max |
|---|---|---|---|---|---|---|---|---|---|
| All | 422 | 5.38 | 104.27 | -1.00 | -0.12 | 0.02 | 0.29 | 0.91 | 2141.86 |
| Delaware | 177 | 0.29 | 1.66 | -1.00 | -0.21 | 0.02 | 0.34 | 0.95 | 18.20 |
| SDNY | 155 | 13.99 | 172.03 | -1.00 | -0.14 | 0.00 | 0.40 | 0.98 | 2141.86 |
| Other | 90 | 0.59 | 3.80 | -1.00 | -0.04 | 0.08 | 0.20 | 0.81 | 35.36 |

Panel A compares the pay-offs in the disclosure statement approved by the judge to the observed market value of those recoveries. I calculate the difference between them as (Disclosure Statement Recovery – Market Value of Claim at End of Process)/Market Value of Claim at End of Process. A positive number suggests that the disclosure statement recovery was higher than the market seems to believe, a negative number suggests the market believes the claimant was paid more than the debtor appeared to have promised in the disclosure statement.

**Panel B: Percentage of Debt Claims That Appear to be Paid More than in Full, by Venue.**

| Court | N | Mean | SD |
|---|---|---|---|
| **Market Value>= 100** | | | |
| All | 1295 | 0.22 | 0.41 |
| Delaware | 509 | 0.18 | 0.38 |
| SDNY | 474 | 0.24 | 0.43 |
| Other | 312 | 0.25 | 0.43 |
| **Market Value>= 105** | | | |
| All | 1295 | 0.14 | 0.35 |
| Delaware | 509 | 0.11 | 0.31 |
| SDNY | 474 | 0.15 | 0.36 |
| Other | 312 | 0.17 | 0.38 |
| **Market Value>= 110** | | | |
| All | 1295 | 0.12 | 0.32 |
| Delaware | 509 | 0.10 | 0.30 |
| SDNY | 474 | 0.12 | 0.32 |
| Other | 312 | 0.14 | 0.35 |
| **Market Value>= 115** | | | |
| All | 1295 | 0.11 | 0.31 |
| Delaware | 509 | 0.10 | 0.30 |
| SDNY | 474 | 0.10 | 0.30 |
| Other | 312 | 0.13 | 0.34 |

Panel B is the percentage of debt claims, of all claims in each venue, that trade "above payment in full" based on the observed market value at the end of the bankruptcy process.

Table A1. Sources of Data.

| Data Source | Type of Data | Sample Period |
|---|---|---|
| Loan Syndication & Trading Association Loan Pricing Records | Dealer quotes of bank loan prices | 2001-2007 |
| Enhanced TRACE | Actual records of all bond trades | 2002-2012 |
| MarkIt Loan Prices | Dealer quotes of bank loan prices | 2008-2012 |
| Bloomberg | Actual records of trades for listed and delisted stock | 2001-2012 |

Table A2. Data Attrition in Sample Construction.

| **Sample Attrition** | **n** |
|---|---|
| Chapter 7 filing, not Chapter 11 | 8 |
| Assets Disposed of in Chapter 7 | 2 |
| Chapter 15, not Chapter 11 | 3 |
| Outlying Facts* | 5 |
| Debts Under $25 million | 25 |
| Foreign filing, major assets administered by foreign bankruptcy court | 4 |
| No operating business | 4 |
| Subsidiary Bankruptcy of Other Case | 2 |
| Insufficient Information to Include** | 26 |
| Upon Review, False "Match" to Pricing Data | 5 |
| Unable to Locate Docket | 6 |
| All information located, but no trading data within the subsamples of this study | 48 |
| Total Attrition | 128 |

*e.g.: All of the Debt Owed to Government; Bankruptcy Caused by Hurricane Katrina; Reorganization of Subsidiary of Healthy Firm

** Generally, the firms with insufficient information did not have publicly available dockets on PACER.

Table A3. Sample Size Comparison.

| Study | Sample Size |
|---|---|
| **This study (2016)** | **1,484 claims issued by 352 debtors** |
| Wang (2011) | 424 claims issued by 148 debtors |
| Coelho et al. (2011) | 351 claims issued by 351 debtors |
| Li and Zhong (2013) | 602 claims issued by 602 debtors |
| Jankowitsch et. al (2012) | 818 claims issued by 259 debtors |

## APPENDIX 2: DEFINITIONS FOR THE REGRESSION VARIABLES.

This list includes all the variables from the regressions in alphabetical order.

**Log Absolute Return –** The absolute value of the return an investor would earn if she bought the claim at the beginning of the bankruptcy case and sold it for the market value of the claim at the end of the bankruptcy case. This is the dependent variable in Table 9. The market value of the claim at the end of the bankruptcy case is discounted to present value using the 1-year treasury bond rate on the date of Chapter 11 filing as the risk free rate.

**Log Absolute Value of the Weighted Return of Industry Comparables Over Bankruptcy Period—**The natural log of the absolute value of the return of publicly traded equity of firms with the same four digit SIC code over the bankruptcy period. This was calculated by identifying all firms in the CRSP dataset with the same four digit SIC code as the sample firm and computing the weighted return of all of the comparable firms for an investor who bought a value-weighted basket of comparable stock on the petition date and sold it when the firm's assets left bankruptcy administration (defined as the effective date of a plan or the date a sale was approved, depending on the facts of each sample case).

**Claim is Equity** – A dummy variable that takes on a value of 1 if the claimant is an equity claimant as opposed to a debt claimant.

**Clerk for Bankruptcy Judge**—A dummy variable that takes on a value of 1 if the judge clerked for a bankruptcy judge prior to becoming a judge herself.

**Consumer Practice** – A dummy variable that takes on a value of 1 if the judge was a consumer bankruptcy lawyer prior to becoming a judge.

**Creditor Objection** – A dummy variable that takes on a value of 1 if the claimant files an objection to management's motion at the hearing date of interest.

**Delaware Venue—**A dummy variable that takes on a value of 1 if the firm files for bankruptcy in the Federal Bankruptcy Court for the District of Delaware.

**Log Distance to Money**—The logged difference between the face amount of the firm's senior liabilities and the market value of those claims on the petition date.

**Log Funded Debt—**The natural log of the sum of all outstanding debt as of the petition date that the debtor owes pursuant to loan agreements, bond indentures or other forms of debt financing. This number is taken from the first day affidavit annexed to the bankruptcy petition. This variable controls for the size of the firm.

**Investment Banker Fixed Effects—**Indicator variables for the investment bank advising the debtor on their reorganization.

**Law Firm Fixed Effects—**Indicator variable for the type of law firm advising the debtor on its reorganization. There are four categories of law firms: (1) National Law Firms with Elite National Bankruptcy Practices, as ranked by Chambers and Partners (where "Band 1" firms in 2014 are considered elite practices); (2) Full-service large New York based law firms listed in the American Lawyer list of the 250 largest law firms in 2014 that do not have "Band 1"bankruptcy practices; (3) Full-service large law firms based anywhere but New York, listed on the American Lawyer list of the Top 250 law firms in 2014; and (4) firms not listed in the American Lawyer list of 250 largest law firms.

**Lien on Unique Asset –** Indicator variable that takes on a value of 1 if a secured claim has a lien on a unique asset. In most cases, this captures a project lender who funded the construction of a

plant or the purchase of real estate and has a lien on that specific asset, in addition to a guarantee from the parent and a claim against the firm as a whole.

**Liquidation Intended –** Indicator variable that takes on a value of 1 if management announces in the first day affidavit annexed to the bankruptcy petition that the firm will be liquidated in bankruptcy, as opposed to reorganized independently or sold as a going-concern.

**Judge in Months 0-6** – Indicator variable that takes on a value of 1 if the judge was appointed no later than six months prior to the petition date.

**Judge in Months 0-12** – Indicator variable that takes on a value of 1 if the judge was appointed within a year of the petition date.

**Number of Years Judge on Bench –** The difference between the calendar year of the bankruptcy filing and the calendar year the judge was appointed to the bench.

**Log Observed Case Duration**—The natural log of the days that substantially all of the firm's assets are under bankruptcy court administration. The earliest of: (a) the date the debtor filed a notice that substantially all of the firm's assets were sold; (b) the date the Court approved a motion to sell substantially all of the firm's assets, in the event no notice of the sale was available and such sale was not consummated pursuant to a plan of reorganization; (c) the effective date of the final sale of the debtor's assets in a piecemeal liquidation; (d) the last order approving a sale of substantially all of the debtor's assets; or (e) the date the plan of reorganization or the plan of liquidation became effective, if the debtor disposed of its assets through a plan of reorganization or a plan of liquidation.

**Percentage of Capital Structure Senior to Claim**-- The percentage of funded debt senior in the capital structure to the claimant. This number ranges from 0 (generally, for senior secured lenders with a first priority blanket lien on the firm's assets) to 1 (for shareholders who only take under the absolute priority rule after creditors have been paid in full). I use this to control for the heterogeneity of capital structures of the firms in the sample.

**Prenegotiated Filing—**A binary dummy variable that takes on a value of 1 if the first day affidavit declares the case to be "prenegotiated;" 0 otherwise. I control for this because firms with prenegotiated plans of negotiation arrive in bankruptcy court with some portion of the bargaining already completed, meaning the market should have a better sense of management's plans in the bankruptcy process as well as the preferences of at least some creditors.

**Prepackaged Filing—**A binary dummy variable that takes on a value of 1 if the debtor files for bankruptcy with binding votes on a plan of reorganization having already been solicited and tabulated in favor of a proposed plan of reorganization; 0 otherwise.

**Private Equity Owned**—A binary dummy variable that takes on a value of 1 if the firm was owned by a Private Equity sponsor prior to bankruptcy.

**Log PV Bankruptcy Payoff**—The logged market value of the bankruptcy payoff, discounted to the petition date for Table 12.

**Log Return of Industry Comparable Firms—**The natural log of the return of publicly traded equity of firms with the same four digit SIC code over the bankruptcy period. This was calculated by identifying all firms in the CRSP dataset with the same four digit SIC code as the sample firm and computing the weighted return of all of the comparable firms for an investor who bought a value-weighted basket of comparable stock on the petition date and sold it when the firm's assets left bankruptcy administration (defined as the effective date of a plan or the date a sale was approved, depending on the facts of each sample case).

**SDNY Venue** –A binary dummy variable that takes on a value of 1 if the firm filed for bankruptcy in the Federal Bankruptcy Court for the Southern District of New York.

**Log Size of Claim –** The amount of debt outstanding owed to the claimant as of the petition date.

Internet Appendix Table 1. Distribution of Law Firms.

| Law Firm | Full Sample | DE | SDNY | Other |
|---|---|---|---|---|
| Kirkland | 14.29% | 13.19% | 20.41% | 10.92% |
| Weil | 10.53% | 7.14% | 23.47% | 5.04% |
| Skadden | 8.77% | 9.34% | 9.18% | 7.56% |
| Latham | 4.51% | 6.04% | 3.06% | 3.36% |
| Sidley | 4.01% | 7.14% | 1.02% | 1.68% |
| Pachulski | 3.51% | 7.14% | 1.02% | 0.00% |
| Jones Day | 3.01% | 3.30% | 6.12% | 0.00% |
| Willkie Farr | 3.01% | 2.20% | 8.16% | 0.00% |
| All Others | 48.37% | 44.51% | 27.55% | 71.43% |
| Of Others, Firm Represented Only One Debtor Across Entire Sample, of Total in Venue | 12.03% | 7.69% | 7.14% | 22.69% |

Internet Appendix Table 2. Distribution of Debtor Investment Banker or Financial Advisor.

| Investment Bank | Full Sample | Delaware | SDNY | Other |
|---|---|---|---|---|
| Lazard | 14.71 | 18.54 | 10.34 | 12.63 |
| Rothschild | 11.41 | 13.25 | 13.79 | 6.32 |
| Houlihan | 7.81 | 5.96 | 5.75 | 12.63 |
| Miller Buckfire | 7.51 | 9.27 | 6.9 | 5.26 |
| Blackstone | 7.21 | 7.28 | 10.34 | 4.21 |
| Moelis | 5.71 | 6.62 | 6.9 | 3.16 |
| Jefferies | 4.8 | 2.65 | 8.05 | 5.26 |
| Greenhill | 3.6 | 0 | 8.05 | 3.16 |
| Perella Weinberg | 3 | 3.31 | 3.45 | 2.11 |
| Evercore | 2.7 | 1.32 | 8.05 | 0 |
| FTI Consulting | 2.7 | 2.65 | 2.3 | 3.16 |
| UBS | 2.4 | 1.32 | 3.45 | 3.16 |
| Credit Suisse | 1.5 | 3.31 | 0 | 0 |
| Imperial | 1.2 | 0.66 | 1.15 | 2.11 |
| Peter J. Solomon | 1.2 | 0 | 0 | 2.11 |
| Three or Fewer Debtor Representations (51 total banks across entire sample) | 22.54 | 23.86 | 11.48 | 34.72 |