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# Do Activist Investors Constrain Managerial Moral Hazard In Chapter 11?: Evidence from Junior Activist Investing

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# DO ACTIVIST INVESTORS CONSTRAIN MANAGERIAL MORAL HAZARD IN CHAPTER 11?: EVIDENCE FROM JUNIOR ACTIVIST INVESTING

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## ABSTRACT

This article examines the hedge fund investment strategy of buying junior claims of Chapter 11 debtors and playing an activist role in the bankruptcy process. These hedge funds are often accused of rent-seeking by managers. I use a new methodology to conduct the first empirical study of this investment strategy. I find little evidence that junior activists abuse the bankruptcy process to extract hold-up value. Instead, the results suggest that they constrain managerial self-dealing and promote the bankruptcy policy goals of maximizing creditor recoveries and distributing the firm's value in accordance with the absolute priority rule.

**(JEL codes:** G23, G30, G33).

Hedge funds that specialize in distressed investing have grown to manage more than $140 billion in assets, up from $4 billion in 2000.[1] Some of these hedge funds are activist investors that try to influence the restructuring of distressed firms. One of the most common activist investing strategies is to buy junior claims—such as unsecured debt or equity—and participate in the Chapter 11

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1 *See* BarclayHedge Alternative Investment Database. http://www.barclayhedge.com/. While there are other types of activist distressed investors, hedge funds are the most prominent.


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process.[2] The hedge funds that execute junior activist investing strategies are thought to be substantially more litigious and aggressive than the more staid financial institutions that held junior claims in earlier years of the bankruptcy code (Miller 2007). One judge recently described a junior activist as using "aggressive bankruptcy litigation tactics as a means to gain negotiating leverage or obtain judicial rulings that will enable it to . . . reap profits in connection with acquired, deeply discounted bankruptcy claims. Such activist strategies are an increasingly familiar part of the landscape in large chapter 11 cases."[3]

Many observers and market participants believe that the junior activists negatively impact the governance of bankrupt firms. Junior activists are generally perceived to be rent seekers that use "terrorist [litigation] tactics" to extract hold-up value settlements from senior creditors (Ross 2013). They are blamed for increasing bankruptcy costs as management spends more on expensive lawyers and the firm lingers in bankruptcy longer than would otherwise have been the case. This view is so widely held that Moody's recovery models for senior debt mention anticipated settlement payments to junior activists (Gupton & Stein 2002). The problem of junior activism has provoked a powerful response from the debt markets. Between 2003 and 2012, investment banks underwrote more than $100 billion in junior corporate debt with innovative contractual provisions that limit the ability of junior activists to file objections in bankruptcy court (Seife 2004; Miller 2012).

Junior activists, however, see themselves as standing up for the rights of investors against opportunistic managers (Gilson, Hotchkiss, & Ruback 2000). The bankruptcy code places a firm's managers in control of the Chapter 11 process, subject to a fiduciary duty to maximize the value of the firm's assets for distribution to creditors.[4] Thus, as fiduciaries, managers must make a series of critical business decisions: Should the firm be sold as a going concern, liquidated in pieces or reorganized independently? What will the reorganized firm's business plan look like and how much money do managers expect the firm to generate in the future? Most importantly, management must accurately appraise the firm's assets to determine how much value is available

2 Bankruptcy scholarship usually considers "senior creditors" to be secured lenders and "junior creditors" to be unsecured creditors or shareholders. The reality of modern finance is more complex. In this article, I use the term "junior claims" to include any claim that arises from debt or equity that is ranked lower than a senior class of debt or equity. In practice, the nature of the claims held by senior or junior claimholders varies with the facts of the case and the complexity of the capital structure. "Junior activists" are investors in junior claims.

3 *In re* Ion Media Networks, 419 B.R. 585, 588-89 (Bankr. S.D.N.Y. 2009).

4 *See In re* Innkeepers USA Trust, 442 B.R. 227, 235 (Bankr. S.D.N.Y. 2010) ("In a bankruptcy case, it is 'Bankruptcy 101' that a debtor and its board of directors owe fiduciary duties to the debtor's creditors to maximize the value of the estate . . .").

for distribution to creditors. Management is tempted by moral hazard because self-interest can influence the answers to these questions.

In particular, managers have powerful incentives to under-appraise the firm. It is common for managers of a firm emerging from Chapter 11 to receive lucrative stock grants at the appraised value of the firm's assets. If the firm is sold, the appraised value will be the sale price. If the firm reorganizes independently, management's investment bankers will appraise it with a valuation analysis that relies on financial models. As explained below, both of these processes are subject to managerial manipulation. Senior creditors can benefit from a low appraisal as well. They have incentives to encourage managers to propose restructuring transactions that result in appraisals below the firm's true value. The losers in such transactions are junior claimants who recover less than they would if the appraisal were accurate.

To illustrate the moral hazard problem, consider a bankrupt firm that has a true value of $100 and owes $50 to senior creditors and $50 to junior claimants. If the firm reorganizes in a recapitalization transaction appraised by management's investment banker at $50, management will receive stock options with an exercise price of $50, making them $50 in the money from the start. Additionally, senior creditors will receive all $100 of the firm's value (subject to dilution for management's stock options) and junior claimants will receive nothing.

Similarly, moral hazard continues to distort management's incentives even when the appraisal is performed through a market process such as an auction. Managers can discourage prospective bidders, resulting in a sale price—and hence an appraised value—that is less than what the assets would have sold for in a fair auction process. Senior creditors often purchase the firm themselves at a depressed price, exchanging their debt for a disproportionate ownership share in the firm. The firm's new owners can share their windfall with managers through post-bankruptcy compensation and stock grants.

Junior activists believe their intervention in the restructuring process constrains the ability of managers and senior creditors to abuse bankruptcy law. In Chapter 11, managers must obtain judicial approval for all major business decisions, which allows junior activists to gain bargaining leverage by filing objections to management's motions. Junior activists do many other things in the shadow of their objections. They often hire their own investment bankers to conduct an independent analysis of the firm's assets and future prospects. They identify and put forward alternative transactions that would yield a higher recovery for junior claimants. They lobby management to pursue the highest valued restructuring transaction with an accurate appraisal. If lobbying fails, they inform the judge that management is abusing Chapter 11 and file motions seeking judicial relief. Far from rent seeking, junior activists believe their actions promote the bankruptcy policy goals of maximizing creditor recoveries and distributing firm value in line with pre-bankruptcy entitlements.

In this article, I seek to move this policy debate beyond feuding anecdotes by performing the first comprehensive empirical study of junior activism. This question goes to the heart of the efficacy of the bankruptcy code. Congress created an adversarial system to adjudicate the rights of claimants of large bankrupt firms. The claims of critics of junior activism are essentially allegations that the system of due process is being abused by opportunistic hedge funds. In this article, I test this claim directly by looking for evidence suggesting that, on average, junior activists appear to abuse these rights to inflict costs and extract hold-up value. I also consider the possibility that activist investors might use the rights of junior claimants to constrain managerial moral hazard and influence the bankruptcy system in a positive way, consistent with bankruptcy policy goals. In that case, I would expect to observe a positive relationship between junior activism and appraised transaction value, which would be consistent with increased adherence to the absolute priority rule.

My empirical strategy is to treat an observable measure —bankruptcy litigation—as a proxy for junior activism. When junior activists intend to influence the outcome of a restructuring, they publicly file pleadings with the court at key moments in the case to obtain bargaining leverage. As further explained below, I develop a novel methodology that measures bankruptcy litigation to approximate the amount of resources and sustained effort invested by a junior activist in her attempt to influence the outcome of Chapter 11. The advantage of this approach is that it allows me to study the average observed effect of junior activists across a sizable sample of bankruptcy cases. Methodologically, this article's approach of weighting conflicting predictions of the proponents and detractors of hedge fund activism is similar to Bebchuk, Brav, & Jiang (2015) study of hedge fund activism more generally.

My major findings can be summarized as follows. First, the evidence suggests that junior activism is positively correlated with the appraised value of the restructuring transaction. This empirical finding is consistent with the bargaining process I sometimes observed anecdotally in data collection. For example, in some cases, the junior activist pressured management's investment banker to appraise the firm at a higher level. In others, the junior activist used litigation to pressure a reluctant management team into selling the firm to a bidder whose offer yielded a higher overall recovery for creditors compared to other alternatives. Further, for a small subset of the sample, I am able to calculate the market value of the firm on the date the firm filed for bankruptcy. This provides a snapshot of the market's recovery expectations before the intervention of the junior activist in the Chapter 11 process.[5] The evidence suggests that junior activism is positively and statistically significantly correlated with the bankruptcy process producing a higher appraisal than the market expected.

Second, I do not find evidence supporting the view that junior activists use litigation to increase their likelihood of receiving an inefficient settlement from senior creditors outside of the absolute priority rule. The absolute priority rule is violated when junior claimants receive value on account of their claims and senior claimants are not paid in full. However, I do observe settlements outside of the absolute priority rule in 27 percent of sample cases and these settlements could constitute payments of hold-up value. These settlements appear to be relatively small, generally ranging from 1 to 3 percent of the appraised transaction value. The dollar value of these settlements also appears to be small.

Third, unsurprisingly, the evidence suggests that junior activism is associated with higher direct bankruptcy costs. Direct bankruptcy costs are incurred in connection with the bankruptcy proceeding itself, such as fees paid to bankruptcy lawyers. Increased bankruptcy costs mean that there is less value available for distribution to creditors, potentially thwarting the bankruptcy policy goal of maximizing creditor recovery. However, direct bankruptcy costs are relatively small, representing only 1.3 percent of the appraised value of the median sample firm.

Fourth, I do not observe a statistically significant relationship between junior activism and indirect bankruptcy costs. Indirect bankruptcy costs are losses related to the stigma of bankruptcy. For example, firms in the bankruptcy process are said to lose sales as customers shy away from buying products from companies whose survival prospects are in doubt. Although hard to measure, indirect bankruptcy costs are generally considered to be of greater concern than direct bankruptcy costs.

Taken as a whole, the results are inconsistent with the claim that junior activists successfully abuse Chapter 11. I do not find evidence of large hold-up value payments and junior activists appear to focus their efforts on relatively more valuable cases, inconsistent with the expectation of indiscriminate litigation.[6] As the cost increases associated with junior activism appear to be

5 Note that the market's recovery expectations would reflect the market's belief about both the true value of the firm as well as the likely outcome of the bankruptcy process, including a discount if the market anticipates that management will capture value that would otherwise go to creditors.

6 This finding could be consistent with the criticism of junior activists if it appeared that they were their influence to extract value from senior creditors by overappraising the firm. For example, if the firm had a true value of forty and senior creditors were owed fifty, junior activists could try to force an overappraisal of sixty. This could result in senior creditors being undercompensated as they could receive a smaller piece of the pie than they are owed—using these numbers, they would receive their proportionate share of the firm's value or 50/60 * 40 = 41.67. I examine the possibility of

relatively small, a cautious interpretation of the results refutes the conventional wisdom that junior activists systematically exploit the bankruptcy process to extract hold-up value.

However, none of the evidence can definitively eliminate the possibility that the observed positive correlation between junior activism and the final appraisal is better explained as nonrandom and savvy selection of target firms by sophisticated investors. Like other studies of hedge fund activism (e.g., Brav, Jiang, & Kim 2015), the omitted variable problem makes it impossible to come to a strong causal conclusion that the activist investors improved the governance of the firms they tried to influence. It does seem unlikely that junior activists would correctly identify undervalued firms and then reduce their returns by the millions of dollars they spend on lawyers and investment bankers to participate in the process, but I cannot reject this hypothesis out of hand.

Nonetheless, I do find some additional evidence that undermines this possibility. I study bond and loan returns around key bankruptcy hearings and find a positive relationship between positive returns for junior claimholders and the presence of a junior activist, which appears to be driven by the junior activist's prosecution of objections to management's motions. Further, I examine the firms that recapitalized with supporting investment banker appraisals to look for evidence of junior activist influence. These investment bankers calculated a range of estimated value, with a high-, low- and mid-point estimate. I find that the range appears to be narrower for the cases with junior activist involvement. This is consistent with notion that junior activists contribute expertise that reduces the randomness of the appraisal process and, together with the evidence of higher appraisals, is broadly consistent with what we would expect if junior activists positively influenced the governance of bankrupt firms by constraining opportunistic underappraisal. It is also consistent with some judicial opinions praising junior activists for helping judges improve the accuracy of their estimates of the bankrupt firm's value.[7] In cases where the firm was sold, I find evidence that the involvement of junior activists appears to be positively associated with the sale price, controlling for observable firm characteristics.

The remainder of the article proceeds as follows. In Section 1, I provide institutional background and review the related literature. I describe the

overappraisal below and I find no supporting evidence. Instead, the market evidence suggests that, to the extent junior activism is causally related to the appraisal, the resulting increase in the appraisal results in the appraisal being more accurate.

7 *See e.g., In re* Mirant Corp., 354 B.R. 113 (Bankr. N.D. Texas 2006) (thanking junior activists for presenting valuation evidence that helped the court correctively distribute the debtors' value to creditors, with the final appraisal increasing from management's estimate of $7 billion to $8.3 billion to more than $11 billion).

sample in Section 2. I introduce a new methodology for operationalizing bankruptcy litigation for empirical study and describe the results of the study in Section 3. In Section 4, I test the robustness and sensitivity of the findings. I discuss the policy ramifications of my findings in Section 5. The analysis presented in this article is both important and timely, with the American Bankruptcy Institute currently proposing reforms that touch on the issues of hedge funds, claims trading and secured lender control in Chapter 11. The results in this article undermine the critics of junior activists and urges caution to any reforms that limit the rights of junior claimants—and the hedge funds expert in exercising those rights—to be heard in court.

## 1. INSTITUTIONAL BACKGROUND AND LITERATURE REVIEW

The regulatory design of Chapter 11 leaves managers in control of the firm. Accordingly, managers have an exclusive period to present a restructuring transaction for a vote of creditors and approval of the bankruptcy judge (Berdan & Arnold 1984). Management can propose one of two types of transactions with supporting evidence: (i) a sale transaction with evidence that the prospective purchaser is paying the highest possible price for the asset; or (ii) a reorganization transaction, typically supported by an investment banker's appraisal of firm value.

Managers must consider two important bankruptcy policy goals in choosing the transaction to propose (Aghion, Hart, & Moore 1992). First, a central objective of Chapter 11 is to maximize the value of the failed firm in order to provide creditors with the highest possible recovery. Second, Chapter 11 respects pre-bankruptcy entitlements, including creditor priority created by contract and state law. Thus, the absolute priority rule demands that the firm's value be distributed to investors in accordance with the priority of pre-bankruptcy claims.

In most cases, managers will propose a restructuring transaction after extensive negotiations with creditors. The drafters of the bankruptcy code, however, understood that consensus would not always be possible and that bankruptcy law can be abused. Thus, the bankruptcy code requires management to submit all important decisions to the judge for prior approval.[8] For example, imagine that management seeks to sell the firm's assets as a going-concern to a strategic purchaser. Management will first file a motion with the bankruptcy judge asking for approval to sell the company. Creditors and shareholders have broad standing to object if they believe that the sale fails to maximize creditor

8 *See* 11 U.S.C. § 363 (2010).

recoveries. The bankruptcy judge will resolve the dispute if the parties cannot come to a negotiated resolution.

Anecdotal evidence suggests that the bargaining process in bankruptcy has become more difficult in the past fifteen years as management now negotiates with a new type of claimant. In the past, management would have negotiated with banks and insurance companies or other traditional financial institutions. Now, hedge funds specializing in distressed investing tend to sit on the other side of the table (Goldschmid 2005; Harner 2008a,b; Lipson 2009; Baird & Rasmussen 2010; Jiang, Li, & Wang 2012; Ayotte, Hotchkiss, and Thorburn 2013; Ivashina, Iverson, & Smith 2015). These hedge funds wield expertise in bankruptcy and a willingness to engage in aggressive litigation. One fund's strategy has been described as "forc[ing] its Chapter 11 opponents to endure protracted legal combat" (DeBord 2012). Although hedge funds buy claims from all levels of the capital structure, they have become particularly prominent in their capacity as holders of junior claims (Harner 2008b).

While no scientific poll has been undertaken, most observers and market participants seem to view junior activists as rent seekers that abuse the adversarial process of Chapter 11. Managers usually respond to the arrival of junior activists by accusing them of trying to "delay the [firm's] emergence from [bankruptcy] to receive hold-up value for an out of the money investment."[9] Baird & Bernstein (2006) observe that junior activists can create powerful incentives for senior creditors to pay them settlements if they invoke their statutory right to ask the judge to appraise the firm. If junior activists seek to appraise the firm at a number that is greater than the firm's true value, senior creditors might end up receiving less than the face value of their claims. Even if senior creditors are confident that the true value of the firm is below the appraisal advocated by junior activists, the prospect of valuation error by the bankruptcy judge may lead the senior creditors to offer a settlement. At least some attorneys who regularly advise the managers of large bankrupt companies believe this settlement dynamic motivates junior activism (Miller 2007).

The widespread perception that junior activists abuse litigation to extract rents has had profound influence on the law and in corporate finance. Junior activists often sit on and control statutory creditor's committees such as the official committee of unsecured creditors (Jiang, Li, & Wang 2012). In response, senior creditors regularly seek – and obtain – orders from the bankruptcy court that limit the ability of the lawyers representing these committees to be

9 Debtors' Omnibus Response to Objections to Confirmation of the Debtors' First Modified Joint Plan of Reorganization Pursuant to Chapter 11 of the Bankruptcy Code at 3, No. 09-13125 (Bankr. D. Del. November 2, 2009).

reimbursed for litigation with senior creditors.[10] Investment banks have also tried to eliminate the perceived problems with opportunistic junior activists at its source. Some junior loans now include contractual structures in which junior claimants agree ex ante to refrain from filing objections in bankruptcy court (Seife 2004; Chambelee 2008; Friedman, Whitney, & Sambur 2012). This leaves junior activists with fewer options in their toolkit if they later buy the debt in the secondary market.

For their part, however, junior activists often describe themselves as standing against "orchestrated efforts to enrich [senior creditors] and current and former management at the expense of [junior claimants]."[11] Although managers of Chapter 11 debtors have a fiduciary duty to maximize creditor recoveries, they confront perverse incentives as they can profit personally by appraising the firm at a discount to its true value. Managers often receive stock options in the reorganized firm. Consequently, they have an incentive to have the firm appraised at a low price, which would effectively reduce the exercise price of the options. If managers receive stock options for 10percent of the firm at an appraisal that is at a discount to the true value of the firm, they will receive a windfall.[12] Consistent with this concern, Gilson, Hotchkiss, & Ruback (2000) find that firms are more likely to be undervalued when managers receive stock after bankruptcy. Schwartz (1998) notes that "(i)t is widely believed that debtor firms use their power to run their businesses and to control the reorganization agendas to capture portions of the value that creditors are legally entitled to receive." When the firm is sold as a going concern, managers often receive stock in the purchaser and lucrative employment contracts (LoPucki & Doherty 2007).

Managerial incentives to undervalue the firm are exacerbated by the dominant corporate governance role of senior secured lenders in contemporary bankruptcy practice (Baird & Rasmussen 2002; Skeel 2003, 2004; Warren & Westbrook 2003; Bharath, Panchapegesan, & Werner 2010; Adler, Capkun, & Weiss 2013). Ayotte & Morrison (2009) find that secured lenders often use their role as liquidity provider to constrain management's flexibility in proposing restructuring transactions and demanding adherence to a strict schedule.

10 *See e.g., In re* Accuride Corp., 2009 WL 7226836, at *7 (Bankr. D. Del. Oct. 9, 2009).

11 *In re* Smurfit-Stone Container Corporation, 2010 WL 5489873 (Bankr. D. Del. April 6, 2010).

12 Previous generations of scholarship considered managers to be biased towards shareholders and against creditors because they often held substantial positions in the firm's equity. This is no longer the prevailing dynamic in Chapter 11. Firms often arrive in bankruptcy under the control of CEOs who are relatively new to the firm and who presumably do not hold large equity positions. Ayotte and Morrison (2009) study a sample of firms from 2001 and find that 70% of firms filing for bankruptcy replaced their CEO in the previous two years.

Consistent with their incentives, Gilson, Hotchkiss, & Ruback (2000) find that senior lender control increases the likelihood that a firm will exit bankruptcy with a low appraisal that is at a discount to its true value, implying that junior claimants were undercompensated.

The 2009 reorganization of Visteon Corp. provides an example of how this bargaining dynamic can play out in practice (Walsh 2011). Visteon's managers aligned with senior creditors against junior claimants. The judge approved management's deal with senior creditors over the strenuous objections of junior activists that the appraisal was undervalued. Six months after emerging from bankruptcy, the stock received by senior creditors was worth more than twice the $862 million face value of their bonds and management's stock grants were worth $114 million. It is certainly possible that management and senior creditors made an innocent mistake in valuing the firm, but the economics of the transaction suggest that the two parties split value that should have gone to junior claimholders, with senior creditors receiving more than a billion dollars beyond their entitlements and managers receiving an enormous stock grant. Junior claimholders were undercompensated. A former junior activist told a reporter that "[f]rom the [senior creditors'] perspective, paying management $114 million to facilitate this charade was a great price" (Walsh 2011).

Junior activists believe they constrain the moral hazard problem that tempts managers to misuse Chapter 11. The restructuring transaction proposed by management must be approved by a judge, creating an opportunity for junior activists to exert leverage through litigation (Ayotte & Morrison 2009). The bankruptcy judge is a lawyer, not an expert in valuation, and an activist can hire her own investment banker to explore alternative transactions, scrutinize management's proposal and present evidence that the proposed transaction undervalues the firm. Junior activists can influence an appraisal ex ante by deterring and constraining managerial misbehavior even if the bankruptcy judge ultimately overrules the junior activist's objections. If junior activists are correct, their activities advance the bankruptcy policy goals of maximizing creditor recoveries and respecting pre-bankruptcy entitlements.

This article is most closely related to the recent study of Jiang, Li, & Wang (2012). They study a large sample of Chapter 11 cases to compare debtors with and without hedge fund creditors. Their findings that are most related to this study are that hedge fund participation on the unsecured creditors' committee is associated with a higher likelihood of recovery for unsecured creditors, management's loss of the exclusive right to file a plan and CEO turnover. They conclude that hedge funds drive efficiency gains by providing liquidity in the form of financing, overcoming the liquidation bias of secured lenders, forcing out bad CEOs and paying bonuses to compensate key employees.

This article departs from the Jiang, Li, & Wang (2012) study in two important ways. First, I ask a different question. I seek to understand how a specific activist investing strategy impacts the bankruptcy policy goals of maximizing creditor recoveries and adherence to the absolute priority rule. Second, my empirical strategy is to develop a measure of activism as opposed to relying on hedge fund presence as a proxy. Jiang, Li, & Wang (2012) note the methodological challenge in the lack of a "systematic public data source that describe[s] hedge funds' actual actions in court" in studying activism. I have collected this data and provide such a systematic study and the methodology allows me to identify the cases in which conflict between managers and junior activists seems to have been the highest.

## 2. SAMPLE CONSTRUCTION AND DATA COLLECTION

The sample consists of corporate bankruptcies filed under Chapter 11 in a two-year period beginning on January 1, 2009 and ending with filings on December 31, 2010. I use this sample period because the universe of large bankruptcy filings during this time was unusually large due to the recession. Focusing on a short period of time also allows me to hold many important but unobservable variables constant, such as changes in the law.[13] During this period, the law surrounding the enforceability of contractual restrictions on bankruptcy litigation was unsettled, so the population of litigious junior activists was not limited by the efforts of some firms to eliminate junior activism through loan contracts.[14] Additionally, many large businesses were especially fragile after their revenue collapsed in the recession. Senior creditors might have had elevated incentives to make hold-up payments to junior activists to protect unusually fragile firms from losing value by lingering in bankruptcy.

I began data collection in January 2009 because LyondellBassell, the chemical giant, filed for bankruptcy on January 6, 2009 and subsequently obtained what was then the largest debtor-in-possession loan in history.[15] This loan signaled

13 Other empirical studies in Chapter 11 that rely on hand-collected samples similarly concentrate on a smaller period of time with many bankruptcies (for example, Ayotte and Morrison (2009) relied on a sample from the past six months of 2001).

14 In subsequent case law, judges proved willing to enforce loan contracts that restrict junior activism. *See e.g. In re* Ion Media Networks, 419 B.R. 585 (Bankr. S.D.N.Y. 2009). In practice, however, clever lawyers constantly find new ways to get around these restrictive provisions.

15 The New York Times reported later in 2009: "When Lyondell Chemical filed for bankruptcy in January, the restructuring world was abuzz that the company received debtor-in-possession financing at all. Eleven months later, there's no shortage of money for companies in Chapter 11." (De La Merced 2009).

the reopening of the credit spigot for distressed firms after the collapse of Lehman Brothers and the subsequent credit crunch that made it impossible for large firms to borrow at any price. This, in turn, enabled many large firms to line up the financing they needed to file for Chapter 11 relief.

I identified my sample firms from a list of large corporate bankruptcies maintained by New Generation Research, a common starting point for empirical studies of corporate reorganization (e.g., Ayotte & Morrison 2009). I began with their list of 253 firms in 2009 and 121 in 2010.[16] I examined the court docket of each case on PACER to determine if it met six criteria for inclusion in this study: (i) the debtor owed debt pursuant to financial contracts ("funded debt") of at least $25 million, (ii) the firm had an operating asset of some kind that needed to be reorganized, (iii) the firm sought to reorganize under Chapter 11, not liquidate under Chapter 7, (iv) the firm was financed with a capital structure with more than one level of debt or the firm's shareholders made a court appearance,[17] (v) the case was not prepackaged, as in those cases no bargaining happens in bankruptcy court, and (vi) the firm's capital structure followed a liquidation waterfall in which all creditors have claims of different priority against the same assets, which allows me to identify the junior claimant. The six criteria limit the sample to the reorganizations of sizable firms in Chapter 11. Table 1 summarizes data attrition in sample construction. The final sample consists of 107 firms.

To the extent that Bankruptcy DataSource provides a comprehensive list of the universe of corporate bankruptcies, the sample is the entire population of large firms that sought to reorganize their debt under Chapter 11 in 2009 and 2010 that fit the format of the study. Table A1 of the Appendix provides a comparison between this sample size and other recent empirical studies of Chapter 11 debtors by legal and financial scholars.

I recorded data on each sample firm by hand. My first step was to understand how each firm was financed and which assets were collateral of secured lenders. The research design requires understanding the claim priority of financial claims. I began by reviewing the declaration or affidavit supporting the bankruptcy petition, which usually provided a description of the firm's capital

16 I cross-checked this list against Lynn LoPucki's Bankruptcy Research Database and found it to be complete.

17 This decision excludes 12 cases from the analysis where there is only one level of funded debt but an official committee of unsecured creditors consisting of trade creditors plays a role in litigation. I exclude these cases because the bargaining dynamic with trade creditors only is far different than with financial creditors. Trade debt is typically a very small part of the capital structure and it is plausible that junior activist hedge funds might ignore cases which do not present an opportunity for a sizable investment. However, including these cases does not change the results.

**Table 1. Sample Construction Summary Table**

| Rationale for Exclusion | Cases Excluded |
|---|---|
| Assets Disposed of Under Chapter 7, Not Chapter 11 | 36 |
| Firm Owes Less Than $25 Million to Lenders | 79 |
| No Operating Assets to Reorganize | 38 |
| Insufficient Information Available on Docket | 20 |
| Prepackaged Chapter 11 s | 26 |
| Failure to Fit Format of Study | 21 |
| Complex Capital Structure Lacking Clear Junior Claimant | 47 |

The table describes the attrition in the sample from Next Generation Research's original list of 374 firms filing for bankruptcy in 2009 and 2010. Prepackaged bankruptcies were excluded because they lack the dynamic of in-court bargaining that is the subject of this study. In this study, prepackaged bankruptcies were debtors who filed for Chapter 11 relief with voting on the plan of reorganization complete and all classes of creditors supporting the plan. The firms that failed to fit the format of the study had unique facts that made them qualitatively different from the other bankruptcy cases. For example, the firms in this group had fictitious debt (such as when it was all owed to the private equity owner and was a disguised equity investment that the parties to the case treated accordingly) or main assets under the supervision of a foreign bankruptcy court.

structure.[18] The firms in the sample are mostly financed by multiple financial contracts that are designed to allow investors to take positions at different levels of priority with different risk and return profiles. For example, BearingPoint, the consultancy, entered bankruptcy with three distinct levels of debt: (i) $294 million in a senior secured credit facility, with a blanket lien on the firm's assets, (ii) $240 million in senior subordinated bonds, and (iii) $450 million in junior subordinated bonds. The capital structure was designed to create a liquidation waterfall, with the investors in the senior secured credit facility taking the first $294 million in value, the senior subordinated debt holders taking the next $240 million in value and the investors in the junior subordinated bonds receiving the next $450 million. Any remaining value would, in the event of liquidation, belong to the company's prepetition shareholders.

Using the information provided in the first day affidavit and the firm's motion to use its cash collateral as well as, in some cases, the actual debt contracts, I constructed the liquidation waterfall for each firm to identify the claim priority of each level of the capital structure. I also analyzed and recorded the rights of the various secured creditors in the firm's collateral and gave effect to contractual subordination agreements. This method allowed me to model the pre-bankruptcy capital structures of the sample firms with high precision.

After identifying the capital structure, I analyzed court documents to determine the outcome of each case. I reviewed the debtor's motion to use cash

18 I do not record information on leases.

collateral or to acquire debtor-in-possession financing, any motion to sell substantially all of the firm's assets, the motion to approve the disclosure statement, the disclosure statement itself and the plan of reorganization.[19] Tables A2 through A4 of the Appendix provide descriptive data on the filing characteristics, outcomes, and capital structures of the sample firms.

### 2.1 Understanding and Measuring Litigation

My research design relies on the due process regime of Chapter 11. Managers in Chapter 11 enjoy protection from creditors and the power to take actions that they cannot take outside of bankruptcy. In exchange for these powers, management submits to the oversight of the bankruptcy court. Any action outside of the ordinary course of business must first be approved by the bankruptcy court. For example, at the beginning of each bankruptcy case the debtor often files a motion asking the court to approve debtor-in-possession financing to fund the reorganization. Generally, the critical junctures of a bankruptcy case are the court hearings on the debtor's motions to finance the firm and then the hearings on the substance of the proposed restructuring transaction. The bankruptcy code provides creditors and shareholders broad standing to intervene if they oppose a motion filed by the debtor. Thus, a junior activist who opposes the requested financing can file a written objection with the court and argue against it at the hearing on the motion. A junior activist can also seek extraordinary relief that would take control of the process away from management. Such relief could include the appointment of a trustee, an independent examiner, an additional official committee or the termination of management's exclusive right to file a plan of reorganization.

These motions and objections are how a junior activist acquires bargaining leverage in a bankruptcy case (Ayotte & Morrison 2009). The debtor will usually make an effort to settle objections to avoid the risk of an adverse decision, providing the junior activist with the ability to negotiate outside of the courtroom. Inside the courtroom, the junior activist has the opportunity to inform the court—often with important members of management in the audience—that the bankruptcy process is being abused and that management is seeking to undercompensate junior claimants. Sometimes, the court sustains the objection or grants the request for extraordinary relief. However, even if the court ultimately overrules the objection or denies the request for extraordinary relief, the

19 In some cases, the debtor filed multiple motions to finance the case. I reviewed the motion that resulted in the first final order providing the debtor with permission to use cash collateral or new debtor-in-possession financing. Similarly, multiple iterations of plans of reorganization and disclosure statements were often filed; I reviewed the disclosure statement that was solicited to creditors as well as the plan of reorganization that was approved by the court.

act of objecting or seeking the motion may put pressure on management to make concessions. In some cases, the judge may indicate to the debtor that she recognizes the valid concerns of junior activists and urge a settlement. The public nature of court hearings can place additional pressure on managers to abandon a controversial course of action in favor of one less open to criticism from junior activists.

In order to determine how junior activists sought to influence the bankruptcy case, I reviewed the objections and requests for extraordinary relief listed in Appendix 1.[20] For each objection, I identified the moving creditor and determined if the moving party was one of the firm's shareholders or a lender or bondholder under one of the firm's debt contracts.

I identified the investors holding the firm's debt and equity from my review of the pleadings they filed as well as by reviewing notices of appearance and Rule 2019 disclosure statements filed with the court. After identifying all of the investors I could, I sorted them by type to identify specialists in activist distressed investing. My methodology is similar to Jiang, Li, & Wang (2012). For each institution, I reviewed its website and code it as "1" if it identifies itself as either: (i) an "alternative asset manager," or (ii) a fund following one of four investment strategies: (a) "distressed debt," (b) "hedge fund," (c) "special situations," or (d) "private equity." For creditors without websites, I identified whether they were an alternative asset manager by performing a web search for the name of their fund and "hedge fund" to see if they appeared in a specialized magazine covering the hedge fund industry. The late 2000s saw a proliferation of investors calling themselves hedge funds (Miller 2007), and this methodology mostly distinguishes alternative asset managers from traditional financial institutions.[21]

My identification strategy is to use this information to measure junior activism. I constructed an additive score to measure the intensity of the litigation campaign embarked upon by junior activists to signal their disagreement with the restructuring decisions made by management. The score has fourteen

20 In coding pleadings, I follow the conventions of bankruptcy practice. "Objections" are responsive pleadings that do not express full support for the underlying requested relief. They are often styled as "Objection" or "Limited Objection" or "Response" or "Joinder" to another party's objection. Supportive pleadings are always styled as "Statement in Support" or as a joinder to the debtor's motion.

21 This methodology has the potential to miscode creditors that appear to be traditional banks or insurance companies but are, in reality, the sophisticated workout desks of large investment banks or sophisticated investors like AIG that share the same expertise and profit motive as hedge funds and are just as capable of activism. In practice, this is not a concern; when investment bank workout desks take an activist role they tend to do so as members of ad hoc groups of creditors that include hedge funds and are coded as activist investors.

equally weighted components that are described in Appendix 1. While in some cases, other ad hoc motions may be as important as the fourteen components in the index—such as a hearing on rejecting a particularly important contract or entering into an investment agreement with a plan sponsor—the hearings for the fourteen score components will always be extremely important and focusing on these components facilitates a standardized comparison.[22] As a construct, the litigation score is inherently an imperfect measure of the underlying phenomenon, so some caution is due in interpreting the results.

I calculate the litigation score using the following method. Whenever a motion or objection is observed that is listed in Appendix 1, I determined whether it was filed by a financial creditor and, if so, which financial claim the litigant is holding. For example, if hedge funds holding pre-bankruptcy junior claims file an objection to the disclosure statement, I add one point to the litigation score for the junior activist. I added an additional point if the request for extraordinary relief was granted or if the claimant is an activist investor. The mere presence of an activist may have an effect on the bankruptcy case, as activists may have specialized tools and knowledge that traditional creditors lack.[23]

Intuitively, the litigation score can be understood as measuring the sustained investment of resources by an activist in influencing the outcome of the bankruptcy case. A higher score means that an activist is expending more resources and effort over a longer period of time to influence the outcome of the case. A lower score could indicate that the activist only attempted to influence the outcome after critical phases of the bankruptcy case such as discussions over financing had already passed. The norms of Chapter 11 dictate that an activist will usually file objections at the important junctures of the case to obtain

22 One concern given my research design is that I might incorrectly confuse disputes regarding avoidance actions as disputes over valuation. In practice, the major motions in the prosecution of avoidance actions—motions for standing to assert avoidance claims and motions to settle the claims—are not components of the litigation score, which focuses on motions dealing with restructuring transaction issues. I also identified the cases where junior activists prosecute avoidance actions and the results do not change if I drop them from the study. The junior activist litigation strategy of prosecuting avoidance actions is outside the scope of this article's focus on the investment of resources by junior activists to influence governance in Chapter 11 to maximize appraisal value and comply with the absolute priority rule. Among other reasons, avoidance actions might require junior activists to make arguments that the firm is worth less than management might say it is to support a claim that the transaction giving rise to the avoidance action left the debtor insolvent within the meaning of 11 U.S.C. 548(a)(B)(I).

23 I include this component in the litigation score because it acts as a proxy for the things that hedge funds and private equity funds are likely doing outside of court that traditional creditors like banks tend not to do. In Section 4 below, I re-estimate the main results using a litigation score that does not include this component and the results are qualitatively similar.

bargaining leverage. The activist will withdraw the written objection if the disagreement with management is resolved, but it remains on the court docket for incorporation into the litigation score. In some respects, the score is a measure of the strength of a costly signal that is meant to communicate the intensity and quality of an objecting party's opposition to the way management is running the bankruptcy case. Creditors typically hire expensive lawyers to represent them in bankruptcy court, so each additional point is a crude measure of the amount of money a creditor is spending.

For example, in the bankruptcy of CCS Medical, a group of hedge funds holding second lien debt filed objections to: (i) the disclosure statement, (ii) the plan of reorganization proposed by management, and (iii) a motion to hold an auction of all assets. They also filed a request for the appointment of an official committee of second lien lenders. While the legal standards for the approval of the motions are all different, each argued that management sought to undervalue the firm in an alliance with senior creditors. Senior creditors and managers responded to each objection by saying that the junior claimants were out of the money based on their appraisal and engaging in frivolous litigation with the goal of damaging the firm and extracting value. In rejecting these arguments and granting the request of second lien lenders to force management to consider alternative transactions, the judge observed "frankly, I think the second lien ad hoc committee has performed to a level and spent money to a level that has legitimized their participation."[24]

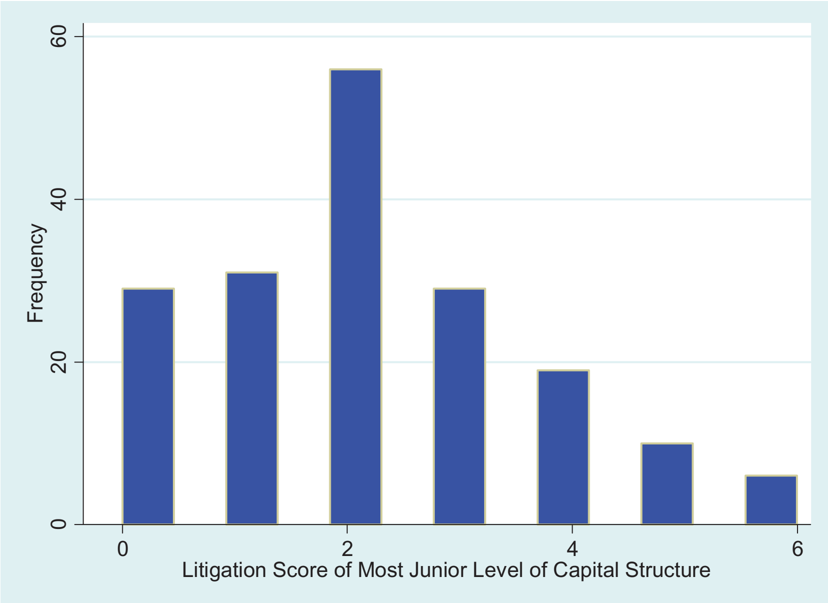
Figure 1 shows the distribution of the litigation score.

## 3. RESEARCH DESIGN AND RESULTS

In this section, I describe my research design and results. I will study the relationship between my independent variable of interest—the litigation score of the most junior level of the capital structure—and bankruptcy outcome variables. The intuition behind this is that the most junior claimant is the one most incentivized to use bankruptcy litigation to create or identify incremental appraised value. These claims often trade at a very low level and present substantial upside opportunities to an activist investor who can create value or improve the accuracy of the appraisal. By default, I use the score for the lowest level of debt in the capital structure. However, if the litigation score of the official committee of unsecured creditors is higher than that of the most junior level of unsecured debt, I use the official committee's litigation score on the assumption that they are acting to maximize the recovery of unsecured

24 *In re* CCS Medical, Tr. at 38 (Bankr. D. Del. November 23, 2009).

**Figure 1. The distribution of the litigation score.**




creditors consistent with their fiduciary duties. I use equity's litigation score if investors that hold the firm's prepetition stock are observed in the case, because equity is lower on the liquidation waterfall than the lowest level of debt.[25] Table 2 identifies the litigant whose score is used for the analysis and provides summary statistics. Table 3 summarizes the observed litigation of the junior activist.

### 3.1 Do Activist Investors Increase Appraised Transaction Value?

My first step is to investigate the relationship between junior activism and the appraised value of the restructuring transaction. There are at least two ways that an activist can increase the value of the appraised transaction consistent with bankruptcy policy goals. First, the activist could increase the true value of the proposed restructuring transaction by contributing expertise, providing liquidity for the firm that increases the viability of a value-maximizing alternative or by convincing the judge to force the debtor to enter into an alternative transaction. For example, in the bankruptcy of American Safety Razor, hedge funds

25 I do not use equity's score if the shareholders are observed to be the prepetition majority shareholders. When prepetition majority shareholders appear in bankruptcy, they are most often acting to defend themselves against legal claims based on their pre-bankruptcy ownership of the company—a litigation strategy outside of the scope of this article.

**Table 2. Identity of Junior Activist and Summary Statistics**

| Litigant Type | n | % of Total Junior Activists | Litigation Score Summary Statistics | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | StdDev | Min | 25th Percentile | Median | 75th Percentile | Max |
| Debt Holder or Ad Hoc Committee of Debt Claims | 46 | 42.99 | 1.78 | 1.61 | 0 | 0 | 2 | 3 | 6 |
| Official Committee of Unsecured Creditors | 35 | 32.71 | 2.37 | 1.14 | 1 | 1 | 2 | 3 | 5 |
| Shareholder or Ad Hoc Committee of Shareholders | 18 | 16.82 | 2.55 | 1.38 | 1 | 1 | 2.5 | 3 | 6 |
| Official Committee of Shareholders | 8 | 7.48 | 5.125 | 0.641 | 4 | 5 | 5 | 5.5 | 6 |
| Combined Junior Activist | 107 | 100 | 2.36 | 1.6 | 0 | 1 | 2 | 3 | 6 |

The table displays the claimant identified as the junior activist and provides summary statistics on the distribution of the litigation score. For example, in forty-six cases, the junior activist is a creditor appearing on her own or as part of an ad hoc committee of several holders of the debt with a mean litigation score of 1.78. In thirty-five cases, the junior activist is an official committee of unsecured creditors with a mean litigation score of 2.37.

**Table 3. Litigation Activity of Junior Activists**

| Objections to Lifecycle Motions | Filed | | | |
|---|---|---|---|---|
| | n | % | | |
| Finance Motion | 35 | 32.71 | | |
| Disclosure Statement | 40 | 37.38 | | |
| Sale Motion | 18 | 16.82 | | |
| Plan of Reorganization | 21 | 19.63 | | |
| **Junior Activist Extraordinary Motions** | **Filed** | | **Granted** | |
| | n | % | n | % |
| Appoint Examiner | 8 | 7.48 | 1 | 0.93 |
| Appoint Trustee | 2 | 1.87 | 0 | 0.00 |
| Terminate Exclusivity | 5 | 4.67 | 1 | 0.93 |
| Appoint Additional Official Committee | 12 | 11.21 | 8 | 7.48 |
| File Own Plan | 4 | 3.74 | | |
| **Identity of Junior Activist** | | | | |
| | n | % | | |
| Hedge Fund or Private Equity Firm Observed | 60 | 56.07 | | |

The table summarizes the observed litigation behavior of the junior activist in each of the 107 sample cases. For example, in thirty-fve cases, representing 32.71% of the sample cases, the junior activist is observed to object to the financing motion filed by management. In eight cases, representing 7.48% of the sample cases, the junior activist sought the appointment of an examiner and in one case the relief was granted.

holding second lien debt used litigation to force the debtor to sell itself to a strategic purchaser for $301 million instead of allowing the first lien lenders to close on a credit bid of $244 million. The firm was worth more as part of a global conglomerate than it was as a standalone entity and the litigation tactics of the junior activists allowed junior claimants to realize that value.

Alternatively, junior activists can convince the judge that management's proposed appraisal is low. Often, management proposes to sell the firm relying on market evidence or an auction process to show that the proposed price is the highest and best bid for the firm's assets. In these cases, an activist can bring contrary market evidence to the judge's attention or show that the appraisal or auction was designed to produce a low value. If management proposes to value the firm in a standalone transaction supported by an investment banker valuation, the activist can hire her own investment banker to dispute the assumptions relied on by management's banker and to provide the judge with additional market evidence. For example, in the bankruptcy of Spansion, hedge funds holding junior claims presented testimony that the proposed transaction should be valued at as much as $1.4 billion and disputed the debtor's investment banker's analysis. The judge concluded that the firm had a midpoint valuation of $908 million—a $133 million increase from the debtor's proposed midpoint appraisal of $775 million. In cases like Spansion, the junior activist improves the appraisal which helped distribute the firm's value in line with the absolute priority rule. Their actions constrained the ability of senior creditors and managers to underappraise the firm.

My basic model of the appraised transaction value for each debtor firm $_D$ is:

$$\ln(\text{Value}_D) = \alpha + \beta\text{LitigationScore}_D + \delta\text{Controls}_D + \epsilon \tag{1}$$

The dependent variable, "$\text{Value}_D$," is the appraised transaction value. It is the outcome of the bankruptcy process and the number used to determine the recovery of creditors, not the true value of the firm as measured in an unbiased efficient market (although it is presumably correlated with that true value).[26] "$\text{LitigationScore}_D$" is the independent variable of interest, the litigation score of the junior activist in each case. I would not expect to observe a statistically significant relationship between $\text{LitigationScore}_D$ and $\text{Value}_D$ if junior activists were indiscriminately litigating to extract hold-up value. Hold-up value should be available in virtually every sample case as they nearly all involve firms whose

26 I obtained this number from different places depending on the facts of each case. If the firm's assets were sold outside of the plan process, I obtained the sale value from either the motions filed in connection with the sale or the court transcript of the sale hearing. In the cases with a confirmed plan of reorganization, I identified the plan value by reviewing the disclosure statement and any affidavits filed in support of the plan of reorganization by the firm's executives or investment bankers.

**Table 4. Junior Activist Litigation on Appraised Transaction Value**

| VARIABLES | (1) Log Appraised Transaction Value | (2) Log Appraised Transaction Value | (3) Log Appraised Transaction Value | (4) Log Appraised Transaction Value | (5) Log Appraised Transaction Value | (6) Log Appraised Transaction Value |
|---|---|---|---|---|---|---|
| Litigation Score of Junior Activist | 0.388*** | 0.182*** | 0.200*** | 0.191*** | 0.180*** | 0.179*** |
| | (0.0593) | (0.0395) | (0.0382) | (0.0415) | (0.0470) | (0.0479) |
| Log Outstanding Debt | | 0.393*** | 0.368*** | 0.427*** | | |
| | | (0.134) | (0.137) | (0.141) | | |
| Log Assets | | | | | 0.250** | 0.237** |
| | | | | | (0.105) | (0.111) |
| Log Debt With Absolute Priority Over Junior Activist | | 0.377*** | 0.430*** | 0.404*** | 0.554*** | 0.581*** |
| | | (0.119) | (0.124) | (0.129) | (0.0662) | (0.0767) |
| Activist Investor in Senior Claim | | | −0.350*** | −0.314** | −0.352*** | −0.405*** |
| | | | (0.119) | (0.120) | (0.123) | (0.145) |
| Δ HY Bond Spread | | | 0.0231* | 0.0215 | 0.00971 | 0.0101 |
| | | | (0.0132) | (0.0172) | (0.0154) | (0.0204) |
| Delaware or SDNY Administration | | | 0.257** | 0.238 | 0.104 | 0.0223 |
| | | | (0.126) | (0.165) | (0.139) | (0.190) |
| Constant | 18.37*** | 3.781*** | 3.124*** | 2.458** | 3.317*** | 3.277** |
| | (0.174) | (1.000) | (0.930) | (0.993) | (1.244) | (1.322) |
| Observations | 107 | 107 | 107 | 107 | 101 | 101 |
| R-squared | 0.229 | 0.825 | 0.846 | 0.860 | 0.851 | 0.856 |
| Industry Fixed Effects | No | No | No | Yes | No | Yes |
| Year Fixed Effects | No | No | No | Yes | No | Yes |

The dependent variable is the logged appraised transaction value, which is either a cash sale price or an investment banker valuation. The table displays ordinary least squares linear regressions with robust standard errors in parentheses. Industry fixed effects are Fama-French 12. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

assets deteriorate over time. "$\text{Controls}_D$" is a vector of variables that account for other possible determinants of $\text{Value}_D$, some relating to observable firm characteristics and others that capture elements of the bargaining environment.

In Table 4, I present estimates of the relationship between junior activism and the appraised transaction value of each restructuring transaction.[27] In Model 1, I examine only the variable of interest. In Model 2, I add control variables for firm financial characteristics. I control for the size of the firm's prepetition debt owed to financial creditors, which is a proxy for the size of the firm. I also control for the amount of higher priority debt in the firm's capital structure to account for heterogeneity in the capital structures of the sample firms.

In Model 3, I add control variables that incorporate information about the bargaining environment. I control for the presence of an activist investor in a

27 In unreported results, I verified the assumption of normally distributed residuals for the ordinary least squares linear regression models with the Shapiro-Wilk test.

senior class of debt. Theoretically, senior activist investors can exacerbate managerial moral hazard and exert downward pressure on valuation. The sign takes on the predicted negative sign and is statistically significant, although it is not obvious how much (if any) of this relationship is causal. I also control for changes in credit market conditions with the Bank of America Merrill Lynch High Yield Option Index. For each sample firm, I calculated the difference in credit market conditions between the firm's petition date and the date the firm emerges from bankruptcy. A higher number indicates credit markets improved as the high-yield bond spread narrowed. Bankruptcy is highly related to credit market conditions, so we would expect a positive association between improvements in credit market conditions and appraised transaction value. The control variable takes on the expected sign, but the associated standard error is large.

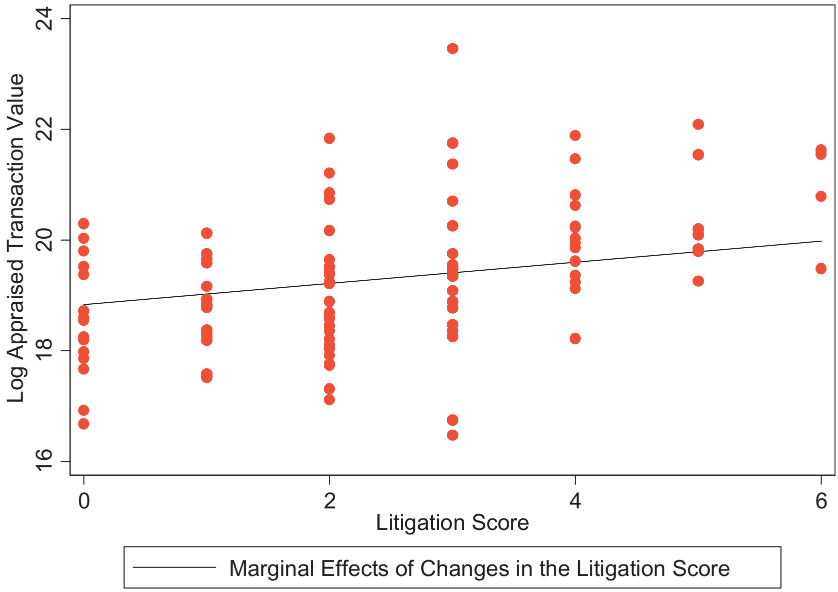
In Model 4, I include year and industry *k-1* dummy variables to capture variation created by otherwise unobserved changes over time and across industries. In all four of the estimations, junior activism is positively and statistically significantly associated with the appraised transaction value. In Models 5 and 6, I re-estimate Models 3 and 4 using an alternative control variable for firm size: the firm's balance sheet value of its assets.[28] The results are the same.

Figure 2 displays the marginal effects of the litigation score from Model 4 from Table 4. The graph can be interpreted by imagining a hypothetical firm with control variables at the sample mean. The line represents the impact of an additional unit of the litigation score on the appraised transaction value. As the graph shows, each additional unit of litigation is correlated with an incrementally higher appraisal.

The positive association between appraised transaction value and junior activism is interesting, but it cannot establish a causal relationship in and of itself. Junior activists are not randomly assigned to bankruptcy cases. Table 4 controls for observeable characteristics relating to the firm's balance sheet and it is possible, for example, that an omitted variable is the real cause of observed

28 I obtained the asset value from the bankruptcy petition when the debtor provided it. If the debtor did not estimate its asset value on the petition, I obtained it from the statements and schedules filed with the court or from a financial statement attached to a pleading such as a motion to approve the use of cash collateral. I used the earliest asset value provided by the debtor the bankruptcy court. I prefer funded debt as the measure of firm value because the amount owed to creditors is less subject to manipulation than balance sheet data. Firms often write down asset value once they fall into distress, and there is variation in the sample between firms that took write downs prior to bankruptcy and those who did so while in Chapter 11. Funded debt also has a higher correlation coefficient (0.9544) with the appraised transaction value than asset value (0.8554), suggesting it is a better control for firm value.

**Figure 2. Litigation score on appraised transaction value.**
**The figure displays the marginal effect of an increase in litigation on the appraised transaction value, holding all other controls constant at their sample mean value. The dependent variable is the appraised transaction value, either from a cash sale or a valuation supporting the plan of reorganization implemented by each debtor. The independent variable of interest is the litigation score. The line depicts the marginal effects from the ordinary least squares linear estimation of Model 4 in Table 4 with full controls and industry and year fixed effects. The red dots represent sample firms and are overlaid on the marginal effects plot to aid the reader in understanding the graph.**




positive association between the appraisal and the investment of resources by junior activists. The appraisal is usually the outcome of some sort of bargaining process and the ideal control variable for proving causation would be the first offer that management (or senior creditors) make to junior activists in a conference room in Manhattan. This number is not observeable in an empirical research design.

However, for 33 of the 107 cases in the sample, I was able to obtain trading prices of the firm's outstanding debt claims on the date the firm filed for bankruptcy from MarkIt, TRACE, and Datastream. For 18 of the 107 cases, I was also able to obtain the trading value of the firm's outstanding equity claims.[29] I use this to calculate the implied market value of the firm at the

29 Of the thirty-three cases with available debt pricing information, nine were owned by private equity sponsors, two were owned by families and three others did not seem to trade publicly around the time the firm filed for bankruptcy. I was able to obtain the full debt and equity market value for the

**Table 5. Junior Activist Litigation on Appraised Transaction Value**

| VARIABLES | (1) Log Appraised Transaction Value | (2) Log Appraised Transaction Value | (3) Log Appraised Transaction Value | (4) Log Appraised Transaction Value | (5) Log Appraised Transaction Value |
|---|---|---|---|---|---|
| Litigation Score of Junior Activist | 0.270*** | 0.117** | 0.164*** | 0.137** | 0.179** |
| | (0.0719) | (0.0515) | (0.0514) | (0.0595) | (0.0599) |
| Log Market Value of Firm Implied by Trading Prices of Debt on Petition Date | | 0.343** | 0.363*** | | |
| | | (0.136) | (0.121) | | |
| Log Market Value of Firm on Petition Date Implied by the Trading Prices of Debt and Equity | | | | 0.520*** | 0.523*** |
| | | | | (0.140) | (0.121) |
| Log Amount of Debt in Capital Structure With Absolute Priority Over Claim Held by Junior Activist | | 0.456*** | 0.460*** | 0.328* | 0.376** |
| | | (0.125) | (0.138) | (0.166) | (0.146) |
| Activist Investor in Senior Claim | | | –0.435* | | –0.501 |
| | | | (0.228) | | (0.320) |
| Δ HY Bond Spread | | | 0.0343 | | 0.0160 |
| | | | (0.0245) | | (0.0371) |
| Delaware or SDNY Administration | | | 0.201 | | 0.209 |
| | | | (0.162) | | (0.252) |
| Constant | 19.51*** | 3.833* | 3.269* | 2.934 | 1.925 |
| | (0.252) | (1.984) | (1.735) | (2.108) | (2.465) |
| Observations | 31 | 31 | 31 | 18 | 18 |
| R-squared | 0.199 | 0.846 | 0.883 | 0.896 | 0.913 |
| Industry Fixed Effects | No | No | No | No | No |
| Year Fixed Effects | No | No | No | No | No |

The dependent variable is the appraised transaction value, which is either a cash sale price or an investment banker valuation. The table displays ordinary least squares linear regressions. Robust standard errors in parentheses. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

beginning of the bankruptcy case, which is a crude proxy for the parties' starting bargaining positions. In Table 5, I control for the market's recovery expectations prior to the negotiations, litigation, and other developments that occurred in the bankruptcy process. The dependent variable in the regressions is the appraisal. The models are the same as those in Table 4. The small sample

remaining eighteen firms. In Table 9, I estimate models using both the debt and the full market value pricing data to avoid the bias of excluding privately owned firms. The results are consistent using both methods, which is expected given the small relative value of the outstanding public equity for the firms for which this information is available.

size urges caution in interpreting the results, but junior activism remains positively and statistically significantly associated with the appraisal even after controlling for improvements in market conditions.

This analysis cannot eliminate the possibility that the junior activists merely selected cases that produced unusually high recoveries and did not contribute to the outcome. I studied the market data more closely to look for evidence that the skill of junior activists might have contributed to the surprisingly high appraisals, as opposed to savvy case selection or an omitted variable. The nature of the task—incomplete data and thin markets—make this exercise challenging and I cannot systematically observe, for example, the point in time at which the junior activist acquired its position and first intervened in governance. I focused my analysis on two important court hearings that are components of the litigation score: the hearing on the firm's use of debtor-in-possession financing or cash collateral, which usually occurs early in the bankruptcy process, and the hearing on the debtor's disclosure statement, which usually occurs towards the middle or end of the process. Junior activists often use both hearings to file a legal objection and gain bargaining leverage and counter the influence of senior creditors.

I focus my analysis on the market reaction to the judge entering an order that either: (i) approves the terms of the debtor's financing or use of cash collateral, or (ii) approves a disclosure statement for solicitation. For each relevant date in my sample, I calculated the return a hypothetical investor would have earned by buying the claim the day before the relevant order and selling it the day after the order. The orders were nearly always entered on the same day as the court hearing at which the junior activist's complaints might have been heard. In theory, this analysis might isolate the impact of a junior activist who objects to the debtor's motion. For each order date, *day*, I calculate the following test statistic, adapting the approach of Wang (2011):

$$ret_{order} = \frac{Price_{day+1} - Price_{day-1}}{Price_{day-1}} \tag{2}$$

The data are complete enough to identify before-and-after pricing information for 209 debt claims issued by 59 distinct debtors.

If junior activists have a causal impact on the bankruptcy process, we would expect them to gain influence through the judicial process. If the association observed in Table 5 above is merely correlative, we would expect any observed positive returns to be independent of whether or not junior activists deployed their litigation skills. We might also expect not to find any relationship at all, as the market may very well anticipate the influence of junior activists and the judge's ruling. If the association observed in Table 6 is causal, we would expect

**Table 6. Junior Activism and Debt Returns after Key Bankruptcy Court Hearings**

| | (1) Return | (2) Return | (3) Return | (4) Return | (5) Return | (6) Return |
|---|---|---|---|---|---|---|
| Objection to Motion | –0.00837 | –0.00211 | 0.00903 | –0.00323 | 0.00523 | 0.0101 |
| | (0.0218) | (0.0215) | (0.00806) | (0.00648) | (0.0136) | (0.0198) |
| Junior Claim | | –0.00126 | 0.00476 | 0.00276 | 0.00480 | 0.000540 |
| | | (0.0130) | (0.0112) | (0.0143) | (0.0155) | (0.0191) |
| Objection x Junior | | | –0.0159 | –0.0924** | –0.0936** | –0.0964** |
| | | | (0.0313) | (0.0427) | (0.0442) | (0.0447) |
| Activist Investor Observed in Junior Claim | | 0.0449** | 0.0452** | –0.00626 | –0.0130 | –0.0146 |
| | | (0.0183) | (0.0184) | (0.00567) | (0.00821) | (0.0162) |
| Junior Claim x Activist Investor in Junior Claim | | | | 0.00960 | 0.00936 | 0.0148 |
| | | | | (0.0198) | (0.0205) | (0.0207) |
| Objection to Motion x Activist Investor in Junior Claim | | | | 0.00528 | –0.00281 | –0.00859 |
| | | | | (0.00696) | (0.0151) | (0.0241) |
| Junior Claim x Activist Investor in Junior Claim x Objection to Motion | | | | 0.149** | 0.146** | 0.146** |
| | | | | (0.0593) | (0.0610) | (0.0626) |
| Log Amount of Claim | | | | | 0.0154** | 0.0103 |
| | | | | | (0.00734) | (0.00860) |
| Delaware or SDNY Administration | | | | | 0.0210 | –0.00291 |
| | | | | | (0.0281) | (0.0439) |
| Constant | –0.0083 | –0.0176 | –0.0219* | 0.00767 | –0.305** | –0.175 |
| | (0.02181) | (0.0136) | (0.0118) | (0.00554) | (0.138) | (0.170) |
| Observations | 209 | 209 | 209 | 209 | 206 | 206 |
| R-squared | 0.0010 | 0.029 | 0.030 | 0.101 | 0.110 | 0.148 |
| Industry Fixed Effects | No | No | No | No | No | Yes |
| Year Fixed Effects | No | No | No | No | No | Yes |

The dependent variable is the return earned by an investor who bought the claim the day before the Court entered an order approving a debtor's financing package or a disclosure statement for a plan of reorganization. The table displays ordinary least squares regression with standard errors in parentheses. Industry fixed effects are Fama-French 12. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

to observe positive returns for junior claimants after they deployed their expertise in litigation.

Table 6 displays regression analysis of the bond and loan returns at these critical junctures of the bankruptcy process. The dependent variable is $ret_{order}$. In Model 1, I regress a dummy variable that takes on a value of 1 if the junior activist objects to the motion on $ret_{order}$. In the second estimation, I add a dummy variable which takes on a value of 1 if the debt claim is junior in the sample firm's capital structure and a third dummy which takes on a value of 1 if an activist investor is observed holding the junior claim. The activist investor dummy is positively and statistically significantly associated with the claim's return. In Model 4, I add a three-way interaction term which takes on a value of 1 when the claim is a junior claim, an activist investor is observed holding the junior claim and the activist investor prosecuted a written objection at the relevant hearing. This interaction term takes on a positive and statistically significant relationship with the return and the associational variable—the mere presence of an activist investor—loses its statistical significance. This result is consistent with the view that junior activists influence the bankruptcy process by using both their skill at identifying good investment opportunities as well as their expertise in influencing the bankruptcy process in favor of higher recoveries.[30]

I look for further evidence of the impact of junior activists in a subset of the sample in which the plan of reorganization relied on an investment banker's appraisal of the firm. In most of these cases, the investment banker calculated a range of potential appraisal values, with a high, low, and mid-point number. I observe the presence of a junior activist in twenty-nine of these forty-seven cases. I analyze this data by calculating a test statistic that captures the size of the valuation uncertainty in each case,

$$Uncertainty_D = \frac{Valuation_{HD} - Valuation_{LD}}{Valuation_{MD}} \tag{3}$$

where $Valuation_{HD}$, $Valuation_{LD}$, and $Valuation_{MD}$ represent the high, low, and midpoint of the valuation range, respectively. In unreported results, I find that the presence of a junior activist is stastistically significantly associated with reduced valuation uncertainty. This is consistent with the empirical prediction that junior activists contribute expertise that constrain the ability of management to underappraise the firm.

One potential confounding variable untouched by this analysis is possible that junior activists are simply attracted to cases with valuation uncertainty and those cases also happen to be the highest valued cases. For example, a company with hard-to-value intellectual property assets might be more likely to attract junior activists than a company whose assets are easily valued in a liquid market. There are at least three reasons to doubt that this potential selection effect explains the results. First, as a theoretical matter, the selection methodology for the sample means that the sample consists only of large firms with substantial-going concern value. One might predict that, all things being equal, firms with relatively less valuation uncertainty would be more likely than those with difficult to value assets to come to a Coasean bargain and do an out-of-court restructuring or prepackaged bankruptcy, both of which are out of the scope of this study. Second, as an empirical matter, in fifty of the sixty-one cases involved a reorganization through an appraisal process, the debtor also

30 In unreported results, I tested the possibility that these results were driven by random market fluctuations by subtracting the return of the Bank of America Merrill Lynch High Yield Bond Index, as in Wang (2011) and using that as the dependent variable instead. The results were unchanged.

estimated the liquidation value of the firm's assets, a rough proxy for the amount that could be realized from a controlled fire sale of the firm's assets.[31] One would expect the liquidation value of the asssets to be higher when the assets are easier to value, all things being equal. The number ranges from 80 percent of the appraisal to 99.8 percent, with a mean of 95.8 percent, suggesting that the vast majority of appraised value in each case might represent going-concern value, not easy-to-value liquid assets.

Third, I computed a test static, *FVD*, that measures the point in the bankruptcy case (as measured by the number of days of bankruptcy) have elapsed before each financial claim in the sample is "fully valued," meaning that it begins to be bought and sold in the market for the same price it can be bought and sold for on the plan of reorganization's effective date. For example, if ninety days elapse between the petition date and the effective date and the first lien debt is trading for sixty cents on the dollar as of the effective date then the relevant date for computing *FVD* is the first day that the debt begins trading for sixty cents. If the debt first trades at sixty cents on the 60th day of the case, *FVD* is 66.66 percent. In other words, *FVD* measures the percentage of the case that has elapsed before a trader can sell the claim for the value of its ultimate recovery through the bankruptcy process. I calculated *FVD* for the 155 financial claims from 72 cases that I could track through the entire bankruptcy process. I found that, on average, the mean *FVD* for the entire sample was 72.4 percent. I bifurcated the sample into two groups, consisting of cases with an observed junior activist (eighty-two claims from thirty-five unique cases) and those without an observed junior activist (seventy-three unique claims from thirty-seven unique cases). I find that the observed sample mean *FVD* of the junior activist influenced claims is slightly higher (75 percent vsersus69 percent), but the difference is relatively small and a Kolgorov–Smirnov test fails to reject the null hypothesis that the samples are drawn from the same underlying population using conventional levels of statistical significance.

### 3.2 Do Activist Investors Use Litigation to Extract Settlements in Violation of the Absolute Priority Rule?

Next, I consider the possibility that junior activists abuse the rights of Chapter 11 creditors to extract rents. I analyze this claim empirically by focusing on cases where the junior claimant receives a claim outside of the contours of the absolute priority rule. These payments could be hold-up payments to junior

31 This analysis is performed in connection with the "best interests of creditors" test under Section 1129 of the bankruptcy code.

activists from senior creditors. My methodology for identifying violations of the absolute priority rule is as follows.

First, I examine each case in the sample and compute a binary dummy variable, "$\text{APRViolation}_{\text{D}}$." that takes on a value of 1 if the lowest level of the capital structure receives a distribution and any senior claim is not paid in full. I describe my methodology for identifying violations of the absolute priority rule in greater detail in the Appendix, but my approach is to use detailed capital structure models to identify absolute priority rule violations with precision. After identifying absolute priority rule violations, I use simple logistic regression to estimate the likelihood of an absolute priority rule violation for each debtor firm $_{\text{D}}$, controlling for factors relating to the bargaining environment and firm characteristics:

$$\Pr(\text{APRViolation}_{\text{D}}) = \frac{1}{1 + e^{-(\alpha + \beta\text{LitigationScore}_{\text{D}} + \delta\text{Controls}_{\text{D}})}} \tag{4}$$

In Table 7, I present estimates of Equation 4 to examine the relationship between junior activism and the likelihood of violations of the absolute priority rule. In Model 2, I add control variables for heterogeneity in the capital structures of sample firms, venue, and credit market conditions. In Model 3, I add industry and year fixed effects. The results of the three estimations are the same: I do not find a statistically significant association between litigation and the likelihood of an absolute priority rule violation. In Models 4 through 6, I limit the sample to a subsample in which the junior activist received a recovery and the results are the same.

There are at least three possible explanations for this non-finding. First, senior creditors may dominate the bankruptcy process to the point that they are able to eliminate any option value that junior activists might capture by threatening to delay the bankruptcy case. Second, my sample size may be too small to identify a relationship that would be evident in a larger sample. Alternatively, a research design that relies on litigation as a proxy for junior activism may not be able to capture settlements that are paid to avoid litigation in the first instance. For example, the junior activist may have threatened litigation and received a settlement to pacify her. As nothing was filed with the judge, I do not observe those efforts.

As I cannot eliminate the possibility that the twenty-nine observed payments outside of the absolute priority rule constitute hold-up value, I studied them closely to learn more about what hold-up value might be worth. The debtors either estimate the recovery for the out of the money class or provide enough information to estimate it independently in eighteen of the twenty-nine cases with absolute priority rule violations. Table 8 displays a summary of that information. As the Table shows, in all but one extreme case—a distribution of

**Table 7. Junior Activist Litigation on Violations of the Absolute Priority Rule**

| | (1) APR Violation | (2) APR Violation | (3) APR Violation | (4) APR Violation | (5) APR Violation | (6) APR Violation |
|---|---|---|---|---|---|---|
| Litigation Score of Junior Activist | 0.155 | 0.086 | 0.043 | 0.092 | –0.069 | –0.055 |
| | (0.129) | (0.157) | (0.199) | (0.154) | (0.200) | (0.290) |
| Percentage of Funded Debt Senior to Maximum Level | | 0.897 | 1.323 | | 2.272** | 4.214*** |
| | | (0.947) | (1.120) | | (1.070) | (1.588) |
| Delaware or SDNY Administration | | 1.819** | 2.399** | | 2.093** | 3.439** |
| | | (0.780) | (0.992) | | (0.891) | (1.488) |
| BAML HY Option Index on Date Exit Bankruptcy | | –0.129 | 0.044 | | –0.223 | –0.055 |
| | | (0.148) | (0.211) | | (0.176) | (0.268) |
| Constant | –1.371*** | –2.513 | –4.348** | –0.505 | –2.229 | –5.073* |
| | (0.385) | (1.599) | (2.080) | (0.458) | (1.918) | (2.728) |
| Psuedo R-squared | 0.01 | 0.08 | 0.18 | 0.00 | 0.14 | 0.31 |
| Observations | 107 | 107 | 100 | 67 | 67 | 63 |
| Industry Fixed Effects | No | No | Yes | No | No | Yes |
| Year Fixed Effects | No | No | Yes | No | No | Yes |

The dependent variable is a binary dummy variable that takes on a value of one if the absolute priority rule was violated. Violations of the absolute priority rule occur when junior claimholders receive a recovery and senior claimholders are not paid in full. The table displays logistic regression analysis with standard errors in parentheses. Industry fixed effects are Fama-French 12. In the first three columns, I estimate the models over the entire dataset, where the dependent variable equals one where the junior claimant received a distribution outside of the absolute priority rule and zero otherwise. In these models, $\text{APRViolation}_D = 0$ if the junior claimant received no distribution or if a distribution was received outside of the absolute priority rule. Columns (4) through (6) limit the sample to the cases where $\text{APRViolation}_D = 0$ if the junior activist received a distribution outside of the absolute priority to guard against bias that might be created by including the no distribution cases. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

approximately $100 million in the Chapter 11 case of Smurfit-Stone, where management accepted the arguments of junior activists that they had under-appraised the firm but settled it outside of the absolute priority rule for procedural reasons—the value distributed in violation of the absolute priority rule is relatively small, representing a range of 0.27–7.50 percent of total enterprise value. Without the Smurfit-Stone case, the range runs from roughly 1 percent to roughly 3 percent of total enterprise value, ascribing no value to the out of the money warrants. In no case does the amount of value distributed to the lowest claimant exceed 1 percent of the face value of the ex ante debt structure.

### 3.3 Do Junior Activist Investors Use Litigation to Undercompensate Senior Creditors?

One explanation for the surprisingly small hold-up value payments could be that junior activists are successfully obtaining court orders that extract rents through an alternative channel that appears to comply with the absolute

**Table 8. Estimated Value of Distributions Outside of Absolute Priority in Favor of Junior Activist**

| Consideration | Estimated Value | | | | |
|---|---|---|---|---|---|
| | Min | Max | Mean | Median | Standard Deviation |
| Warrants ($n = 17$) | | | | | |
| Cash ($n = 5$) | | | | | |
| Value of Cash ($n = 5$) | 900,000 | 11,000,000 | 6,380,000 | 7,000,000 | 3,615,522 |
| % TEV ($n = 5$) | 1.00 | 4.80 | 3.02 | 2.43 | 1.73 |
| % Funded Debt ($n = 5$) | 0.50 | 2.50 | 1.50 | 1.30 | 0.70 |
| Equity ($n = 10$)* | | | | | |
| Value of Equity ($n = 9$) | 1,240,000 | 99,400,000 | 24,000,000 | 4,386,000 | 33,900,000 |
| % Reorganized Equity ($n = 10$) | 1.00 | 7.50 | 3.75 | 3.50 | 2.12 |
| % TEV ($n = 9$) | 0.27 | 3.15 | 1.92 | 1.69 | 1.15 |
| % Funded Debt ($n = 9$) | 0.18 | 2.86 | 1.37 | 1.45 | 0.89 |

This table displays the estimated value of the payments that junior activists received outside of the absolute priority rule. The absolute priority rule was violated in 29 of the 107 sample cases and I cannot calculate the equity value in 3 cases.
*In 6 cases, warrants and equity were distributed outside of the absolute priority rule so the total value of the distribution is higher.

priority rule. If the firm is appraised at a higher level than its true value, senior creditors may be undercompensated (Gilson 1995). This is simply a different channel for rent extraction. Imagine a firm with two creditors, Senior and Junior, who are each owed fifty. If the firm's true value is fifty, and junior activists convince the judge that the firm is worth eighty, senior creditors may receive consideration worth less than the face value of their claim.[32]

I use four methods to learn more about the relationship between junior activism and the treatment of senior creditors in bankruptcy. First, I look for information based on the behavior of senior creditors in the bankruptcy case. I create a binary dummy variable, "SeniorObjection$_D$," that is equal to 1 if a senior creditor files an objection to the plan of reorganization. I use simple logistic regression to estimate the following equation, controlling for factors relating to the bargaining environment and firm characteristics:

$$\Pr\left(\mathrm{SeniorObjection}_D\right) = \frac{1}{1 + e^{-(\alpha + \beta\ \mathrm{LitigationScore}_D + \delta\ \mathrm{Controls}_D)}} \tag{5}$$

32 A senior creditor will not be undercompensated if they receive cash. However, the bankruptcy code allows senior creditors to be "crammed down" and forced to accept new debt with a below market interest rate that is worth less than the face value of their claims on the open market.

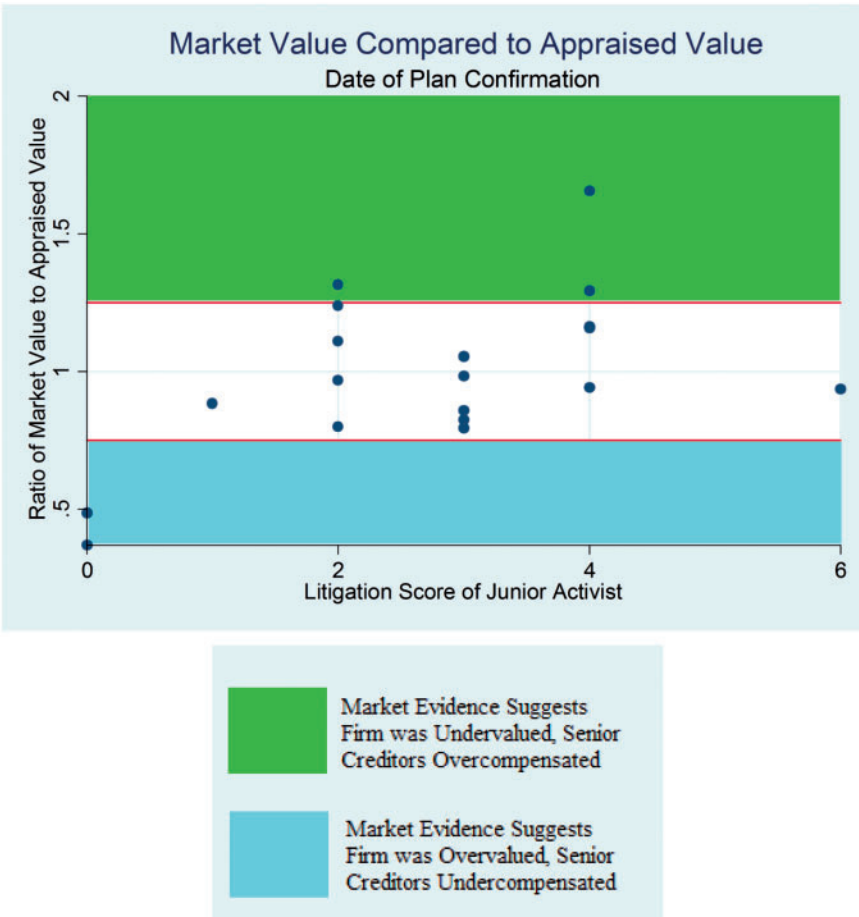
In unreported results, I do not find a statistically significant relationship between junior activism and the likelihood that senior creditors publicly complain about the way the plan treats their claims. However, this leaves open the possibility that senior creditors consent to overappraisals as a way of paying rents to junior activists. To test this, I obtained trading prices to estimate the firm's market value on the date the firm exits bankruptcy to compare the market's view of creditor recoveries with the estimates found in the disclosure statement for the confirmed plan. I was able to find sufficient observations to estimate the market's view of the bankruptcy deal in eighteen of the sample cases.

In Figure 3, I graph the ratio of the market value of the creditor recoveries as compared to the appraised transaction value. The observations in the lower shaded region imply that creditors were undercompensated relative to what the plan said it provided. The evidence does not support the view that junior activists successfully extract rents by overappraising the firm. In fact, in some of the cases where the litigation score is high, senior creditors still appear to have been overpaid. Moreover, the results for Models 1 through 3 in Table 4 are the same if I limit the sample to the thirty-nine cases where the firm was sold for cash to a third party. In those cases, senior creditors could not have been undercompensated and junior activism remains positively correlated with the sale price, providing additional comfort that junior activists are not extracting rents from senior creditors.

Finally, I examined the trading prices of the senior claims around the hearings measured above and I looked for evidence of negative changes in the trading price of the senior claims at the same time that the trading value of the junior claim improved. I was able to identify seventeen senior claims where I could also track the pricing change of the junior claim. I found no systematic relationship suggesting that a positive return to the junior claim constituted a transfer of value from senior claimholders. I also examined a larger sample of ninety senior claims around these two critical hearing dates and found that the senior claim fell in value subsequent to an order about 21 percent of the time when a junior activist objected to the motion ex ante and about 20 percent of the time when the junior activist had not objected to the motion ex ante. In sum, the available trading data do not support the hypothesis that junior activists used litigation to transfer value to themselves from senior claimants.[33]

33 For comparison's sake, when an activist investor files an objection, the post-order return to the junior claim is positive slightly less than 50% of the time, as opposed to 34% of the time when no junior activist objects to the debtor's motion, consistent with the results in Table 6.

**Figure 3. Market value of creditors recoveries compared to projected recoveries. The figure displays the ratio of the market value of recoveries to the projected recoveries from each case's disclosure statement for eighteen sample firms graphed against the litigation score. A ratio of one would indicate the market value was equal to the appraised value of the firm, and the area between the two-shaded regions contains observations that are likely within the "valuation range" of the appraisals of each case. In other words, those cases seem to be fairly valued. The shaded region at the top captures the cases in which the trading prices of the firm's debt implies that senior creditors were overcompensated relative to management's investment banker's valuation. The shaded region at the bottom of the graph contains the cases in which the trading prices of the firm's debt implies that creditors were undercompensated. For example, the graph shows that for the four observations with a litigation score of four, two observations are right around one, suggesting that the market thought that firm was fairly valued. The other two observations are in the top shaded region and imply that the market thinks the firm was worth more than the disclosure statement suggested and that senior creditors were overcompensated in those two cases.**



### 3.4 Do Junior Activist Investors Increase Bankruptcy Costs?

Junior activists are often criticized for engaging in meritless litigation that causes large increases in bankruptcy costs that diminish creditor recoveries and makes Chapter 11 less attractive to businesses that need to reorganize (Ross 2013). The literature (e.g., Bris, Welch, & Zhu 2006; LoPucki & Doherty 2011; Lubben 2012) regularly considers two types of bankruptcy costs: direct bankruptcy costs, the fees paid to lawyers, and other advisors to navigate Chapter 11, and indirect bankruptcy costs, the harm to the assets caused by the stigma of bankruptcy. I consider each in turn using common methodology in the bankruptcy costs literature.

#### *3.4.1 Direct Bankruptcy Costs*

First, I use the fees and expenses requested by the debtor's main counsel as my dependent variable to estimate the effect of junior activism on direct bankruptcy costs. I obtain these fees from the final fee application filed in the bankruptcy court. This is only a portion of the direct cost of Chapter 11 as debtors also regularly hire accountants, investment bankers, and specialized restructuring advisors. They also hire additional bankruptcy lawyers (local counsel or conflicts counsel, for example) and sometimes lawyers to handle discrete tasks such as providing specialized advice unrelated to the bankruptcy or documenting the restructuring transactions if the bankruptcy lawyers are able to do so less efficiently. I use the fees of the main counsel as these are the fees that are likely elastic with respect to bankruptcy litigation. The main bankruptcy counsel typically handles all bankruptcy litigation. Investment bankers are normally paid monthly fees with success bonus arrangements, neither of which varies directly with motions filed in court. LoPucki & Doherty (2011) examine a sample of 102 large bankruptcy cases and find that the lead counsel accounts for 92 percent of total fees charged by lawyers providing bankruptcy advice to the firm in Chapter 11.[34]

If junior activist investors have a substantive impact on a bankruptcy case, it would likely increase direct bankruptcy costs. Motions and objections filed by junior activists require the debtor's attorneys to produce documents, research

34 I do not include any measure of creditor expenses in my regressions, although other studies such as LoPucki and Doherty (2011) consider the fees charged by statutory creditors' committees. I exclude these fees because the firms in this sample have many creditors and creditors' committees play different roles depending on specific facts. In some cases, creditors' committees are led by activist investors and engage in aggressive litigation. In others, creditors' committees are largely spectators to a conflict between activist investors who hire their own lawyers in bankruptcy court. Moreover, we do not systematically observe the professional fees of creditors who receive payment either pursuant to settlements or as part of adequate protection for secured lenders. This means that part of the creditor data is almost always missing.

legal theories, and write responses. Challenges to corporate actions may prompt the debtor's lawyers to spend extended periods of time advising the board of directors on how to respond. Stubborn junior activists may cause the debtor's lawyers to spend additional time negotiating and planning strategy.[35] As large debtors tend to employ the largest and priciest law firms, these actions would be expensive.

I estimate the following equation using ordinary least squares regression to learn more about the relationship between junior activism and the direct costs of Chapter 11, controlling for firm and bankruptcy characteristics that LoPucki & Doherty (2011) found to explain bankruptcy costs:

$$\ln(\text{DirectCosts}_D) = \alpha + \beta \text{LitigationScore}_D + \delta \text{Controls}_D + \epsilon \qquad (6)$$

Table 9 shows the observed impact of litigation on direct bankruptcy costs. Junior activism appears to be positively and statistically significantly associated with direct bankruptcy costs, even after controlling for industry and year fixed effects. Figure 4 below displays the marginal effects of activism on direct bankruptcy costs from Model 3 of Table 9.

The second-order question is the magnitude of the cost increase associated with junior activism. Model 3 from Table 9 suggests that a one unit increase in the junior activist litigation score is associated with a 20 percent increase in observed direct bankruptcy costs, controlling for other characteristics important for bankruptcy costs. Model 4 from Table 9 suggests that junior activism is associated with a 19 percent increase in appraised transaction value, controlling for other characteristics important for firm value.[36] To contextualize these numbers, consider the median sample case of Aventine Renewable Energy Holdings, a firm with approximately $355 million in debt prior to the bankruptcy that reorganized in a transaction appraised at approximately $269 million at the cost of $1.9 million in attorney's fees. My methodology implies that a one unit increase in litigation would amount to a $51 million increase in appraised transaction value and a $380,000 increase in direct bankruptcy costs.

This analysis requires an important qualification. These results do not suggest that junior activists need only file a motion and the appraisal will be summarily boosted by $54 million at a low cost. They do, however, suggest that in very large cases, the amount of value on the table is such that increases in

35 This result also suggests a potential explanation for the criticism of junior activism. My sample indicates there is very little overlap between the law firms that represent junior activists and the firms that regularly represent debtors and senior creditors, suggesting that many leading bankruptcy lawyers see their clients struggle with the costs created by junior activists without also representing the parties that internalize the benefits of junior activism.

36 The similarity between the two coefficient estimates is coincidental.

**Table 9. Junior Activist Litigation on Direct and Indirect Bankruptcy Costs**

| VARIABLES | (1) Log Court Costs | (2) Log Court Costs | (3) Log Court Costs | (4) Log Days in Chapter 11 | (5) Log Days in Chapter 11 | (6) Log Days in Chapter 11 |
|---|---|---|---|---|---|---|
| Litigation Score of Junior Activist | 0.316*** | 0.161*** | 0.204*** | 0.174*** | 0.0592 | 0.0310 |
| | (0.0541) | (0.0512) | (0.0507) | (0.0458) | (0.0384) | (0.0347) |
| Log Outstanding Debt | | 0.438*** | 0.438*** | | 0.200*** | 0.154*** |
| | | (0.0543) | (0.0558) | | (0.0394) | (0.0435) |
| Debtor Counsel Ranked in Amlaw250 | | 0.754*** | 0.741*** | | | |
| | | (0.196) | (0.182) | | | |
| Plan of Reorganization Confirmed | | 0.120 | −0.0898 | | 0.977*** | 0.986*** |
| | | (0.194) | (0.187) | | (0.161) | (0.169) |
| Prenegotiated Filing | | −0.808*** | −0.610*** | | −0.752*** | −0.627*** |
| | | (0.155) | (0.152) | | (0.104) | (0.106) |
| Delaware or SDNY Administration | | 0.0287 | −0.224 | | −0.254** | −0.346*** |
| | | (0.147) | (0.168) | | (0.128) | (0.108) |
| Constant | 14.30*** | 5.658*** | 7.563*** | 4.819*** | 0.960 | 2.890*** |
| | (0.144) | (1.016) | (1.113) | (0.150) | (0.786) | (0.888) |
| Observations | 105 | 105 | 105 | 107 | 107 | 107 |
| R-squared | 0.219 | 0.616 | 0.752 | 0.112 | 0.542 | 0.675 |
| Industry Fixed Effects | No | No | Yes | No | No | Yes |
| Year Fixed Effects | No | No | Yes | No | No | Yes |

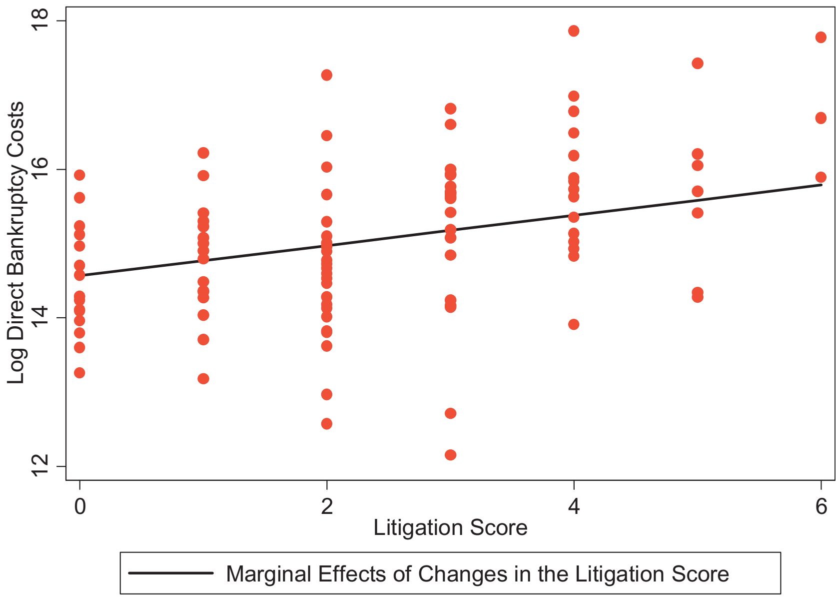
The dependent variable in Models 1 through 3 is the logged amount of fees and expenses requested by the debtor's main bankruptcy counsel in their final fee application. The dependent variable in Models 4 through 6 is the logged number of days that the firm's assets are under bankruptcy court administration, measured from the day the firm files a bankruptcy petition to the date a firm exits bankruptcy either through a plan of reorganization becoming effective or a sale being consummated. The table displays ordinary least squares linear regressions with robust standard errors in parentheses. Industry fixed effects are Fama-French 12.
***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

direct bankruptcy cost are relatively small. Although I do not observe all possible direct bankruptcy costs, unobserved costs are unlikely to make up the two order of magnitude difference between observed direct costs and the potential increase in value associated with junior activism.

### *3.4.2 Indirect Bankruptcy Costs*

I follow the convention in the literature (Franks & Torous 1989; Thorburn 2000; Bris, Welch, & Zhu 2006) and use the number of days a firm remains in bankruptcy as a proxy for indirect bankruptcy costs. This is an imperfect proxy for harder-to-observe costs such as lost sales and profits due to adverse publicity arising from the bankruptcy filing and the distraction of managers from pursuing value accretive tasks and the inability to pursue new business as the firm reorganizes. Altman (1984) finds indirect bankruptcy costs to be significantly larger in magnitude than direct bankruptcy costs and Maksimovic &

**Figure 4. Litigation score on direct bankruptcy costs.**
**The figure displays the marginal effect of an increase in litigation on direct bankruptcy costs, holding all other controls constant at their sample mean value. The dependent variable is the total amount of fees sought by the debtor's main bankruptcy counsel in their final fee application to the bankruptcy court. The independent variable of interest is the litigation score. The graph depicts the marginal effects from the ordinary least squares linear estimation of Model 3 in Table 9 with full controls and industry and year fixed effects. The red dots represent sample firms and are overlaid on the marginal effects plot to aid the reader in understanding the graph.**




Phillips (1998) argue that indirect bankruptcy costs are more important than direct bankruptcy costs.

Junior activists have the due process rights provided to them by the bankruptcy code. This allows them to insist on additional time to analyze a proposed restructuring transaction. Once the analysis is done, the junior activist can delay a judge's decision on a motion by cross-examining witnesses as well as putting forth their own witnesses and evidence about the inadequacy of the proposed transaction. All of these things take time and could cause a bankruptcy case to take longer than managers or secured creditors might prefer.

The power to inflict delay could have implications consistent with the statements of junior activists as well as their detractors. For example, delay could give the debtor the necessary time to explore value-maximizing restructuring alternatives. This would be consistent with bankruptcy policy goals. However, from a darker perspective, junior activists have strong incentives to litigate strategically. For opportunistic hedge funds, claims that are truly out of the money in an unbiased valuation may still present option value. A junior activist could simply litigate to delay the day of reckoning in hopes that business conditions improve and the firm's value increases to the point that its claim is in the money (White 2004). A junior activist could also use litigation to threaten delay, knowing that such delay would harm the true value of the firm and that senior creditors will offer inefficient settlements to preserve firm value (Betker 1995). I will use ordinary least squares linear regression to analyze the possible association between junior activism and the length of the bankruptcy case:

$$\ln\left(\mathrm{DaysBankruptcy}_{D}\right) = \alpha + \beta \mathrm{LitigationScore}_{D} + \delta \mathrm{Controls}_{D} + \epsilon \qquad (7)$$

I estimate Equation 5 in Models 4 through 6 of Table 9. I find a statistically significant and positive relationship between junior activism and the duration of the bankruptcy case in Model 4, with no control variables. However, once control variables are added, the relationship seems to disappear in Models 5 and 6.

## 4. ROBUSTNESS AND SENSITIVITY ANALYSIS

In this section, I conduct a variety of robustness checks to examine the sensitivity of the results to alternative specifications.[37] First, given the small sample size, it is possible that outliers influence the results. To investigate this possibility, I ran the ordinary least squares regression estimations from Tables 4 and 9 using quintile (median) regression. This approach can mitigate the influence of outliers. The results for the regressions on appraised transaction value and direct bankruptcy costs are robust to the use of quintile regression.

Second, I examine the sensitivity of the results to the assumptions underlying the litigation score. I consider the possibility of measurement error in the way the components of the score are observed. I recalculate the litigation score including only pleadings longer than five pages. This limits the score to legal documents that are more likely to make substantive legal arguments. The results remain statistically significant and qualitatively similar.

Third, I test the sensitivity of the results to the way the litigation score is constructed. I first recalculated the litigation score without providing the junior activist any points for obtaining judicial rulings. The results were the same for both Tables 4 and 9, although the standard errors were larger and the model did not appear to fit as well. I then removed the information about the presence of a hedge fund from the score. The results were the same for Tables 4 and 9. Once again, however, model fit was diminished and the litigation score standard

37 These results are available by request from the author.

errors increased in magnitude. The results were also the same if I use this litigation score with no information about investor type and added a dummy control variable that takes on a value of 1 if a hedge fund was observed holding junior claims.[38] Overall, this exercise suggests that the results are robust to simpler measures of junior activism.

A fourth possible source of bias is that opportunities to file the lifecycle objections do not exist in every case. For example, in some cases the debtor disposes of the assets through a single motion to sell all assets. In others, the debtor files a disclosure statement, a plan and sometimes a motion to sell all assets as well. To guard against bias created by extra chances to object, I compute a standardized litigation score by summing each creditor's score for the four life cycle objections, dividing that number by the number of opportunities to object and multiplying the ratio by four and adding it to the extraordinary motions and activist investor scores. The results for both appraised transaction value and direct bankruptcy costs remain the same and the magnitude of the coefficients is similar.

## 5. DISCUSSION

In this article, I investigate two clashing views on the role that junior activists play in Chapter 11. A cautious interpretation of the results suggests that the criticism of the junior activist investing strategy studied herein, as opposed to the criticism of junior activists in some high-profile cases, is misplaced. Junior activism is associated with higher appraised value, relative to cases with less observed junior activism. This suggests that, at the least, junior activists are litigating in the cases where there is relatively more value rather than indiscriminately buying claims and trying to exploit the bankruptcy process to inefficiently extract settlements. Further, junior activists appear to realize positive returns after judicial orders they influence with litigation, suggesting they successfully influence the process in the favor of junior claimants. Although junior activist litigation is also associated with an increase in observed direct bankruptcy costs, the magnitude of direct bankruptcy costs is relatively small—only 1.3 percent of appraised transaction value in the median sample case.

Any concern about junior activist value extraction is further ameliorated by the relatively meager settlements that junior activists receive outside of the

38 More specifically, I re-estimate Tables 4, 5, and 8 using this alternative specification and the behavior of the litigation score remains consistent across the specifications in Tables 4 and 8 as well as Models 1 through 3 of Table 5. The dummy for the presence of an activist investor is statistically significant and positively related to the dependent variables in the Table 4 models but does not appear to be statistically significantly related to the Table 5 models or the measures of bankruptcy costs in Table 9.

absolute priority rule. This calls the ability of junior activists to inefficiently extract senior creditor value into question. Theoretically, the power to litigate could incentivize junior activists to file frivolous claims to extract hold-up value by inflicting cost and delay on senior creditors. The small settlement size suggests that junior activists lack the necessary bargaining power to extract significant value.

The evidence also fails to support the view that junior activists hold the firm hostage and destroy value. Sound theoretical reasons exist to suspect that junior activists have the ability to prolong a bankruptcy case. However, I did not observe a statistically significant relationship between junior activist litigation and the duration of the bankruptcy case. This may be due to bankruptcy judges refusing to allow junior activists to stand in the way of a deal supported by senior creditors and management. It could also be a consequence of the high-bargaining leverage of senior creditors, who are often also debtor-in-possession lenders that keep the firm on a short leash (Skeel 2003).

However, the results standing on their own do not prove causation. The results demonstrate that junior activism is associated with a higher transaction value controlling for balance sheet characteristics and market expectations. The results also show that, at least for the subsample for which I have complete data, junior activists appear to yield a positive return by influencing the judicial process. I cannot, however, rule out endogeneity, omitted variables or other alternative explanations. Nonetheless, theoretical reasons and anecdotal evidence support a causal interpretation. Activist investors manage billions of dollars of funds that execute distressed investing strategies. Buying mispriced junior claims and using litigation to create leverage is a prominent distressed investing strategy. If distressed investors could not increase returns through activism, it would constitute a major market failure as the sellers of distressed debt would be giving up profits to distressed debt investors that they could realize on their own simply by holding onto the claim.[39] These activists observe the relative efficacy of their litigation strategies—often from the court's gallery—and they understand exactly how their investment in professional fees influenced the outcome. Rational investors will only expend resources to monitor managers and influence the firm if expected gains exceed the costs of activism.

Similarly, the study cannot definitively resolve the question of the social efficiency of junior activism. As a threshold matter, the observed positive

39 In some cases, sellers of distressed claims are required to sell debt after ratings agency downgrades because of regulatory constraints. For example, some insurance companies may not be allowed to hold debt of firms in default. If there was no need to understand and influence Chapter 11 to protect these claims, one would expect forced sellers to find a solution to a problem of forced loss taking that did not require them to provide free profits to buyers unconstrained by regulation.

relationship between junior activism and the direct costs of bankruptcy raises the possibility that junior activists decrease the social efficiency of Chapter 11, consistent with the view of their detractors. However, the results also identify, for the first time, important associations between junior activism and benefits that might offset the observed increase in costs. For example, the increase in appraised transaction value suggests that junior activists might play a role in upholding the absolute priority rule, which might preserve the incentives to monitor created by ex ante debt contracting (Triantis 1994; Adler 2012).[40] Junior activists might also limit the ability of managers to extract value at the expense of pre-bankruptcy investors.[41] To the extent this is true, junior activists could, in effect, reduce the bankruptcy cost of managerial rent extraction even as they increase litigation costs. Of course, it is equally possible that the prospect of a large payday in Chapter 11 helps limit inefficient continuation and that junior activists upset this incentive by making managerial rent extraction harder (e.g., Bebchuk 2002). More data and research is needed to come to firmer conclusions on the question of social efficiency.

The results also add a new wrinkle to some of the theoretical debates among bankruptcy scholars on corporate governance in Chapter 11. First, contemporary scholarship focuses on the dominant role of "creditors" in corporate governance in Chapter 11 and the powerful lever of corporate governance created by restrictive debtor-in-possession loans. The results presented here suggest that intercreditor disputes are also important and that litigation is a lever of corporate governance that junior claimants can use to influence the bankruptcy case in their favor.

Second, the results provide an explanation for an essential mystery in the distressed debt markets. Three major changes happened in Chapter 11 at the same time: changes to the Uniform Commercial Code that increased the bargaining leverage of senior secured lenders and inaugurated the "secured creditor in possession" era, the enormous growth of an industry of distressed hedge funds who seek to profit by buying misvalued, low-rated claims of bankrupt firms, and the increase in claims trading (Levitin 2009), driven in large part by the massive inflow of capital managed by funds looking to profit from a distressed strategy. The data suggests that creditors can influence bankruptcy outcomes by participating in corporate governance. This implies that at least part of the "distressed debt trade" is the sale of claims to specialists who know

40 Indeed, to the extent the capital markets anticipate junior activism, the activity of junior activists might facilitate the construction of those efficient monitoring arrangements in the first place.

41 Bris and Welch (2005) use a formal model of bankruptcy bargaining to show that the cost of capital decreases as the ability of managers to expropriate creditor wealth in Chapter 11 is reduced.

bankruptcy and business turnarounds. Secured lender control may have increased the need for junior claimants to use litigation to defend their recoveries; this may have increased the need for the holders of claims of bankrupt firms to have specialized expertise in Chapter 11. Further research is needed, but anecdotal evidence does suggest that litigation increased over the past decade (e.g., Miller 2007).

Additionally, the results have at least two important ramifications for discussions of bankruptcy reform. First, the results suggest that hedge funds use litigation to counterbalance the powers of managers and senior creditors of Chapter 11 debtors. This is exactly how the bankruptcy code was designed to work and it suggests that criticism of litigious hedge funds is overstated, at least with respect to junior activists pursuing the investment strategy studied in this article. Second, a recent trend in corporate finance is to provide senior debt with credit protection by waiving any rights junior debt holders have to object to bankruptcy motions. Although the lenders investing under a second lien credit facility are sophisticated, there are reasons to worry that "silenced" junior claimants might be unable to prevent the bankruptcy judge from hearing legal arguments on important aspects of the restructuring. Thus far, judges interpreting these agreements have generally embraced a fact intensive, case-by-case approach that carefully considers the merits of the legal argument and the equitable considerations at issue instead of mechanically enforcing the bankruptcy waivers of the junior claimant. The results in this article suggest this approach might be meritorious as the low value of settlements outside of the absolute priority rule suggests that obstructionist litigation may not be a profitable investment.[42]

## 6. CONCLUSION

Junior activism is a pervasive feature of contemporary Chapter 11 practice. Junior activists are blamed for increasing bankruptcy costs, abusing the due process rights created by Chapter 11 to extract hold-up value and reducing the attractiveness of Chapter 11 as a solution to the business problems of struggling firms. On the other hand, junior activists believe they play an important role in balancing the self-interest of management and the bargaining power of secured lenders. Corporate governance dynamics in Chapter 11 present a moral hazard problem as managers and senior creditors control the bankruptcy process and

42 For example, Judge Chapman performed a technical reading of contractual language to allow a "silenced" second lien lender to object to a proposed sale of the firm's assets. See *In re* Boston Generating, Tr. at 52 (Bankr. S.D.N.Y. Oct. 4, 2010).

they each have powerful incentives to enrich themselves by expropriating value that would go to junior claimholders if the firm reorganized its assets in the highest value transaction with an accurate appraisal. These incentives challenge the ability of Chapter 11 to accomplish its policy goals of maximizing creditor recoveries and honoring pre-bankruptcy entitlements.

In this article, I presented results from the first empirical study of junior activism to look for evidence of the net effect of junior activists on the outcome of a sizable sample of bankruptcy cases. The methodology measured junior activist litigation as a proxy for the time and money junior activists expend to influence the bankruptcy bargaining process. Junior activism is observed to be associated with an increase in the appraised transaction value, consistent with the view that junior activists might play a role in deterring or counter-balancing managerial misbehavior. However, junior activist litigation also appears to be associated with an increase in direct bankruptcy costs. These costs are relatively small compared to the size of the large firms in study and the size of the observed increase in appraised transaction value associated with junior activism.

Additionally, the associations in the study call into question the notion that junior activists use litigation inefficiently to extract value beyond their entitlements. The settlements that junior activists receive are relatively small and imply that junior activists have little leverage to extract sizable value from senior creditors. This conclusion is supported by the failure to reject the null hypothesis of no relationship between junior activist litigation and indirect bankruptcy costs as well as the market evidence suggesting that some firms still overcompensated senior creditors even after junior activists intervened. The results suggest that junior activists are unlikely to view meritless litigation as a positive net present value investment in legal fees. Overall, the results cast doubt on the view that junior activists have a systematic negative effect on Chapter 11.

## APPENDIX 1

### Litigation Score Components

My procedure for constructing the litigation score was as follows. For each case in the sample, I reviewed the docket and all pleadings filed by all creditors in response to the “life cycle” motions below or seeking the extraordinary relief described below. I also reviewed the orders issued by the Bankruptcy Court in response to the pleadings to determine what the outcome was. As this approach is a new one to the bankruptcy literature, I explain each of the components I included in the index.

### *Life Cycle Objections*

The first four components of the index represent a creditor or shareholder's response to the four motions that constitute the major "life cycle" events of a reorganizing debtor. When a firm files for bankruptcy, it often must negotiate financing to remain alive; then it either exits bankruptcy through a motion to sell substantially all of its assets or it engages in a restructuring transaction by soliciting a vote through a disclosure statement on a plan of reorganization. At each of these hearings, the debtor bears the burden of proving the motion at issue meets the applicable standards under the bankruptcy code. Creditors and shareholders have a statutory right to object to each of these motions, to conduct fact discovery and to be heard at the hearing. When a creditor chooses to utilize these remedies, she informs the judge that the Debtor's management is acting contrary to its fiduciary duty to maximize the value of the estate—often in connection with plans to overcompensate senior activist investors.

These objections provide a proxy for the length of time that a junior activist is involved in trying to influence the case. The financing motion will usually come at the beginning, with the disclosure statement coming in the middle, and a motion to approve a plan (or to sell substantially all of the assets) coming at the end.

*Financing Motion*—Most large firms require permission to use their encumbered cash collateral or additional financing to reorganize successfully. The firm's new or existing lenders usually allow the firm access to liquidity only in exchange for very tight covenants that limit the debtor's flexibility in reorganizing. For example, the bondholders of TerreStar objected to the terms of a proposed financing, informing the Court that the financing "will propel these cases down an irreversible, predetermined course charted for the singular purpose of serving [the secured lender]'s interests at the expense—and to the detriment of all other stakeholders."[43] By objecting to the financing motion, junior activists inform the bankruptcy judge that the firm has aligned itself with one creditor constituency at the expense of another and ask for judicial relief.

*Sale Objection*—Bankruptcy court is often an auction block for the firm's assets. It is not always the case that a firm is able to command its "true value" in a bankruptcy auction. If some buyers are liquidity constrained, for example, then alternative transactions may yield a higher recovery. In some cases, auctions are run strategically to gather evidence to support management's (or a senior creditor's) view of the firm's value. One Delaware Judge rejected such an attempt: "[the sales process] was not run robustly or broad enough to truly market test the debtors' value. I think it was a litigation tactic [meant to provide

43 *See In re* Terrestar Networks Inc., 2010 WL 4688705 (Bankr. S.D.N.Y. November 9, 2010).

evidence supporting a plan preferred by the firm's senior creditors]."[44] A junior activist can play an important role in informing the bankruptcy judge that a sales process is an inadequate attempt by management to make a favored purchaser the firm's new owner.

*Disclosure Statement Objection*—In Chapter 11, a firm seeking to reorganize through a plan of reorganization must first file a disclosure statement describing the restructuring transaction, providing junior activists with a chance to object. For example, the Official Committee of Shareholders of Accuride used their objection to the disclosure statement to inform the judge that the proposed transaction underappraised the debtor and overcompensated senior creditors.[45]

*Plan Objection*—In order to confirm a plan of reorganization, a debtor must prove that their plan complies with the various protections the bankruptcy code provides for creditors.

### Motions to Seek to Discipline or Replace Management

The bankruptcy code provides a creditor with the substantive right to seek extraordinary remedies in the event that management fails to act in the best interests of all creditors. In practice, these motions are often used as litigation tactics to focus a judge's attention on perceived managerial misbehavior. They provide the moving creditor with court time to air their grievances. I include five extraordinary motions in my score and they provide information about the intensity of the dispute between junior activists and managers.

*Terminate Exclusivity*—Creditors and shareholders can seek to terminate management's exclusive right to propose a plan of reorganization.

*Competing Plan*—If exclusivity has lapsed or been terminated, junior activists can propose their own plan of reorganization.

*Trustee*—Creditors can seek to appoint a trustee to take control of the business away from management.

*Official Committee Status*—Junior creditors and shareholders who feel unrepresented in the bankruptcy can seek the appointment of an official committee to represent them and increase their bargaining leverage. Gaining "official" status allows a group of activist investors to gain access to funding for their lawyers and investment bankers from the bankruptcy estate. I provide the junior activist one point if they filed a motion seeking the appointment of an official committee or if they successfully lobbied the US Trustee to do so.

44 *In re* CCS Medical, Tr. at 135 (Bankr. D. Del. October 23, 2009).

45 *See* The Official Committee of Equity Security Holders' Combined Objection to (I) the Disclosure Statement and (II) the Rights Offering, *In re* Accuride, No. 09-13449 (Bankr. D. Del. December 15, 2009).

*Examiner*—Junior activists can seek the appointment of an examiner to investigate managerial incompetence, misconduct or dishonesty including such acts as proposing an undervalued restructuring transaction.

### *Judicial Rulings*

*Judicial Rulings*—When the judge grants one of the requests for extraordinary relief in this section, it provides the junior activist with additional bargaining power and shows that the request was meritorious. They receive an extra point in the index for requests granted. This provides information about the quality of the junior activist's argument and the amount of money the junior activist has invested in the presentation of the arguments.

### *Activist Investor Involvement*

*Involvement of an Activist Investor*—I provide an additional point if a "hedge fund" (using Jiang, Li, & Wang (2012)'s definition) is observed holding the junior claim, either by appearing in court directly or by sitting on an Official Committee of Unsecured Creditors. This provides information about the capabilities of the junior activists—hedge funds often have the ability to provide liquidity, specialized expertise and a tolerance for more aggressive litigation that traditional banks and insurance companies lack.

## APPENDIX 2

### Definitions for the Regression Variables

This list includes all the variables from the regressions other than the litigation score in alphabetical order.

*Activist Investor Observed in Junior Claim*—A dummy variable that takes on a value of 1 if an "activist investor" (as described above) appears on the applicable court docket holding the junior claim.

*Log Amount of Debt in Capital Structure with Absolute Priority Over Claim Held by Junior Activist*—The natural log of the amount of funded debt senior in the capital structure to the junior activist. I use this to control for the heterogeneity of capital structures in the sample firms.

*APR Violation*—A binary dummy variable that takes on a value of 1 if the absolute priority rule was violated in favor of the lowest ranking activist investor.

*Log Assets*—The natural log of the earliest representation of the firm's asset value provided by the debtor. This usually comes from the bankruptcy petition but in some cases comes from financial statements attached to court pleadings or the firm's statements and schedules.

*Δ HY Bond Spread*—This variable is alternatively: (i) the difference between the Bank of America Merrill Lynch High Yield Index value on the date the firm files for bankruptcy and the date a plan is confirmed; or (ii) the difference between the high-yield index value on the petition date and the date a sale of all assets is consummated. I use this to control for changes in credit market conditions. Obtained from Datastream.

*Log Court Costs*—The natural log of the final amount of compensation and expense reimbursement requested by the debtor's lead bankruptcy law firm.

*Log Days in Chapter 11*—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.

*Debtor Counsel Ranked in Amlaw250*—A binary dummy variable that takes on a value of 1 if the debtor's lead bankruptcy counsel is ranked in the 2009 American Lawyer Magazine ranking of the 250 largest law firms; 0 otherwise. I include this as a proxy for the "price" of the firm, as firms not on this list tend to provide cheaper legal services in a more cost-efficient manner.

*Delaware or SDNY Administration*—A binary dummy variable that takes on a value of 1 if the bankruptcy case is in the District of Delaware or the Southern District of New York; 0 otherwise. I include this variable to control for variation caused by the experience and expertise of the judges in these two courts. These judges see the vast majority of large corporate bankruptcies and they are generally more experienced and benefit from better developed law than in any other court.

*Junior Claim*—A binary dummy variable that takes on a value of 1 if the claim in the analysis is a junior claim in the firm's capital structure.

*Log Market Value of Firm Implied by Trading Prices of Debt on Petition Date*—The sum of the trading prices of the firm's outstanding financial debt instruments multiplied by the size of the issue. Obtained from MarkIt and Datastream.

*Log Market Value of Firm on Petition Date Implied by the Trading Prices of Debt and Equity*—The sum of the trading prices of the firm's outstanding financial debt instruments multiplied by the size of the issue plus the trading price of the firm's outstanding equity securities multiplied by the number of shares outstanding. Obtained from Datastream.

*Log Outstanding 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.

*Objection to Motion*—A binary dummy variable that takes on a value of 1 if a junior activist objected to the debtor's motion.

*Percentage of Funded Debt Senior to Maximum Level*—The percentage of the firm's capital structure that is senior to the claim of the activist investor holding the lowest ranking debt. Takes on a value of 1 when activist shareholders are observed. This variable controls for how much of the firm's debt needs to be paid before the junior activist receives a recovery.

*Plan of Reorganization Confirmed*—A binary dummy variable that takes on a value of 1 if the assets are reorganized through a plan of reorganization; 0 otherwise. I include this variable in the costs regressions because reorganizing with a plan of reorganization (as opposed to a sale of the firm's assets outside of a plan process) generally takes longer and is more expensive.

*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. Firms usually negotiate with senior creditors first and junior activists are often deeply disappointed with the result of these negotiations. In these situations, the case should be shorter and cheaper relative to cases where all the negotiations occur in court because management has already completed much of the work of assembling a business plan

*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.

*Log Total Enterprise Value*—The natural log of the appraised value of the restructuring transaction. Taken alternatively from: (i) the approved disclosure statement; (ii) a judicial decision; (iii) the sale price from a cash auction; (iv) an affidavit filed by the debtor's investment bankers or managers stating the estimated total enterprise value; (v) a motion subsequent to the plan supporting a settlement of a valuation dispute; or (vi) the sum of a series of liquidating sales.

**Table A1. Sample Comparison**

| Study | Time Range | Sample Size |
|---|---|---|
| Ayotte & Morrison (2009) | July 2001–December 2001 | 153; 85 included in regressions |
| Lubben (2012) | 2004 | 97 |
| LoPucki & Doherty (2002) | 1991–1996 | 98 |
| LoPucki & Doherty (2011) | 1998–2007 | 102 |
| **Ellias (2015)** | **2009–2010** | **107** |
| Ivashina, Iverson, & Smith (2015) | 1998–August 2009 | 136 |
| Lemmon, Ma, & Tashjian (2009) | 1991–2004 | 143 |
| Wang (2011) | 1996–2007 | 157 |
| Carapeto (2006) | 1986–1997 | 172 |
| Ayotte & Skeel (2004) | 1990–1999 | 264 |
| Eisenberg & LoPucki (1999) | 1980–1997 | 284 |
| Harner & Maricinic (2011) | 2002–2008 | 296 |
| Adler, Capkun, & Weiss (2012) | January 1993–March 2004 | 342 |
| Jiang, Li, & Wang (2012) | 1996–2007 | 474 |

## APPENDIX 3

### Methodology for Identifying Absolute Priority Rule Violations

I identify absolute priority rule violations using detailed capital structure models. On a superficial analysis, the absolute priority rule was violated in thirty-one of the sixty-seven cases where the lowest level of the capital structure received a distribution. On closer inspection of the data, this number hides a handful of false positives. Of the thirty-one apparent violations, two were actually distributions pursuant to the absolute priority rule where unsecured creditors shared with secured creditors in unencumbered estate value. In other words, the secured lenders had leaky collateral packages and the distributions were made in accordance with priority rules.[46]

46 The cumbersome process of removing "false positives" suggests a fundamental flaw in many absolute priority rule studies that rely on bright line rules to identify an absolute priority rule violation. In practice, the only reliable bright line is that all creditors must be paid in full before shareholders receive a distribution. Studies relying on distributions to unsecured creditors will have false positives (unencumbered value that is shared pro rata in accordance with state law) and false negatives (the absolute priority rule is violated by distributions to junior secured lenders before senior secured lenders are paid in full, a distinction not noted in any of the major absolute priority rule violation studies). In some cases, unsecured debt is structurally senior to secured debt or secured debt holders may have liens on a single project and properly share with unsecured creditors in unencumbered value. Additionally, caution should be taken in observing absolute priority rule violations based only on distributions to equity—the variation some studies observe over time may have more to do with the preference of firms to finance projects with low-ranked debt instead of equity and accordingly funding their business with a proportionally higher level of debt. Further research is needed to understand how the absolute priority rule has changed over time.

**Table A2. Bankruptcy Filing Characteristics**

| | N | % |
|---|---|---|
| **Filing Court** | | |
| Delaware | 58 | 54 |
| SDNY | 23 | 22 |
| TX SD | 3 | 3 |
| NV | 3 | 3 |
| TX WD | 3 | 3 |
| *All Others* (No more than two cases each) | 29 | 15 |
| Total | 107 | 100 |
| **Status of Negotiations** | | |
| Prenegotiated | 45 | 42 |
| **Plans to Sell** | | |
| Sale intended | 28 | 27 |
| Liquidation intended | 7 | 7 |
| **Liquidity** | | |
| New money debtor-in-possession loan | 61 | 57 |
| Lien on cash collateral, no new money | 33 | 31 |
| No cash collateral motion or debtor-in-possession loan | 13 | 12 |
| **Counsel** | | |
| AmLaw250 | 83 | 78 |
| Not Amlaw250 | 24 | 22 |

**Table A3. Bankruptcy outcomes**

| | N | % |
|---|---|---|
| **Outcome of Plan Process** | | |
| Plan Confirmed | 76 | 70.37 |
| Assets Sold Outside of Plan Process | 32 | 29.63 |
| Assets Sold | 47 | 43.52 |
| **Ownership after Bankruptcy** | | |
| Owned by Pre-Bankruptcy Investors | 61 | 56.48 |
| All Asset Sale to Strategic Purchaser | 22 | 20.37 |
| All Asset Sale to Financial Purchaser | 12 | 11.11 |
| Piecemeal Liquidation | 12 | 11.11 |
| **Status After Bankruptcy** | | |
| Emerged Independent (includes ownership by financial sponsor) | 73 | 67.59 |
| Did not Emerge as Independent Firm | 34 | 32.41 |
| **Sale Currency** | | |
| Cash | 39 | 36.11 |
| Credit Bid | 8 | 7.41 |

The absolute priority rule was clearly violated in twenty-nine cases. In fourteen cases, warrants were distributed that violated the absolute priority rule by providing junior investors a continuing claim against the reorganized firm when senior claimants were not paid in full. In five cases, senior creditors made a cash payment to junior activists, which was sometimes split with

**Table A4. Capital structure summary**

| Variable | n | Mean | S.D. | Min | 25th Percentile | Median | 75th Percentile | Maximum |
|---|---|---|---|---|---|---|---|---|
| Assets | 101 | $1,000,000,000 | $1,800,000,000 | $4,700,000 | $190,000,000 | $390,000,000 | $940,000,000 | $14,000,000,000 |
| Liabilities | 103 | $1,300,000,000 | $2,800,000,000 | $30,000,000 | $220,000,000 | $460,000,000 | $1,200,000,000 | $24,000,000,000 |
| Debt Owed to Lenders | 107 | $1,000,000,000 | $2,400,000,000 | $25,000,000 | $150,000,000 | $370,000,000 | $850,000,000 | $22,000,000,000 |
| **Secured Debt** | 104 | $680,000,000 | $1,500,000,000 | $3,100,000 | $84,000,000 | $240,000,000 | $630,000,000 | $11,000,000,000 |
| % of Total Debt Owed to Lenders is Secured Debt | 104 | 71% | 30% | 1% | 47% | 76% | 100% | 100% |
| **First Lien Secured Debt** | 101 | $520,000,000 | $1,200,000,000 | $3,100,000 | $45,000,000 | $120,000,000 | $380,000,000 | $8,800,000,000 |
| % of Total Debt Owed to Lenders | 101 | 73% | 33% | 2% | 49% | 94% | 100% | 100% |
| **Second Lien Secured Debt** | 47 | $280,000,000 | $450,000,000 | $10,000,000 | $37,000,000 | $130,000,000 | $260,000,000 | $2,400,000,000 |
| % of Total Debt Owed to Lenders | 47 | 40% | 25% | 8% | 19% | 33% | 59% | 93% |
| **Unsecured Debt Owed to Lenders** | 71 | $530,000,000 | $1,300,000,000 | $8,300,000 | $75,000,000 | $250,000,000 | $520,000,000 | $11,000,000,000 |
| % of Total Debt Owed to Lenders | 71 | 47% | 27% | 2% | 24% | 41% | 67% | 100% |
| **First Priority Unsecured Debt Owed to Lenders** | 71 | $330,000,000 | $460,000,000 | $8,300,000 | $60,000,000 | $210,000,000 | $400,000,000 | $2,800,000,000 |
| % of Total Debt Owed to Lenders | 71 | 88% | 23% | 7% | 87% | 100% | 100% | 100% |
| **Second Priority Unsecured Debt Owed to Lenders** | 18 | $350,000,000 | $580,000,000 | $20,000,000 | $64,000,000 | $160,000,000 | $370,000,000 | $2,500,000,000 |
| % of Total Debt Owed to Lenders | 18 | 36% | 18% | 10% | 23% | 34% | 46% | 66% |

other unsecured creditors (in three of these cases, warrants were also distributed). These payments were for nominal amounts, ranging from $900,000 to $11 million. In thirteen cases, the out of the money creditor or shareholder received a portion of the reorganized firm's equity.

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