

# **Out-of-Court Public Debt Restructuring and Debtholder-focused Investor Communication**

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## **ABSTRACT**

Successfully conducting public debt out-of-court restructuring (OCR) requires near unanimous consent from dispersed bondholders. We predict and find that targeted investor communication by issuers is pivotal in alleviating information frictions between issuers and bondholders, thereby fostering consensus for successful OCR. Specifically, we find that debtholder-focused investor communication activities (Debt IC) are positively associated with the likelihood of OCR over costly Chapter 11 bankruptcy, while generic financial reporting information or shareholder-targeted communication has no such effect. Subsample analyses suggest that Debt IC is particularly effective when bondholders face challenges in assessing expected recovery rates or when issuers regularly engage in Debt IC, suggesting its role in conveying valuable forward-looking information and building relationships among bondholders. Additionally, we find that Debt IC helps reduce coordination frictions among dispersed debtholders. Overall, our findings highlight the unique role of Debt IC in enhancing the likelihood and effectiveness of public debt OCR for financially distressed firms.

**Keywords:** Information Environment; Investor Communication; Debt Markets; Public Debt; Out-of-Court Restructuring; Insolvency; Bankruptcy

# **Out-of-Court Public Debt Restructuring and Debtholder-focused Investor Communication**

## **I. INTRODUCTION**

Business failures, such as those following the global financial crisis and during the recent post-pandemic macro environment, often result in profound socio-economic disruptions, including job cuts, decreased consumer spending, reduced economic activity, and financial losses for investors, creditors, and other stakeholders. The adverse consequences of business failures highlight the need for effective corporate restructuring mechanisms to prevent such failures (Garrido 2011; Board of Governors of The Federal Reserve System 2011; United Nations 2005). Out-of-court restructuring (henceforth, OCR) is often considered a preferred alternative due to its lower direct and indirect costs than formal in-court restructuring under Chapter 11 of the U.S. Bankruptcy Code (Altman, Hotchkiss, and Wang 2019). Therefore, the potential factors that help firms restructure out-of-court and avoid costly legal insolvency resolution processes are subject to vigorous academic and policy debates (Bebchuk 1988; 2000; Aivazian and Zhou 2012).

However, information frictions between issuers and creditors coupled with steep coordination costs among creditors with differing incentives (Gilson, John, and Lang 1990; Mooradian 1994; Demiroglu and James 2015) can hinder OCR efforts. We contribute to this debate by studying whether and how issuers' information environment affects ex-ante OCR likelihood and ex-post restructuring outcomes. Our study focuses on *public debt* OCR, wherein issuers propose offers to bondholders to redeem their existing securities for cash or to exchange them for new ones with modified terms. For such proposed offers to be successfully consummated, issuers need to garner sufficient (often unanimous) consent from creditors. However, significant information frictions between dispersed bondholders and issuers can complicate the negotiation process and hinder issuers' ability to credibly

convey restructuring-related information to the bondholders. Further, unlike the restructuring of syndicated loans, which typically requires coordination among relatively few private lenders with potential access to detailed private information, the process of restructuring public debt poses distinctive challenges for issuers. This is due to the necessity of reaching a consensus among dispersed bondholders with different incentives and sophistication (Brunner and Krahen 2008; deHaan, Li, and Watts 2023; Morris and Shin 2004). For these reasons, the existence of public debt is considered a key determinant of whether a financially distressed firm successfully restructures out-of-court or resorts to a costly in-court Chapter 11 reorganization (Gilson et al. 1990).

Bondholders' decisions about accepting proposed OCR offers are fundamentally contingent on forward-looking financial evaluations and strategic plans of issuers that directly impact their expected recovery rates. Bondholders will accept the offer only if their expected recovery rates exceed what they expect to receive through an alternative bankruptcy proceeding. As noted above, information frictions arise from the inherent information asymmetry between issuers and external investors, hindering bondholders' evaluation of expected recovery rates (Weiss and Wruck 1998). Management typically possesses superior information about business prospects compared to bondholders and thus may use its information advantage to push for terms that favor their interests in the proposed offers. Bondholders must obtain information that is reliable enough to determine whether the firm's state of default is transient or persistent. In cases where such information frictions hinder bondholders from making sufficiently precise assessments about recovery rates, bondholders might advocate for a Chapter 11 filing to benefit from a credible and transparent legal process.

We propose that issuers' information environment is a potentially important determinant of public debt OCR success by mitigating information asymmetry between debtors and bondholders and achieving consensus among dispersed bondholders. Importantly, we categorize the information environment along three dimensions: the type of information (backward- vs. forward-looking), the

source of information (firm-initiated vs. third-party communication), and the target audience (debtholder- vs. equity holder-focused).

Given the unique and complex characteristics of public debt OCR, we expect forward-looking, firm-initiated, and debtholder-targeted information to be key in mitigating information asymmetry and achieving favorable outcomes in the public debt OCR setting. Specifically, bondholders' assessments of expected recovery rates critically depend on forward-looking information. Relying on backward-looking information, such as financial statements, holds limited value in this context. Further, firm-initiated information, such as clarifications that could address contentious aspects of proposed offers, holds higher levels of credibility, timeliness, and depth in comparison to third-party sources and is thus likely to be more effective in addressing information frictions (Chan, Chen, and Chen 2013; Ganesh and Iyer 2023).<sup>1</sup> Moreover, debtholder-targeted communication enables issuers to directly engage with bondholders and promote common views about the effects of restructuring on different bondholders. In other words, while such engagement with bondholders does not directly affect bondholder incentives, it could help reduce potential coordination frictions that may arise due to differing perceptions of the effects of the restructuring exercise on expected payoffs.

To test our prediction, we focus on four distinct measures of issuers' information environment. First, we construct debtholder-focused investor communication measures (hereafter, Debt IC) by searching for information related to bondholder-focused events, such as fixed-income conferences and fixed-income calls from the S&P Capital IQ database. Second, we infer equityholder-targeted information by the presence of investor relations (hereafter, IR) officers (Chapman, Miller, and White 2019). Third, we use restatements to infer overall financial reporting quality (Chen, Cheng, and Lo

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<sup>1</sup> We conducted an unstructured interview with a senior debt analyst from a large investment management firm that specializes in public debt investments. The analyst stressed that the firms' credibility is the primary factor they consider when evaluating potential investments and the effects of OCR. Firms that consistently communicate their prospects in a credible manner can build trust with debt analysts.

2013). Fourth, for third-party information intermediaries, we use sell-side analyst coverage and media news coverage.

We define distressed firms as those with distance-to-default scores in the bottom tercile of the sample for each year (Merton 1974; Bharath and Shumway 2008). We obtain firm-level debt restructuring outcomes from the Mergent Fixed-Income Securities Database (FISD) and bankruptcy outcomes from the New Generation Research (NGR) bankruptcy database. Our final sample comprises 385 financially distressed firm-years that either undergo OCR or file for formal Chapter 11 bankruptcy between 2006 and 2021.

We first investigate whether the issuer's information environment influences the relative likelihood of a distressed firm pursuing an out-of-court public debt restructuring process compared to a formal insolvency resolution process. We employ a linear probability model with industry and year fixed effects. Results show that Debt IC is associated with a higher likelihood of public debt OCR over bankruptcy. Specifically, comparing firms that do not have any Debt IC (25<sup>th</sup> percentile) to those that have one or two Debt IC (75<sup>th</sup> percentile) raises the OCR likelihood by 5.1 percentage points. Further, within the OCR sample, we find that Debt IC is associated with a higher likelihood of achieving the necessary consensus for successful OCR completion, implying that communication with bondholders helps issuers avoid costly bankruptcy by aiding the formation of consensus among bondholders. Importantly, other characteristics of the information environment, such as sell-side equity analyst coverage, media coverage, equity holder-targeted communication, and overall financial reporting quality, are not significantly associated with OCR likelihood and outcomes. These results suggest that debtholder-focused communication is particularly useful in the context of public debt OCR, owing to its forward-looking, firm-initiated, and bondholder-targeted attributes.<sup>2</sup>

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<sup>2</sup> Anecdotal evidence from Bed Bath & Beyond, a popular U.S. home goods retailer, illustrates the complexities of the debt restructuring process. On October 18, 2022, the company announced exchange offers and consent solicitations for certain outstanding debt securities. The deadline for the exchange offers was extended multiple times on November 9,

We next explore the mechanisms through which Debt IC enhances OCR success. We expect that Debt IC works through two non-mutually exclusive channels: (i) directly conveying value-relevant information to bondholders and (ii) fostering relationships with bondholders through direct engagement. First, Debt IC can reduce information asymmetry between issuers and bondholders, particularly when bondholders face difficulty in evaluating expected recovery rates or when the assessment works against their favor. Consistent with this argument, we find Debt IC's effectiveness in three scenarios: (i) when issuers' forward-looking information in Management Discussion and Analysis (hereafter, MD&A) lacks specificity about business plans and implementation strategies, (ii) when offers do not include favorable terms for bondholders, and (iii) when macroeconomic uncertainty is higher, and thus, forecasting cash flows and calculating discount rates is more challenging. Second, Debt IC can further help in OCR success through direct engagement with bondholders that may help issuers foster relationships that align the interests of all parties involved. In line with this reasoning, we predict and find that Debt IC is more effective when issuers have consistently engaged with bondholders (via Debt IC) during the preceding years. This suggests that continuous and direct engagement with stakeholders helps successful restructuring outcomes.

Despite employing a battery of control variables, an empirical identification challenge for this study is that firms that restructure out-of-court differ from firms that file for Chapter 11 along dimensions that may be correlated with the likelihood of conducting Debt IC activities. To partially mitigate such concerns, we perform entropy balancing analyses that allow us to address the effects of observable correlated characteristics and obtain robust results. Taken together, our results suggest that Debt IC has the potential to reduce information frictions by allowing issuers to communicate

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2022, November 21, 2022, and December 20, 2022. Despite these efforts, the company filed for bankruptcy protection on April 23, 2023. We find no evidence of targeted debtholder focused communication activities throughout the process, highlighting how a lack of investor communication may be associated with potentially costly bankruptcy.

their expected post-restructuring financial performance (The Investment Association 2018; Williams 2018).

While we emphasize Debt IC's contribution to OCR, it is important to recognize its potential interaction with other facets of the information environment. Therefore, in supplementary analyses, we explore whether Debt IC can generate media coverage, thereby enhancing its impact on OCR success by increasing the visibility of restructuring events to bondholders. We consider the potential interaction between Debt IC and media coverage important because Debt IC's direct reach may be confined to sophisticated institutional investors, leaving retail bondholders reliant on secondary sources like business news media due to limited direct access to management. Consistent with this reasoning, we observe that firms engaging in Debt IC receive abnormally high media coverage around restructuring events compared to those without Debt IC events. Furthermore, path analyses suggest significant indirect effects of Debt IC through media coverage, with a one-standard-deviation increase in the Debt IC corresponding to an additional percentage point increase in OCR likelihood through media coverage. These findings suggest that elevated media attention following Debt IC may encourage the participation of less sophisticated retail investors in the proposed offers by capturing their attention.

Our next set of findings highlights the distinct informational role that Debt IC plays in reducing coordination frictions among dispersed bondholders beyond shaping the information landscape. Extensive empirical and theoretical studies (Wruck 1990; Gertner and Scharfstein 1991; Morris and Shin 2004; Brunner and Krahen 2008; Li, Lou, Otto, and Wittenberg-Moerman 2021) document that dealing with creditors with different characteristics and incentives may involve serious coordination problems. Specifically, some bondholders may strategically hold out by not participating



in the proposed offers, potentially resulting in a less successful OCR.<sup>3</sup> We expect Debt IC to enhance valuation transparency, aligning bondholders' views on a firm's financial standing and thus facilitating their decision-making process. In other words, Debt IC mitigates coordination frictions by facilitating the alignment of debtholders' views concerning the financial status of the debtor and the potential effects of the proposed restructuring. We employ three proxies for coordination frictions: distressed bond pricing (i.e., bonds trading at 80 or lower), the number of unique bonds in proposed offers, and small trade size. We first validate our assumptions that coordination frictions pose challenges in lowering the likelihood of successful consummation of offers. We then perform analyses to offer more direct evidence on the informational role played by Debt IC in mitigating such frictions. Consistent with the idea that Debt IC fosters consensus by mitigating coordination frictions among bondholders with different views, our results indicate the effectiveness of Debt IC in contexts where coordination frictions are severe.

Finally, we examine whether the presence of Debt IC affects the ex-post success of out-of-court restructuring. While restructuring can alleviate immediate financial pressures, it may also extend the lifespan of a non-viable firm, potentially leading to repeated restructuring and ultimately resulting in a formal insolvency filing. We employ survival analysis to model firm survival after the first restructuring event and find that Debt IC activities contribute positively to the survival of firms after undergoing restructuring. Our results corroborate the notion that Debt IC helps issuers structure and strike more sustainable restructuring deals that can effectively alleviate financial distress and mitigate the likelihood of returning to the restructuring table in the future.

Our paper makes several contributions. Identifying factors that facilitate out-of-court solutions has been at the heart of the World Bank's Insolvency Initiative (Garrido 2011) and the legislative

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<sup>3</sup> The hold-out problem in debt restructuring refers to a situation wherein some creditors, often those holding smaller positions in a debt issue, benefit from the restructuring efforts made by other creditors without actively participating in the negotiation or bearing the associated costs.

guide issued by the United Nations Commission on International Trade Law (United Nations 2005). Studies find that concentrated ownership by creditors helps alleviate the holdout problem and thus increases the likelihood of OCR over bankruptcy (Gilson et al. 1990; Mooradian 1994; Demiroglu and James 2015). Our study focuses on public debt OCR, where concentrated ownership is less prevalent and achieving consensus poses a challenge to issuers. We highlight the importance of issuers' information environments in improving these voluntary OCR processes, particularly as concerns about transparency in restructuring proposals grow among investment practitioners (The Investment Association 2018).

In addition, we extend the debt contracting literature by examining the informational role of debtholder-focused communication during the OCR process. Prior research explores the role played by different aspects of the information environment in credit markets, including financial reporting quality (Bharath, Sunder, and Sunder 2008; Costello and Regina 2011), media coverage (Bushman, Williams, and Wittenberg-Moerman 2017), sell-side analyst coverage (Call, Donovan, and Jennings 2022), investor relations (Kim, Sethuraman, and Steffen 2021; Chapman, Lee, Reiter, and Williams 2023), and fixed-income conference calls (De Franco, Shohfi, Xu, and Zhu 2023). While these studies provide important insights regarding the importance of the information environment, we still have a limited understanding of the beneficial role of the information environment for financially distressed firms undergoing public debt restructuring, a different but important setting where information and coordination frictions are potentially severe. Our results support that, in the context of public debt restructuring, communication efforts that prioritize and engage debtholders may be more effective than traditional approaches that primarily focus on equity investors' information needs, backward-looking financial statements, or information produced by third-party intermediaries.

## **II. INSTITUTIONAL BACKGROUND AND EMPIRICAL PREDICTIONS**

### **“Out-of-court” Restructuring or an “In-court” Restructuring?**

Distressed firms experience significant challenges in meeting their maturing obligations. These firms (and their creditors) try alleviating distress through various restructuring mechanisms (Bibeault 1998; Nesvold et al. 2011). At a very broad level, restructuring could be undertaken through a voluntary out-of-court process (workouts) or under the auspices of a legal in-court insolvency proceeding (Altman et al. 2019; Newton 2003). A legal in-court process becomes necessary if the company cannot restructure out-of-court. Such legal reorganizations in the U.S. are conducted under Chapter 11 of the Bankruptcy Code. Chapter 11 restructuring arrangements may take anywhere from a few months to multiple years to complete and may involve operational restructuring actions such as discontinuing or selling certain business assets. They may also involve hefty professional fees and are often accompanied by much publicity, leading to adverse reputational consequences. Economic policy researchers (Garrido 2011) have argued that during times of widespread economic downturn, such as the global financial crisis and the Asian economic crisis of the late 1990s, the sheer scale of financial distress makes it impractical to rely solely on formal legal mechanisms and court proceedings to manage the economic situation effectively.

In contrast, OCR entails several advantages relative to an in-court reorganization process. First, the processes are controlled by key participants in the negotiation (i.e., management and creditors). Such control enables greater flexibility and a more tailored solution than a broader court-supervised legal process. Second, out-of-court efforts are generally less costly and quicker (Altman et al. 2019). Thus, firms may find it overall more beneficial to renegotiate and restructure the debt out-of-court than to seek a court-supervised remedy (Chatterji and Hedges 2001; Altman et al. 2019).

## **Public Debt Out-of-court Restructuring**

For OCR to be consummated, a minimum percentage of the target creditors (often 90-95%) must accept the proposed restructuring offers. An overarching legal principle that guides OCR exercises is that an issuer or any of its creditors cannot unilaterally impair another creditor's interests without their explicit consent (outside of the formal bankruptcy court setting). In other words, OCR generally requires achieving consensus among the affected creditors. The requirement of near-unanimous consent serves as a critical element in OCR arrangements, as it allows issuers to tackle free rider (or hold-out) issues, where some creditors may try to benefit from the restructuring without bearing its costs.

Nonetheless, the OCR of public debt poses unique challenges compared to private bank loans due to the diverse and dispersed nature of bondholders, which can lead to a failure to reach an agreement.<sup>4</sup> The situation can be exacerbated by a high level of information asymmetry. Unlike bank lenders, bondholders typically do not have access to privileged inside information during the origination phase and do not enjoy the informational benefits that arise due to relationship banking. Inherently greater information asymmetry for public debt makes it more challenging for issuers to credibly convey relevant forward-looking restructuring information to the bondholders.

A public debt restructuring exercise may either be conducted through a cash tender offer (i.e., redeeming existing securities for cash) or an exchange offer (i.e., exchanging old securities for new). Issuers request participation from bondholders to either accept a haircut and tender their bonds at a below-par price close to the prevailing market price for cash (in a cash tender offer) or swap their existing debt instruments for new debt or equity securities at terms that are more favorable to the issuer (in an exchange offer). When deciding whether to participate in such proposed offers,

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<sup>4</sup> For example, in November 2019, Unit Corp. announced an exchange offer, which failed to garner sufficient acceptance from its bondholders. Two months after the termination of exchange offers, it filed for Chapter 11 bankruptcy protection (Clark and Petrova 2020).

bondholders make complex judgments about the expected future performance of the restructured firm (Newton 2003; Moyer 2004). Bondholders will accept offers when it is reasonable to conclude that restructuring will yield a better result than alternatives (e.g., bankruptcy) based on their assessment of the future expected financial performance of the entity in each scenario. In the short-run, proposed offers could be viewed as a zero-sum game because issuers' gain (e.g., favorable credit terms) translates into bondholders' loss. This tension can only be resolved by promoting common interest between the issuer and the bondholders — that is, restructuring is necessary to avoid further distress or bankruptcy (Hanrahan, Summers, Lee-Lim, and Noll 2009) and can lead to better financial outcomes for both parties in the long run. For instance, from the viewpoint of bondholders, they will require reassurance from issuers that compromising on contractual terms would ultimately increase their eventual recovery. As expected, reaching such consensus among creditors becomes more difficult with a larger and more diverse set of creditors with potentially conflicting interests.

### **Role of Issuers' Information Environment in Public Debt Out-of-Court Restructuring**

Debt restructuring involves significant challenges due to valuation uncertainty, primarily caused by asymmetric information and incentive misalignment between firm management (along with its advisors) and creditors. Insiders and outsiders may view restructuring differently based on the information they possess, and insiders may resort to strategic disclosure during the restructuring process. Further, incentive conflicts may arise when management is incentivized to expedite reorganization to avoid reputational and other direct and indirect costs while debtholders seek to maximize their potential payouts. Such agency conflicts can lead to significant contracting costs (Jensen and Meckling 1976; Scott 1977; Smith and Warner 1979; Jensen 1986; von Thadden 1995).<sup>5</sup>

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<sup>5</sup> Incentive misalignment coupled with informational frictions may lead some firms to resort to the credibility and transparency afforded by a Chapter 11 process. For example, Brown, James, and Mooradian (1994) and Giammarino (1989) find that information asymmetry can be mitigated when firms opt to go through a formal in-court insolvency resolution process.

An extensive literature in financial economics and accounting documents that firm transparency can help mitigate information asymmetry and alleviate incentive problems.<sup>6</sup> In the public debt OCR context, issuer management's continuation bias could result in restructuring actions that are potentially self-serving (for example, proposing debt rescheduling that kicks the can down the road without meaningful repayment prospects for the creditors). Information asymmetry between dispersed bondholders and issuers could amplify such frictions and increase the overall cost of restructuring, as debt holders may need to spend additional resources to obtain decision-relevant information. We thus predict that the provision of credible forward-looking information by issuers plays a crucial role in facilitating bondholders' participation decisions.

### **Limitation of Traditional Information Sources**

While traditional sources of information such as financial statements, equity analysts, and media coverage play important roles in reducing information asymmetry (Frankel and Li 2004), we contend that their utility may be limited in the specific context of out-of-court public debt restructuring. Financial statements are standardized and backward-looking, often lacking the granularity and timeliness required to address the unique complexities of debt restructurings. Equity analysts, although insightful, tend to focus primarily on implications for equity holders, thus potentially de-emphasizing the intricate details that may be relevant to debtholders directly affected by the restructuring process. Similarly, general coverage by the business press may be of limited use for restructuring decisions if it primarily disseminates existing information rather than creating new content that would help investors understand restructuring implications (see, for example, Drake,

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<sup>6</sup> Holmström (1979) shows that even imprecise incremental information can improve the welfare of contracting parties. Von Thadden (1995) finds that in long-term contracts, suboptimal project liquidation can be eased by "delegated monitors" involved in information acquisition. Additionally, Sengupta (1998) finds that higher disclosure quality leads to lower borrowing costs, while Hope and Thomas (2008) provide evidence from segment reporting on the role of financial disclosures in mitigating agency costs.

Guest, and Twedt 2014 for similar arguments). Therefore, we expect media coverage may also not provide the nuanced, actionable information needed for effective negotiation and decision-making in the OCR context. In summary, these traditional information sources may not be fully equipped to mitigate the information asymmetry and coordination challenges that are inherent in OCR processes.

A small but growing number of studies highlight the role of internal IR professionals who cater to the information needs of equity and debt market participants. These studies find that IR professionals provide value by facilitating the assimilation of firm information into the market, resulting in positive outcomes (Chapman et al. 2019; Kim et al. 2021). Assimilating information involves guiding investors to supplementary resources that, while publicly available, might not be fully acknowledged without guidance and effectively synthesizing the wealth of information. For example, IR may ensure that investors and analysts remain well-informed about the company's activities, including acquisitions, capital expenditures, product launches, and more (Chapman et al. 2019). However, for reasons similar to those elaborated earlier, the effectiveness of information assimilation by IR may vary for distressed firms undergoing public debt OCR compared to financially healthy firms. Assessing business sustainability and allocating capital in such contexts of public debt restructuring relies heavily on forward-looking insights. In the context of public debt restructuring, these decisions are made amid substantial uncertainty regarding the prospects of the reorganized debtors.<sup>7</sup>

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<sup>7</sup> De Franco et al. (2023) shed light on the unique informational role of fixed-income conference calls in communicating with debt investors, emphasizing the difference between earnings conference calls and fixed-income conference calls. While fixed-income calls can reach a wide and untargeted audience (as anybody can dial in to listen to the call), they lack the personal engagement opportunities inherent in investor conferences. Also, fixed-income calls are relatively rare and more popular for privately held firms.

## **The Informational Role of Debt IC**

Given the limitations of issuers' traditional information sources in mitigating information asymmetry and reducing frictions in the contexts of distressed public debt OCR, we consider the role of targeted debt investor communication activities. These activities include conference presentations, investor/analyst days, and fixed-income conference calls tailored to engage debt investors. Several anecdotes note the increasing challenge issuers face in identifying bondholders as their holding periods have shortened and the investor base has become more diverse (Williams 2018). Thus, investor conferences could help issuers navigate such challenges by bringing together a diverse group of fixed-income professionals in one location and providing managers with opportunities to connect and develop relationships with bondholders in a well-defined physical and social setting (Bushee, Jung, and Miller 2011). In such conferences, investors have private access to managers through one-on-one or breakout sessions, during which they can ask managers questions and provide feedback (Bushee, Jung, and Miller 2017). Furthermore, presentations and Q&A sessions allow companies to provide a comprehensive overview of their financials and share their story, including their plans and strategies, with a wider credit-market investment community.

Our expectations, however, are not tautological. While activities such as Debt IC can improve restructuring-relevant transparency for investors, it may also use up precious managerial resources when the firm is resource-constrained and thus potentially be associated with less successful restructuring outcomes. Furthermore, given that activities such as Debt IC are firm-initiated, they can be rather self-serving. Firm management typically exhibits a continuation bias and thus may be tempted to paint a rosier-than-warranted picture of expected post-restructuring performance. Accordingly, strategic disclosure exercises can be potentially misleading rather than transparency-enhancing. Thus, the extent to which Debt IC activities help distressed borrowers reach an out-of-



court restructuring consensus with their bondholders instead of filing for an in-court reorganization process is an open empirical question.

We predict that the effectiveness of Debt IC in enhancing OCR success comes through two non-mutually exclusive channels: (i) directly conveying valuable information and (ii) helping cultivate relationships through direct and ongoing engagement. First, Debt IC offers clarity and specifics on restructuring, filling in information gaps, and guiding investor decisions. Typically, broker-dealers are appointed to conduct restructuring exercises on managers' behalf and distribute proposed offers and supporting documents (e.g., memorandum or offer document) to bondholders.<sup>8</sup> While these documents contain details of proposed offers (e.g., terms), they often omit important information, such as why issuers are conducting restructuring, which could make bondholders unclear about the purpose of the offers and thus inhibit them from making sound investment decisions. Thus, restructuring advisors recommend that issuers have open conversations with bondholders to address questions about restructuring proposals (The Investment Association 2018; Williams 2018). Brochet, Chychyla, and Ferri (2023) find that greater shareholder attendance enhances the information content of virtual meetings. Similarly, greater and ongoing bondholder engagement with management could lead to more informative exchanges about the firm's prospects and the terms of potential restructuring arrangements. Specifically, Debt IC enables managers to directly communicate with debt investors to clarify (often contentious) details of their restructuring plans and provide recent financial performance and forward-looking information such as long-term outlook and strategy. Managers can also explain the commercial rationale behind the proposals by sharing their views on how long the company can operate in the existing distressed environment and whether a default is likely in the near term. Thus, issuers can better convince a dispersed audience that restructuring is necessary to avoid further distress or bankruptcy. Such communication channels can continue until the proposed offers are

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<sup>8</sup> Issuers typically issue press releases when offers commence and terminate.

successfully consummated. We provide a few motivating anecdotes in Panels B and C of Appendix 1.

Second, we predict that Debt IC allows direct and ongoing engagement between management and bondholders, fostering a mutual understanding that helps successful restructuring outcomes. Typically, before undertaking the restructuring process (preparation period), distressed firms must consider dynamics between bondholders that may lead to free-rider problems or failed offers and structure their deals accordingly. The management team must also consider the notes' next interest payment date or maturity date to determine the date on which proposed offers need to be initiated and completed (offer commencement date and expiration date, respectively). Once the proposed offers commence, bondholders can accept or withdraw offers until expiration dates (i.e., offer effective period). Debt IC could improve the restructuring process at each stage by providing feedback from the investment community to management, helping firms to develop a good relationship with bondholders, and alleviating bondholders' concerns about the restructured firm's prospects. Such direct engagement with bondholders allows firms to collect first-hand information on their willingness to participate in potential offers. Based on the reactions received by issuers from many interactions with bondholders, they can make a more informed decision about whether to pursue restructuring and how to structure deals (Godsell, Jung, and Mescall 2023). Ongoing feedback from the investor community further enables borrowers to modify the terms of proposals in a manner that could maximize participation from bondholders.<sup>9</sup> Therefore, Debt IC helps foster a strong relationship between issuers and bondholders through regular interactions, which likely makes it relatively more accessible for them to promote a common interest in a distressed environment.

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<sup>9</sup> The advisory role of IR is supported by several anecdotes (IR magazine 2017). During interviews conducted by Deloitte, one IR officer said "If we have a major shareholder that has a question or a concern, again, we will proactively reach out to better understand the view. We may not agree with it, but we're at least trying to see where they're coming from." Another IR officer shared his story, saying "For example, some of our investors gave us feedback on HP's return on invested capital. Working with the CFO and the finance teams, a lot of work has been done on improving the process around return on invested capital."

## Debt IC and Coordination Frictions

Besides information asymmetry, coordination frictions between different bondholders can further impede the chances of OCR success. Prior research demonstrates that firms with a more heterogenous group of creditors (e.g., with a greater number of different creditor types) cannot easily renegotiate their debt agreements with creditors, as these creditors find it difficult to coordinate their actions and interests when the borrower underperforms (Gertner and Scharfstein 1991; Asquith, Gertner, and Scharfstein 1994; Berglöf and von Thadden 1994; Morris and Shin 2004). In our context, coordination frictions arise due to differing entry prices, valuation perspectives, and risk appetites among bondholders (Li et al. 2021).<sup>10</sup> Specifically, bondholders may acquire their positions at different price points – from those who purchase bonds at par upon issuance to distressed debt investors who obtain large positions from the secondary market at significantly below par. For example, bondholders who invested at discounted prices might be more inclined to support restructuring that gives them a high return. In contrast, par bondholders might be less inclined to participate in the same offer if their expected recovery rates from the proposed offers are lower. In addition, bondholders may hold different opinions about the extent of the losses they may face or the impact of the restructuring on their respective positions. Some distressed buyers may expect positive returns from a liquidation process and may not want to subject themselves to an uncertain reorganization process (Gilson et al. 1990). For example, distressed debt funds with little skin in the game may try to maximize their payouts while jeopardizing a restructuring favored by other risk-averse bondholders who want to exit their positions. Such divergence in bondholder characteristics can lead to disagreements on the best course of action for restructuring. Coordination problems may

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<sup>10</sup> See also similar arguments in Ayotte and Skeel (2013) in the context of bankruptcy frictions among heterogenous creditor groups.

also stem from the difference in views among the different bondholders about the effects of the proposed restructuring offers. Such differences in views may be due to a variety of reasons, including information processing and analysis abilities and access to company management. While coordination frictions resulting from underlying economic incentives that stem from acquisition prices and investor type may be difficult to address, we argue that at the very least, effective and transparent communication about what the restructuring offer entails for different bondholders in terms of prospective recoveries can be useful in the formation of common views among bondholders.

Unlike in a private loan setting, direct renegotiation with specific bondholders is difficult in public debt OCR. Therefore, changing contractual terms ex-post outside of a restructuring exercise is very challenging. We thus argue that issuers can rely upon aspects within their control, such as improvements in the information environment, to help mitigate coordination problems. By promoting a transparent and frequent exchange of relevant restructuring information, Debt IC helps mitigate the uncertainty that often clouds bondholders' estimation of expected post-restructuring prospects. This increased clarity allows bondholders to form a more unified view of the firm's financial health and prospects. This, in turn, helps reduce coordination problems due to heterogeneous creditor opinions and fosters consensus about future actions.

### **III. SAMPLE AND VARIABLE CONSTRUCTION**

#### **Sample Selection**

We focus on a sample of financially distressed U.S. public firms from 2006 to 2021.<sup>11</sup> Public debt OCRs are identified using the Fixed-Income Securities Database (FISD) compiled by Mergent FISD, a comprehensive source of public debt information (Korteweg 2007). We collect all exchange

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<sup>11</sup> We start our sample period in 2006 due to staggered rollout of coverage in TRACE until 2006.

and tender offers for bonds identified at the 9-digit CUSIP level. Then, we merge these restructuring data with the list of financially distressed firms using historical CUSIP, TICKER, and company names (1,534 observations of bond offers).<sup>12</sup> We define a firm as financially distressed if its distance-to-default is in the bottom tercile of the sample in a particular year. We estimate distance-to-default following Merton (1974) and Bharath and Shumway (2008) using financial statement data from the COMPUSTAT annual database and stock return data from the CRSP daily files.

Figure 1 presents the number of proposed offers for bonds and the percentage of failed offers in our sample over time. We classify the offers as failed execution if no face value is eventually tendered or exchanged. Consistent with anecdotal evidence that financial distress caused by the pandemic has led to a surge in the number of proposed offers and rising interest rates increase the need for restructuring of debt (Clark and Petrova 2020), we find that public debt OCR is relatively more prevalent in recent years. In general, we find that the likelihood of failed offers moves countercyclically (i.e., increases in times of macroeconomic uncertainty) and can reach up to 20%-30%, suggesting that issuers may find it particularly harder to convince bondholders when OCR is most needed.

In our main analyses that compare OCR with bankruptcy likelihood, we treat multiple restructurings by the same firm within a year as part of the same exercise and exclude OCR followed by a bankruptcy filing within less than a year of OCR. This narrows the OCR sample down to 531 observations. For bankruptcy filing dates, we use the New Generation Research (NGR) bankruptcy database (113 observations). As our focus is on public debt OCR, we further restrict the bankrupt firm sample to those with outstanding public debt using capital structure data from Capital IQ, which

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<sup>12</sup> We exclude exchange offers in which convertible notes are converted into equity as these offers may be conducted independently of a distressed debt restructuring process. 52% (48%) of the observations are tender offers (exchange offers). Out of all exchange offers, 99% (1%) are associated with debt-for-debt exchanges (debt-for-equity exchanges).

reduces the bankrupt data to 86 observations. We stack the OCR and bankruptcy data, resulting in a total of 617 observations. To this dataset, we additionally merge bond price and trading volume information from TRACE and control variables from CRSP and I/B/E/S, resulting in a dataset of 385 observations. We provide detailed variable definitions in Appendix 2.

### **Proxies for Information Environment**

We discuss the five main variables used in our study to proxy for issuers' information environment. First, we identify Debt IC using S&P Capital IQ. S&P Capital IQ provides the details of firm IR events, such as Conferences, Company Conference Presentations, Fixed Income Calls, Special Calls, Shareholder/Analyst Calls, and Analyst/Investor Day. We search for debt-related keywords in the detailed summary of events and classify IC events as debt-specific if the summary contains any debt-related keywords. In Appendix 1, we provide a list of keywords and examples of identified Debt IC events. Based on this information, we construct *Debt IC*, which is the natural logarithm of one plus Debt IC events in the year prior to either offer commencement dates for OCR or bankruptcy filing dates. Second, following prior literature (Chapman et al. 2019; Kim et al. 2021), we identify the presence of investor relations personnel to proxy for equity holder-focused IC activities by searching for IR officer-related keywords in earnings call transcripts from S&P Capital IQ (*IR*).<sup>13</sup> *IR* is an indicator variable that equals one if the sample firms' conference transcripts in the year prior to either offer commencement dates for OCR or bankruptcy filing dates contain any keywords related to investor relations professionals and zero otherwise (Chapman et al. 2019). Third, using Ravenpack data, we construct *Media*, the natural logarithm of one plus the number of media coverage within a year before OCR or bankruptcy filing dates. We also construct *Analyst Following* from I/B/E/S, which is the natural logarithm of one plus the number of analysts in the year prior to

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<sup>13</sup> Specifically, we search earnings conference call transcripts for the following keywords: “investor relations”, “corporate communications”, “public relations”, and “external relations.”

either offer commencement dates for OCR or bankruptcy filing dates. *Media* and *Analyst Following* capture information produced by third-party information intermediaries. Last, we use restatements to proxy for financial reporting quality. *Restate* is an indicator variable that equals one if firms restate their financial statements within a year before OCR or bankruptcy filing.

#### IV. EMPIRICAL ANALYSES

##### Issuers' Information Environment and OCR Likelihood

Financially troubled firms choose between conducting OCR or filing for Chapter 11 bankruptcy. To investigate the relationship between information asymmetry and the likelihood of achieving OCR instead of the alternative option of filing for bankruptcy, we construct the baseline sample comprising financially distressed firms that either undergo OCR or opt for bankruptcy. We estimate the following equation as a linear probability model:

$$OCR_{i,t} = \beta_0 + \beta_1 Information_{i,t-1} + \sum_k \beta_k Controls_{i,t-1} + FE + e_{it} \dots (1)$$

where  $i$  indexes firm and  $t$  the year of OCR or bankruptcy filing dates. The dependent variable, *OCR*, is an indicator variable that equals one if distressed firms have an OCR and zero otherwise (i.e., a bankruptcy filing). All independent variables are constructed to predate OCR or bankruptcy filing dates as closely as possible. From this point onward, subscripts are omitted for brevity. *Information* is a set of information environment variables, including debtholder-focused investor communication (*Debt IC*), equityholder-focused investor relation (*IR*), media coverage (*Media*), number of analysts (*Analyst Following*), and restatement (*Restate*). To control for other observable firm-level heterogeneities that could affect OCR likelihood, we include firm characteristics such as firm age (*Firm Age*), market-to-book (*MTB*), leverage ratio (*Leverage*), credit ratings (*Credit Rating*), firm size (*Size*), return on assets (*ROA*), R&D expenditures (*R&D*), interest coverage ratio (*Interest*

*Coverage*), institutional ownership (*Institution Own*), public debt ratio (*Public Debt Ratio*), and distance to default (*Distance to Default*). In addition to controlling time-varying firm characteristics, we include two-digit SIC industry and year fixed effects to remove unobservable time-invariant industry and year factors that may lead to spurious associations between information variables and OCR likelihood. Standard errors are clustered by industry. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles.

Panel A of Table 1 presents the descriptive statistics for the sample of financially distressed firm-years that restructure public debt out-of-court or go bankrupt. The final sample includes 385 observations for U.S financially distressed public firms that either undergo OCR or file for bankruptcy from 2006 to 2021. On average, sample firms have 0.85 Debt IC activities (*Debt IC*), with the 25th percentile value at zero Debt IC and the 75th percentile value at two Debt IC activities. 28% of sample firms have at least one Debt IC activity. Sample firms are, on average, followed by eight analysts (*Analyst Following*) and have 414 news articles created by media a year before OCR or bankruptcy event (*Media*). 73% of the sample firms have equity investor communication professionals (*IR*). 10% have restated financial statements. 78% of financially distressed firms conduct OCR as opposed to going bankrupt. The average leverage ratio (*Leverage*) is 55%, and the ratio of public debt to total liabilities (*Public Debt Ratio*) is 65%.

Panel B of Table 1 presents the Pearson correlation coefficients among the variables. Several patterns are worth noting. For example, the correlation between *DebtIC* and *IR* is 0.19 (p-value < 0.05), suggesting each measure may be related yet might reflect distinct facets of investor relations activities focused on different investor bases. We note that participants of Debt IC events are mainly CEOs, CFOs, or treasurers, implying that IR professionals may not be directly involved in communications during Debt IC activities, though they might assist in organizing such activities. In addition, the correlation between *Debt IC* and media coverage (*Media*) is 0.1, but it is not statistically



significant. Similarly, the correlation between *Debt IC* and restatement (*Restate*) is 0.1, which is not statistically significant either. *Debt IC* correlates positively and significantly with *Analyst Following* (0.2, p-value < 0.05). When examining the relationship between the information environment variables and *OCR*, we observe that *Debt IC*, *Analyst Following*, and *Media* are positively and significantly correlated with *OCR*. The other information variables, *IR* and *Restate*, are positively but not significantly associated with *OCR*.

Table 2 presents the results of regressing the *OCR* indicator on each of the information environment measures in Columns (1) through (5) and all together in Column (6). In Column (1), the coefficients on *Debt IC* are positive and significant. The results support our expectation that financially distressed firms that hold *Debt IC* events are more likely to have *OCR* than go bankrupt. In terms of economic significance, according to Column (1), the results suggest that moving from zero *Debt IC* to one *Debt IC* and then to two *Debt IC* raises the *OCR* likelihood by 3.2 percentage points ( $=0.046 \times (\text{Log}(2) - \text{Log}(1))$ ) and 1.9 percentage points ( $=0.046 \times (\text{Log}(3) - \text{Log}(2))$ ) respectively. In addition, we find that media coverage and analyst followings are generally positively associated with the likelihood of *OCR*. In contrast, we find that except for *Media* in Column (3), other aspects of the information environment – *IR*, *Analyst Following*, and *Restate* – are not statistically significantly associated with *OCR* likelihood in Columns (2), (4), and (5). Our inferences are generally unaffected when we include all the information measures in the same model (Column 6).<sup>14</sup> These findings suggest that various information sources may serve distinct roles in aiding bondholders' evaluation of anticipated recovery rates in restructuring financially distressed companies' public debt. The results are broadly consistent with the expectation that *Debt IC* reduces restructuring-specific information frictions by offering firm-initiated, forward-looking information that could address the intricacies of

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<sup>14</sup> To examine potential issues of multicollinearity among the various information variables, we examine the variance inflation factor (VIF). All variables have VIF below 2, suggesting moderate correlation among the regression covariates.

the proposed restructuring, which other sources of information may not be able to provide adequately. In subsequent analyses, we only present regression results of *Debt IC* for brevity and focus on its interpretation.

### **Channels Through Which Debt IC Affects OCR**

We conduct several subsample analyses to examine the potential channels through which Debt IC activities influence the likelihood or the success of OCR. We predict that the effectiveness of Debt IC in enhancing OCR success comes through two non-mutually exclusive channels: (i) directly conveying relevant information that helps facilitate bondholders' assessment of expected recovery rates and (ii) fostering relationships with bondholders through direct engagement.

#### ***Communication of Value-Relevant Information***

To test the first channel through which Debt IC improves the information environment by directly conveying value-relevant information, we conduct analyses across three cross-sectional characteristics: specificity in the forward-looking disclosures, favorability of restructuring terms, and economic uncertainty.

##### **Specificity of the forward-looking disclosures**

Prior studies suggest that forward-looking disclosures in the MD&A section of 10-K filings can mitigate the lower information efficiency when stock prices can not fully reflect earnings (Li 2010; Muslu, Radhakrishnan, Subramanyam, and Lim 2015). We expect Debt IC to be particularly effective in bondholders' assessment of expected recovery rates when issuers fail to provide specific forward-looking disclosures in MD&A. To test this expectation, we first extract the MD&A sections from 10-K filings. We then employ natural language processing tools such as the FinBERT-FLS

model to classify sentences in MD&A into specific forward-looking statements (*Specific FLS*).<sup>15</sup> In our context, firms providing specific business plans and implementation strategies are assigned a high value of *Specific FLS*.<sup>16</sup> We divide our sample into groups with high and low *Specific FLS* based on the industry median for each year.<sup>17</sup> Panel A of Table 3 reports the results. Consistent with our expectations, we find that *Debt IC* is positively and statistically significantly associated with the likelihood of OCR within the low *Specific FLS* subsample in Column (2).

### **Favorability of restructuring terms**

We next explore the effects of Debt IC when the new contractual terms in proposed offers are less favorable to the bondholders (or when they subject them to greater impairment). Such cases include tender offers in which issuers request bondholders to either accept a haircut or tender their bonds at a price that is generally below par. In an exchange offer, issuers request bondholders to exchange their existing debt instruments for new debt or equity securities with more favorable terms for the issuer, such as a reduction in coupon rates with very little cash outlay. These offers involve long-term complex valuation and risk assessments about the restructured entity, as such terms may result in immediate losses for the bondholders. Therefore, bondholders are likely to accept offers only when the terms are deemed to be overall favorable to them or if they can reasonably determine that restructuring will result in a better outcome than the alternative (i.e., not accepting the offers) in the long run. We argue that bondholders require more credible assurance from the issuers about the advantages of accepting less favorable restructuring terms (over their recovery prospects through an

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<sup>15</sup> FinBERT is a type of large language model which is pre-trained using financial communication texts. This model overcomes the weakness of the traditional dictionary method that requires researchers to grasp business knowledge ex ante (Huang, Wang, and Yang 2022). FinBERT-FLS is a FinBERT model fine-tuned on 3,500 manually annotated sentences from MD&A of annual reports of Russell 3000 firms.

<sup>16</sup> Appendix 3 provides examples of the types high specific vs. low specific forward-looking statements (FLS) in MD&A.

<sup>17</sup> We observe that *Specific FLS* has considerable variations across years and industries; in particular, *Specific FLS* is more prevalent during times of economic uncertainty and in industries facing high systematic or macroeconomic risks, suggesting that firms may have incentives to provide more specific forward-looking public disclosures to mitigate information uncertainty. For these reasons, we partition the sample based on the industry median of *Specific FLS* within each year.

alternative bankruptcy process). We expect that Debt IC will assist issuers in credibly communicating the merits of the restructured contractual terms by providing more relevant information on contentious details of the offers.

To test this prediction, we construct an indicator variable, *Favorable Term*, which equals one if the issuer pays a premium to the tendered note in addition to the tender price or if the note offered in exchange for the original note contains favorable terms for bondholders (e.g., higher coupon rates, shorter maturity, or increased security) and does not include any unfavorable terms for the bondholders (lower coupon rates, extended maturity, or reduced security), and equals zero otherwise. The outcome variable is the successful consummation of the OCR effort (*Successful OCR*). It is an indicator variable that equals one if a proposed offer (either tender or exchange offer) is successfully consummated and zero otherwise.

Panel B of Table 3 presents the results of the subsample analyses for OCR offers with and without favorable terms in Columns (1) and (2), respectively. As expected, the effect of *Debt IC* on *Successful OCR* is positive and statistically significant in the sample without favorable terms in Column (2). However, there is no significant effect for the sample with favorable terms in Column (1). These results suggest that *Debt IC* helps convince the bondholders to accept proposed offers, particularly when the terms are not immediately favorable to them.

### **Economic uncertainty**

Restructuring offers involve complex valuation and risk assessments about the prospects of the restructured entity. Arguably, such assessments are inherently more difficult during periods of macroeconomic uncertainty, as forecasting cash flows and calculating discount rates become more challenging. We thus expect targeted communication by firms to play a more significant role in such uncertain economic conditions. To test this idea, we infer macroeconomic uncertainty using the Chicago Board Options Exchange Market Volatility Index (*VIX*). Panel C of Table 3 reports the

results for subsamples partitioned by the sample median value of *VIX*. Consistent with our expectation, we find that *Debt IC* is positively and statistically significantly associated with the likelihood of OCR within the high *VIX* subsample in Column (1).

### ***Direct and Ongoing Engagement – Relationship-building***

Another channel through which *Debt IC* affects OCR likelihood is its direct engagement with bondholders, which helps issuers build relationships with bondholders. To test this channel, we expect that issuers who have regularly engaged in *Debt IC* over the preceding years have likely established long-term relationships with bondholders that aid them in advancing common interests regarding the necessity of OCR during periods of high distress. We construct a variable based on the frequency of *Debt IC* events in preceding years. *Regular Debt IC* is an indicator that equals one if the firm has engaged in *Debt IC* in two out of three previous years prior to either OCR or bankruptcy events and zero otherwise. We partition the sample based on *Regular Debt IC* and expect the effects of *Debt IC* to be more pronounced for the subsample in which *Regular Debt IC* equals one. Panel D of Table 3 reports the regression results. *Debt IC* is positive and statistically significant in both samples. In addition, consistent with the direct engagement and relationship-building arguments, the coefficient magnitude for *Debt IC* in the subsample where *Regular Debt IC* equals one (Column 1) is significantly greater than its counterpart in Column (2) (p-value < 0.01).

### **Indirect Effects of Debt IC Activities Through Media Coverage**

The previous section highlights potential mechanisms through which *Debt IC* *directly* affects OCR likelihood. In this section, we explore the potential for *Debt IC* to *indirectly* influence OCR by improving the visibility and perception of the restructuring offer through its media coverage. Heightened media attention serves dual roles (Samuels, Taylor, and Verrecchia 2021): First, it broadens the reach of the restructuring proposals by making restructuring events more visible to

bondholders, particularly retail investors. Retail bondholders have increasingly constituted a significant proportion of bond ownership over the years (deHaan et al. 2023). Such investors typically lack direct access to management through Debt IC events. Therefore, heightened visibility of restructuring offers through the media may increase the awareness of these informationally disadvantaged and facilitate their participation in the offers. Second, media coverage potentially adds a layer of public scrutiny to the restructuring activities (Miller and Skinner 2015). Such scrutiny can potentially provide stakeholders with greater confidence in the legitimacy and viability of the proposed restructuring offer. Media focus on restructuring can also pressure issuers to adhere to best practices, thereby increasing the chances of a successful outcome.

We begin by validating that Debt IC is positively associated with media coverage by analyzing abnormal media volume around offer commencement dates. Panel A of Figure 2 presents the abnormal media volumes during the 21 business days surrounding the offer commencement dates, computed separately for restructuring firms with Debt IC prior to these dates and those without. We observe overall increases in abnormal media volumes leading up to the offer commencement dates. In addition, in line with our expectation, there is a 32% higher abnormal media volume on the offer commencement dates for firms that have conducted Debt IC (0.85 vs. 0.64, p-value of 0.09 from t-tests). However, no significant differences in abnormal media volumes are found on other days within this window.

Next, we estimate a structural equation model to demonstrate the indirect effect of media coverage for Debt IC on OCR likelihood. The results are presented in Table 4, and the path diagram is presented in Panel B of Figure 2. We find that *Debt IC* has a positive direct effect on OCR likelihood (coefficient of 0.04 with a p-value of 0.02). More importantly, *Debt IC* is significantly associated with the likelihood of OCR indirectly through media coverage (0.02 with a p-value of 0.04); for a one-

standard-deviation increase in *Debt IC*, there is a one percentage point increase ( $= 0.624 \times 0.02$ ) in the likelihood of OCR.

### **Entropy Balancing**

Innate firm characteristics may affect the probability of conducting Debt IC, which may be associated with the likelihood of undergoing OCR or filing for bankruptcy. We examine the robustness of our findings by employing the entropy balancing approach to control for differences in firm characteristics in conducting Debt IC (Hainmueller 2012; McMullin and Schonberger 2020). We use the control variables as matching covariates. Panel A of Table 5 presents the differences in means and standard deviations of firm characteristics between firms with and without Debt IC in the unmatched sample. Panel B of Table 5 presents the results using the weights estimated from entropy balancing. Our results for Debt IC continue to hold, suggesting our inferences are not sensitive to entropy balancing matching.

### **Coordination Frictions, the Information Environment, and OCR Success**

We perform additional analyses to offer more direct evidence on the challenges posed by coordination frictions in restructuring and the role of the information environment in mitigating such frictions. Specifically, we examine (1) whether coordination frictions lower the likelihood of successful consummation of offers and (2) whether the issuers' information environment moderates the effect of coordination frictions, if any, by enabling issuers to garner sufficient acceptance of the offers by bondholders. We identify three note-level proxies for coordination frictions (*Coordination Friction*): low bond prices, small trading volumes, and the number of bonds restructured. *Price  $\leq 80$*  is an indicator variable that equals one if the average price in the year prior to the offer commencement dates is equal to or less than 80 and zero otherwise. *Small Tr DV* is the aggregate trading dollar volume below \$100,000 in the year prior to the offer commencement dates deflated by the principal amount

of the note (deHaan et al. 2023). To adjust for the skewness of *Small Tr DV*, we group the raw measure into quintiles. *NBond Restructured* is the natural logarithm of the number of bond types being restructured in a given firm-OCR exercise. The variables proxy for the presence of distressed investors, retail investors, and the number of various bondholders involved in the proposed OCR offers.

Panel A of Table 6 presents the summary statistics of the sample. The sample for this test includes successfully executed and failed OCR at the bond offering level from 2006 to 2021, with a resulting sample size of 694. Within the sample, 91% of the restructuring offers are successful (*Successful OCR*). 11% of the restructured notes traded at prices below 80. Aggregate small trading volumes represent 48% of the principal amount. Nine bond types are, on average, restructured as part of the same restructuring exercise (i.e., on the same firm-offer date).

Panel B of Table 6 presents the regression results. Consistent with our expectations, in Panel B of Table 6, restructuring exercises with high coordination frictions are significantly associated with a lower likelihood of successful execution. The results remain robust across all three columns. We further examine whether aspects of the information environment, particularly *Debt IC*, can moderate these negative associations by alleviating coordination frictions. We find that *Debt IC* is positively and significantly associated with the likelihood of successful OCR. In contrast, other information environment variables are not significantly associated with the dependent variable. In terms of economic significance, one standard deviation increase in Debt IC frequency increases the likelihood of successful OCR by 3 percentage points ( $0.042 \times 0.632$ ) for an average firm.

We further examine whether *Debt IC* can moderate these negative associations by alleviating coordination frictions. Panel C of Table 6 reports the regression results. The coefficients on the interaction term, *Debt IC*  $\times$  *Coordination Friction*, are positive across all columns but significant at the 5% level only in Column (2), where *Small Tr DV* is used as a proxy for coordination frictions. To



assess the economic magnitude of these results, we provide interaction plots in Figure 2. Specifically, we plot fitted values of *Successful OCR* (y-axis) by *Coordination Friction* (x-axis) and how these relations vary by *Debt IC*. Increases in coordination frictions decrease the likelihood of successful OCR by 10-15 percentage points. More importantly, a one-standard-deviation increase in *Debt IC* moderates this negative relationship by 3-5 percentage points. Our results suggest that targeted communication with bondholders likely increases the likelihood of successful OCR by reducing coordination frictions among the various bondholders. In untabulated analyses, we include interaction terms between coordination frictions (*Coordination Friction*) and other information variables. We note that other generic or unrelated aspects of the information environment do not significantly affect coordination frictions.

### **Ex-Post Survival of Restructured Firms**

While OCR can alleviate borrowers' impending credit concerns, such as liquidity needs in the short run, poorly conducted OCR not supported by a viable business model can lead to borrowers seeking additional restructuring in the future or eventually filing for bankruptcy in the long run. Thus, not only is valuation-relevant information key to whether an out-of-court restructuring will take place in the first place, but it is also an important ingredient in investors' assessment of post-restructuring prospects and issuers' viability (Garrido 2011). We expect that direct engagement with bondholders will assist issuers in structuring more issuer-favorable deals that can effectively alleviate financial distress. Hence, as focused communication reduces uncertainty about the business's future viability and promotes informed and sustainable investment decisions, we expect a positive association between the presence of Debt IC and OCR efficiency.

To test the effect of Debt IC on the ex-post efficiency of the restructured firm, we employ a survival approach in which we model the firm's survival after the first restructuring event. Survival analysis models the time that precedes change from an original state to a transition state (Kiefer 1988;

Audretsch 1991). In our setting, the original state is when firms first enter the out-of-court restructuring process, and the transition state is when the restructured firms recover successfully. We define an OCR exercise as sustainable if it does not experience another restructuring event within three to five years following the initial OCR, nor does it file for bankruptcy during this period or by the end of the sample period, whichever is longer.<sup>18</sup> Table 7 presents the results. The coefficient on Debt IC is positive and statistically significant, providing evidence of the relation between Debt IC and the success of OCR. The coefficient for Debt IC is 0.249 (Column 1) and 0.226 (Column 2), both statistically significant. This suggests that an increase in the number of Debt IC events significantly increases the likelihood of the OCR being sustainable. In terms of economic significance, having one Debt IC event (compared to having none) increases the odds of OCR sustainability by approximately 18.8% in Column (1) and 17.0% in Column (2), holding other variables constant.<sup>19</sup> However, this positive and significant effect is not observed to the same extent for all other information variables. The results imply that when distressed firms engage in effective communication with debtholders, it can positively impact the sustainability of the restructuring effort. Other types of information sources or communication efforts may not impact OCR sustainability strongly.

## V. CONCLUSION

We study how issuers' information environment affects public debt restructuring outcomes for financially distressed firms. The success of an OCR exercise requires the coordination of a dispersed group of bondholders with often diverging incentives in the presence of significant information frictions. We contend that compared to generic elements of the information environment

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<sup>18</sup> Compared with logistic and probit regressions, survival analysis offers two advantages: (1) it handles censorship issues using the likelihood estimation method. Censoring refers to the issue that the information for the occurrence of a specific event is incomplete, and the exact duration of time is not available for all observations. In our case, restructured firms may file for bankruptcy after the end of the sample period in 2022, but due to data availability issues, we cannot observe such events. (2) it addresses staggered entry-related issues as firms restructure on different dates.

<sup>19</sup> For a change from zero to one Debt IC event, the change in the logarithm of Debt IC ( $\Delta$ Debt IC) is approximately 0.693. The economic significance is calculated as:  $(\exp(0.249 \times 0.693) - 1) \times 100\% \approx 18.8\%$ .

targeting other stakeholders, debtholder-focused communication is more effective in reducing information frictions by conveying forward-looking value-relevant information for restructured firms and fostering relationships with bondholders. We find that Debt IC activities are positively associated with the likelihood of undergoing public debt restructuring over pursuing a costly Chapter 11 bankruptcy process. In contrast, we do not find significant effects for other characteristics of the information environment, such as equity holder-focused communication and overall financial reporting quality, on the OCR. In addition, Debt IC indirectly enhances the OCR process by garnering greater media coverage and increasing the restructuring proposal's visibility and credibility. Finally, we find that Debt IC increases the likelihood of OCR when coordination frictions are high and contributes to more sustainable restructuring outcomes. Overall, our findings highlight the influential role of Debt IC activities in reducing information frictions and coordination problems, thus enhancing the OCR likelihood for financially distressed firms. These findings suggest that policymakers could consider the potential role of transparent and targeted communication when formulating regulations to facilitate efficient restructurings of financially distressed firms.

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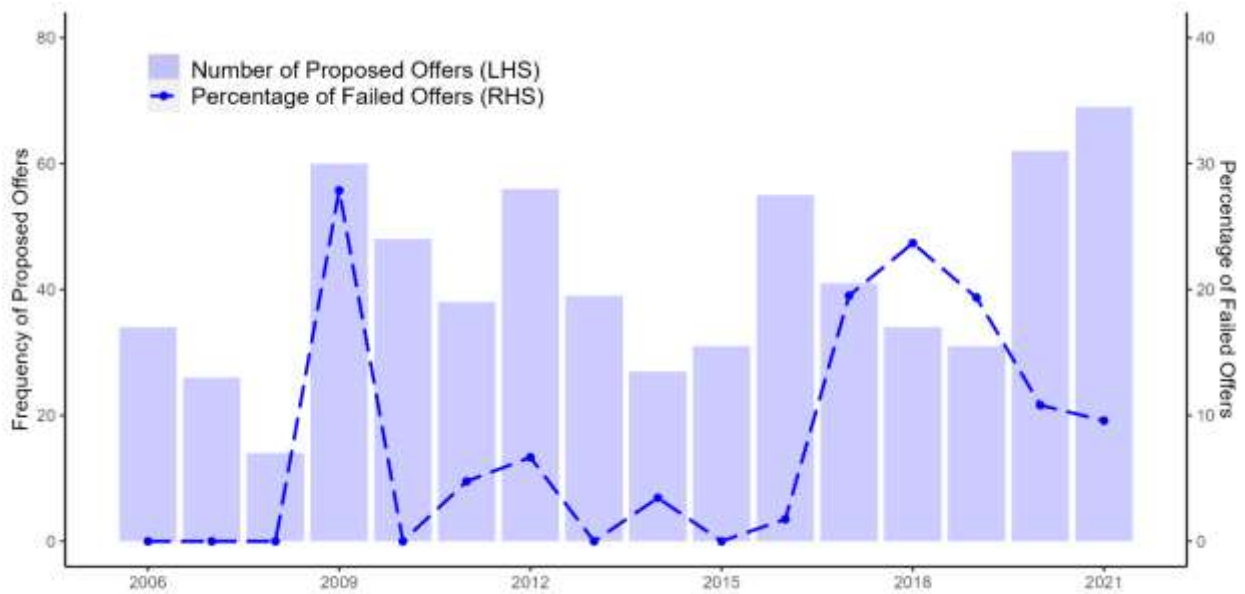
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## Figures and Tables

**Figure 1. OCR and Percentage of Failed Offers**

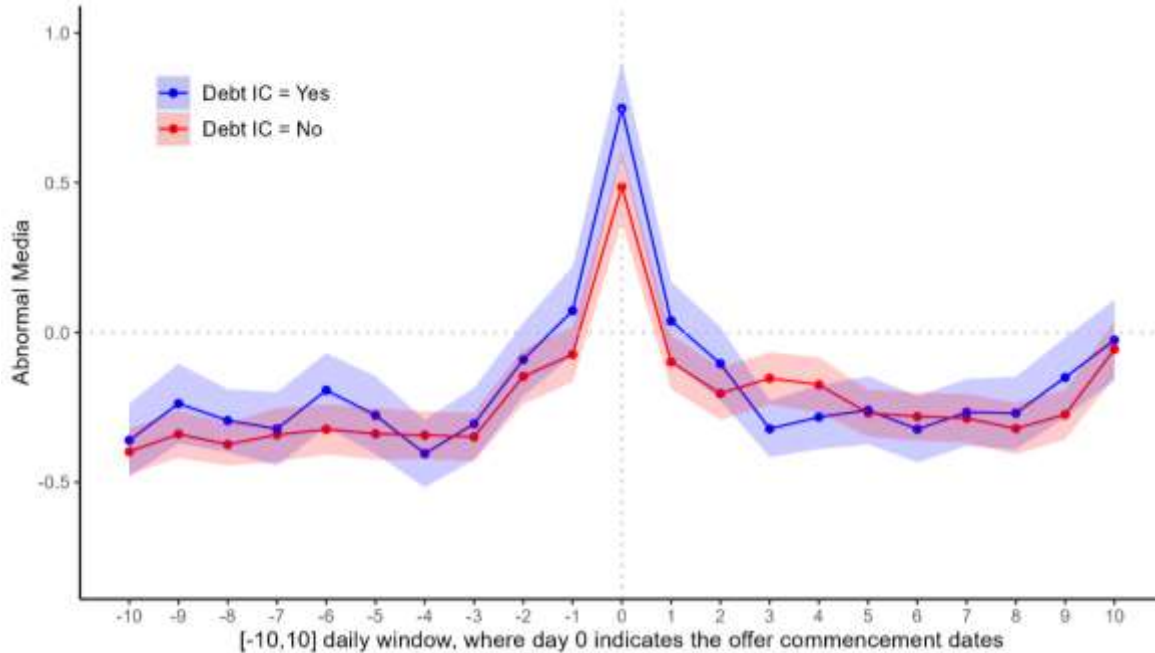
The figures show the number of notes offered for restructuring (bar) and the percentage of offers that fail to garner sufficient acceptance from bondholders (line) throughout the sample period (2006-2021) in the sample of financially distressed firms. Financially distressed firms are defined as those whose distance to default belongs to the bottom tercile of the sample for each year.



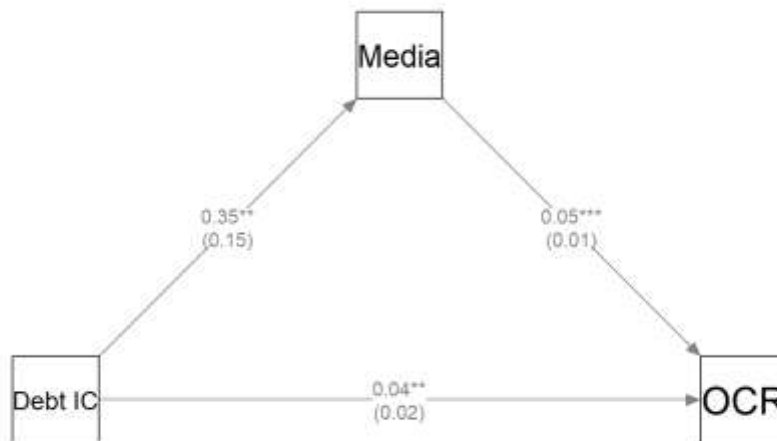
**Figure 2. Interaction Between Debt IC and Media Coverage**

The figure in Panel A shows the abnormal media volume and its 90% confidence intervals over the [-10, 10] business day period around the offer commencement dates (marked as 0 on the horizontal axis), divided into subsamples based on the presence of Debt IC. Abnormal media volume is defined as the logarithm of the number of daily aggregate articles generated by the media, minus the logarithm of the average daily articles produced during the 60 business days preceding the [-10, 10] window. Panel B presents the coefficients and their corresponding standard errors (in brackets) estimated from the structural equations that model the direct and indirect effects of Debt IC through media coverage, as detailed in Table 4.

**Panel A. Abnormal Media Volume by Debt IC Around OCR**



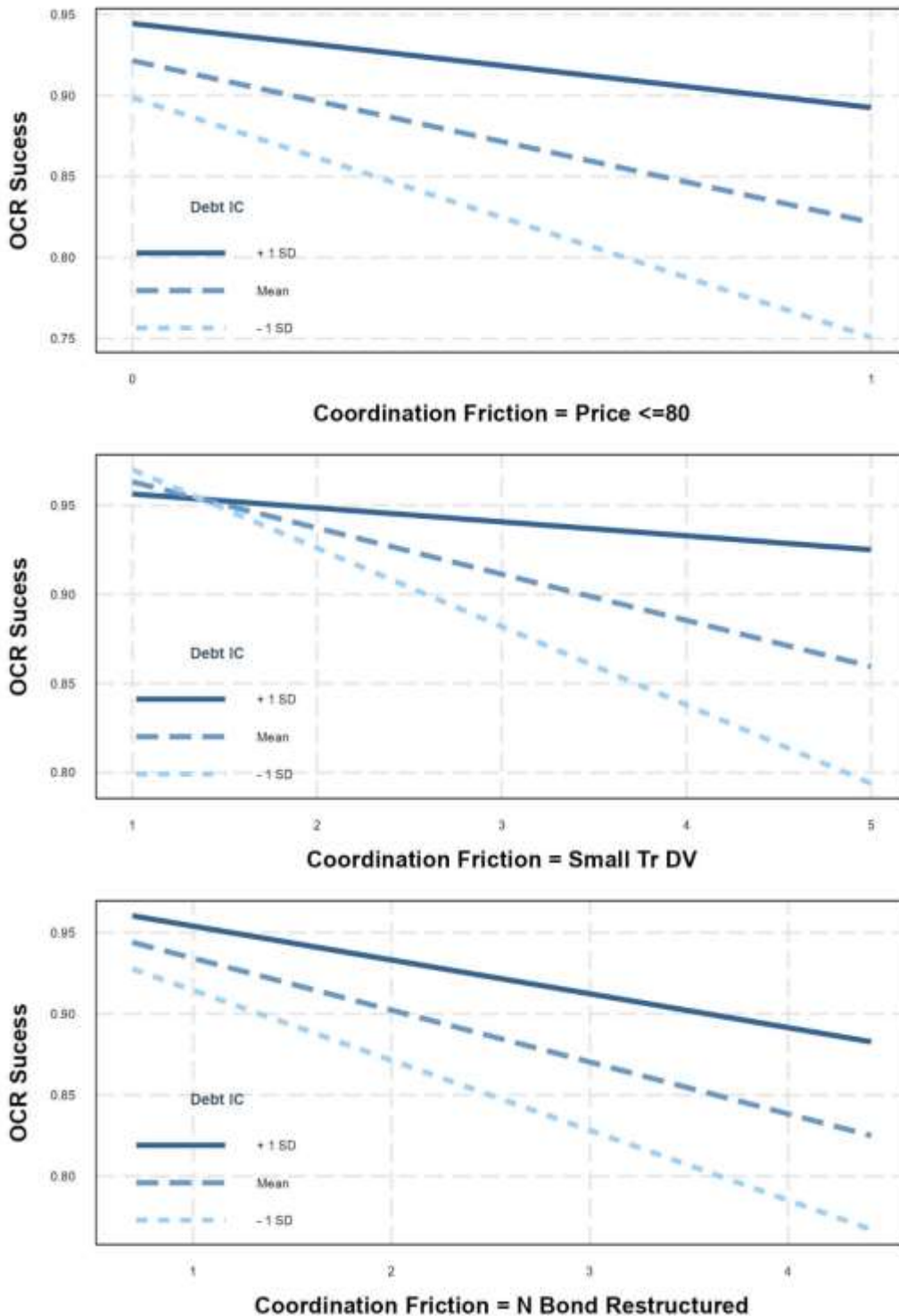
**Panel B. Direct and Indirect Effects of Debt IC on OCR**





**Figure 3. OCR Success and Coordination Frictions**

The figures describe how the relationship between the likelihood of successful OCR (y-axis) and *Coordination Friction* (*Price ≤ 80*, *Small Tr DV*, and *NBond Restructured* on the x-axis) varies when *Debt IC* (lines) increases or decreases by one standard deviation from its mean.



**Table 1. Descriptive Statistics**

Panel A reports descriptive statistics for the financially distressed firms that either undergo OCR or file for bankruptcy (OCR vs. Bankruptcy). Financially distressed firms are defined as those with distance-to-default scores belonging to the bottom tercile of the sample for each year. Panel B reports the Pearson pairwise correlations for variables used in the analyses. \*s denotes significance levels at 5% or higher. All variable definitions are in Appendix 2.

**Panel A: Descriptive Statistics for OCR vs. Bankruptcy Sample**

Variable	N	Mean	SD	Pctl. 25	Median	Pctl. 75
<i>Debt IC (raw)</i>	385	0.849	1.655	0	0	2
<i>Debt IC (log)</i>	385	0.369	0.624	0	0	1.099
<i>Debt IC (indicator)</i>	385	0.283	0.451	0	0	1
<i>IR</i>	385	0.732	0.443	0	1	1
<i>Media (raw)</i>	385	414.857	834.151	80	171	404
<i>Media (log)</i>	385	4.69	2.198	4.394	5.147	6.004
<i>Restate</i>	385	0.096	0.295	0	0	0
<i>Analyst Following (raw)</i>	385	7.805	7.729	1	5	12
<i>Analyst Following (log)</i>	385	1.694	1.08	0.693	1.792	2.565
<i>OCR</i>	385	0.782	0.414	1	1	1
<i>Firm Age(raw)</i>	385	18.322	7.173	13	19	24
<i>FirmAge(log)</i>	385	2.873	0.455	2.639	2.996	3.219
<i>MTB</i>	385	1.257	0.497	0.993	1.152	1.368
<i>Leverage</i>	385	0.554	0.369	0.376	0.489	0.649
<i>Credit Rating</i>	385	15.395	3.762	13	15	17
<i>Size (raw)</i>	385	5269.795	7641.589	1030.813	2218.631	5919.112
<i>Size (log)</i>	385	7.792	1.27	6.938	7.705	8.686
<i>ROA</i>	385	-0.126	0.338	-0.144	-0.03	0.018
<i>R&amp;D</i>	385	0.04	0.071	0.006	0.016	0.046
<i>Interest Coverage</i>	385	0.312	5.565	-0.787	0.79	2.053
<i>Institution Own</i>	385	0.608	0.33	0.351	0.711	0.863
<i>Public Debt Ratio</i>	385	0.649	0.252	0.466	0.68	0.86
<i>Distance to Default</i>	385	1.992	1.73	0.76	1.962	3.192

**Panel B: Correlations**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1) <i>Debt IC</i>																
(2) <i>IR</i>	0.19*															
(3) <i>Media</i>	0.10	0.16*														
(4) <i>Restate</i>	0.10	0.06	0.10*													
(5) <i>Analyst Following</i>	0.20*	0.21*	0.44*	-0.04												
(6) <i>OCR</i>	0.14*	0.04	0.53*	0.02	0.41*											
(7) <i>Firm Age</i>	0.14*	0.14*	0.17*	-0.01	0.19*	0.19*										
(8) <i>MTB</i>	-0.03	-0.05	-0.13*	-0.01	-0.04	-0.10	-0.06									
(9) <i>Leverage</i>	-0.05	-0.01	-0.25*	0.01	-0.19*	-0.25*	-0.13*	0.66*								
(10) <i>Credit Rating</i>	-0.11*	-0.13*	-0.48*	-0.01	-0.50*	-0.73*	-0.21*	0.05	0.33*							
(11) <i>Size</i>	0.17*	0.27*	0.47*	0.09	0.50*	0.34*	0.29*	-0.21*	-0.29*	-0.50*						
(12) <i>ROA</i>	0.11*	-0.04	0.20*	0.02	0.16*	0.36*	0.09	-0.18*	-0.36*	-0.41*	0.23*					
(13) <i>R&amp;D</i>	-0.12*	-0.07	-0.20*	0.06	-0.23*	-0.24*	-0.29*	0.22*	0.28*	0.34*	-0.50*	-0.28*				
(14) <i>Interest Coverage</i>	0.06	-0.02	0.13*	0.02	0.07	0.24*	-0.02	-0.01	-0.22*	-0.37*	0.17*	0.57*	-0.14*			
(15) <i>Institution Own</i>	0.16*	0.11*	0.37*	0.01	0.45*	0.43*	0.17*	-0.14*	-0.31*	-0.48*	0.33*	0.25*	-0.28*	0.17*		
(16) <i>Public Debt Ratio</i>	0.04	0.03	0.12*	0.05	0.15*	0.10	0.13*	0.00	-0.11*	-0.11*	0.00	0.00	0.00	-0.06	0.04	
(17) <i>Distance to Default</i>	0.15*	-0.07	0.21*	0.00	0.24*	0.41*	0.13*	0.05	-0.23*	-0.46*	0.16*	0.37*	-0.20*	0.27*	0.29*	0.02

**Table 2. Information Environment, OCR, and Bankruptcy**

This table reports the results of regressions of an OCR indicator on the measures of the information environment, including debtholder-focused IC activities (*Debt IC*), equity holder-focused IC activities (*IR*), media news coverage (*Media*), analyst coverage (*Analyst Following*), and restatement of financial statement (*Restate*). The sample contains financially distressed firms that either undergo OCR or file for bankruptcy (OCR vs. Bankruptcy). The dependent variable, *OCR* is equal to one if a firm has OCR in a particular year and zero if the firm files for bankruptcy. The t-values, in parentheses, are based on two-tailed tests of significance. \*, \*\*, and \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. Standard errors are clustered by two-digit SIC industry codes. All variable definitions can be found in Appendix 2.

Dependent Variable:	OCR					
	OCR vs. Bankruptcy					
Model:	(1)	(2)	(3)	(4)	(5)	(6)
<i>Debt IC</i>	0.046 *** (3.438)					0.032 ** (2.027)
<i>IR</i>		-0.003 (-0.080)				-0.036 (-0.819)
<i>Media</i>			0.052 *** (5.795)			0.052 *** (6.001)
<i>Analyst Following</i>				0.015 (0.959)		0.002 (0.098)
<i>Restate</i>					0.007 (0.089)	0.003 (0.041)
<i>Firm Age</i>	0.025 (0.694)	0.034 (0.914)	0.044 (1.038)	0.034 (0.911)	0.034 (0.920)	0.038 (0.913)
<i>MTB</i>	-0.139 ** (-2.379)	-0.142 ** (-2.392)	-0.127 * (-1.846)	-0.144 ** (-2.409)	-0.142 ** (-2.351)	-0.126 * (-1.857)
<i>Leverage</i>	0.144 ** (2.663)	0.154 *** (2.689)	0.150 *** (2.930)	0.153 ** (2.648)	0.153 ** (2.628)	0.147 *** (2.755)
<i>Credit Rating</i>	-0.077 *** (-10.696)	-0.076 *** (-10.263)	-0.068 *** (-9.100)	-0.075 *** (-9.827)	-0.076 *** (-10.001)	-0.069 *** (-9.018)
<i>Size</i>	-0.015 (-0.767)	-0.013 (-0.649)	-0.046 ** (-2.456)	-0.018 (-0.932)	-0.013 (-0.645)	-0.046 ** (-2.085)
<i>ROA</i>	0.104 ** (2.128)	0.113 ** (2.354)	0.110 ** (2.124)	0.113 ** (2.316)	0.113 ** (2.329)	0.101 * (1.935)
<i>R&amp;D</i>	0.236 (0.965)	0.236 (0.979)	0.058 (0.232)	0.216 (0.905)	0.230 (1.063)	0.076 (0.324)
<i>Interest Coverage</i>	-0.005 ** (-2.376)	-0.005 ** (-2.298)	-0.003 (-1.126)	-0.005 ** (-2.206)	-0.005 ** (-2.227)	-0.003 (-1.098)
<i>Institution Own</i>	0.099 ** (2.163)	0.114 ** (2.552)	0.069 (1.421)	0.102 ** (2.256)	0.113 ** (2.525)	0.061 (1.152)
<i>Public Debt Ratio</i>	0.015 (0.169)	0.010 (0.123)	-0.038 (-0.518)	0.003 (0.036)	0.010 (0.118)	-0.033 (-0.414)
<i>Distance to Default</i>	0.015 (1.194)	0.015 (1.204)	0.014 (1.103)	0.016 (1.226)	0.015 (1.214)	0.013 (1.016)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	385	385	385	385	385	385
Adjusted R <sup>2</sup>	0.553	0.549	0.597	0.550	0.549	0.595

**Table 3. Subsample Analyses**

This table reports the results of subsample analyses. Panel A partitions the sample based on the industry-median value of the specificity of forward-looking disclosures in MD&A by year (*Specific FLS*). Panel B partitions the sample based on whether the proposed OCR offers include favorable terms to bondholders or not (*Favorable Term*). Panel C partitions the sample based on the median value of *VIX*. Panel D partitions the sample based on whether the firm has participated in any *Debt IC* in the two years prior to the year before the event (*Regular Debt IC*). The t-values, in parentheses, are based on two-tailed tests of significance. \*, \*\*, and \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. Standard errors are clustered by two-digit SIC industry codes. All variable definitions can be found in Appendix 2.

**Panel A. Specificity of the Forward-Looking Disclosures in MD&A**

Dependent Variable:		<i>OCR</i>	
		OCR vs. Bankruptcy	
Subsample Variable: <i>Specific FLS</i>	High	Low	
Model:	(1)	(2)	
<i>Debt IC</i>	0.040	0.069 **	
	(1.280)	(2.485)	
Controls	Yes	Yes	
Industry FE	Yes	Yes	
Year FE	Yes	Yes	
Observations	196	67	
Adjusted R <sup>2</sup>	0.610	0.696	
Diff in Coefficients P-value (two-tail)	0.486		

**Panel B. Favorable Terms of Proposed OCR Offers**

Dependent Variable:		<i>Successful OCR</i>	
		OCR Success vs. OCR Fail - note level	
Subsample Variable: <i>Favorable Term</i>	Yes	No	
Model:	(1)	(2)	
<i>Debt IC</i>	0.037	0.059 **	
	(0.758)	(2.260)	
Controls	Yes	Yes	
Industry FE	Yes	Yes	
Year FE	Yes	Yes	
Observations	222	472	
Adjusted R <sup>2</sup>	0.363	0.194	
Diff in Coefficients P-value (two-tail)	0.699		

**Panel C. Economic Uncertainty**

Dependent Variable:		<i>OCR</i>	
		OCR vs. Bankruptcy	
Subsample Variable: <i>VIX</i>	High	Low	
Model:	(1)	(2)	
<i>Debt IC</i>	0.054 **	0.016	
	(2.096)	(0.571)	
Controls	Yes	Yes	
Industry FE	Yes	Yes	
Year FE	Yes	Yes	
Observations	193	192	
Adjusted R <sup>2</sup>	0.593	0.572	
Diff in Coefficients P-value (two-tail)	0.31		

**Panel D. Regular vs. Sporadic Debt IC**

Dependent Variable:	<i>OCR</i>	
	OCR vs. Bankruptcy	
Subsample Variable: <i>Regular Debt IC</i>	Yes	No
Model:	(1)	(2)
<i>Debt IC</i>	0.630 * (3.824)	0.077 *** (2.008)
Controls	Yes	Yes
Industry FE	Yes	Yes
Year FE	Yes	Yes
Observations	182	203
Adjusted R <sup>2</sup>	0.575	0.601
Diff in Coefficients P-value (two-tail)	0.001	

**Table 4. Indirect Effects of Debt IC on OCR through Media Coverage**

This table reports regression results for structural equations that model the indirect effects of *Debt IC* through *Media* on the likelihood of conducting OCR versus filing for bankruptcy. The sample contains financially distressed firms that either undergo OCR or file for bankruptcy (OCR vs. Bankruptcy). All variable definitions can be found in Appendix 2.

	Estimate	Std. Err.	z-statistics	p-value
<b>OCR</b>				
Debt IC (a1)	0.04	0.02	1.98	.047
Media (a2)	0.05	0.01	5.57	.000
IR	-0.07	0.03	-2.23	.026
Analyst Following	0.00	0.02	0.21	.835
Restate	-0.01	0.05	-0.13	.895
Firm Age	0.04	0.04	1.10	.271
MTB	-0.09	0.06	-1.48	.139
Leverage	0.12	0.06	2.01	.044
Credit Rating	-0.07	0.01	-10.56	.000
Size	-0.05	0.02	-2.55	.011
ROA	0.12	0.06	1.85	.064
R&D	0.04	0.33	0.13	.900
Interest Coverage	-0.00	0.00	-1.05	.293
Institution Own	0.07	0.05	1.26	.208
Public Debt Ratio	-0.01	0.07	-0.17	.867
<b>Media</b>				
Debt IC (a3)	0.35	0.15	2.39	0.017
<i>Indirect Effects</i>				
a2×a3	0.02	0.02	3.01	0.040
<i>Total Effects</i>				
a1 + a2×a3	0.06	0.02	3.01	0.03
Observations	385.00			
$\chi^2$ (df)	167.74(13)			

**Table 5. Robustness Checks**

Panel A presents the means and standard deviations for each matching covariate by subsamples based on the presence of Debt IC. Columns labeled “Diff” present the differences in sample means (standard deviations), with significance levels determined by a t-test (F-test): \*\*\*, \*\*, and \* denote 1%, 5%, and 10% significance (two-tailed). In Panel B, we use entropy balancing with Debt IC as the treatment variable and control variables as matching covariates. The sample contains financially distressed firms that either undergo OCR or file for bankruptcy (OCR vs. Bankruptcy).

**Panel A. Firm Characteristics by Debt IC in Unmatched Sample**

Variable	Means				Standard Deviations			
	<i>Debt IC =</i>		Diff	t-stat	<i>Debt IC =</i>		Diff	F-stat
	Yes	No			Yes	No		
<i>IR</i>	0.86	0.68	0.18***	4.17	0.35	0.47	-0.12***	1.82
<i>Media</i>	4.96	4.58	0.38*	1.66	1.87	2.31	-0.44**	1.52
<i>Restate</i>	0.13	0.08	0.05	1.24	0.34	0.28	0.06**	0.68
<i>Analyst Following</i>	2.00	1.57	0.43***	3.61	1.03	1.07	-0.04	1.08
<i>Firm Age</i>	2.96	2.84	0.12**	2.48	0.41	0.47	-0.06	1.30
<i>MTB</i>	1.24	1.26	-0.03	-0.51	0.41	0.53	-0.12***	1.69
<i>Leverage</i>	0.53	0.56	-0.03	-0.95	0.29	0.40	-0.11***	1.90
<i>Credit Rating</i>	14.80	15.63	-0.83**	-2.20	3.05	3.99	-0.93***	1.71
<i>Size</i>	8.10	7.67	0.43***	3.32	1.07	1.32	-0.26**	1.54
<i>ROA</i>	-0.07	-0.15	0.08**	2.04	0.33	0.34	-0.02	1.10
<i>R&amp;D</i>	0.03	0.05	-0.02***	-3.19	0.04	0.08	-0.04***	4.86
<i>Interest Coverage</i>	1.09	0.01	1.08	1.53	6.69	5.03	1.65***	0.57
<i>Institution Own</i>	0.69	0.58	0.12***	3.26	0.30	0.33	-0.03	1.21
<i>Public Debt Ratio</i>	0.68	0.64	0.04	1.46	0.23	0.26	-0.03	1.31
<i>Distance to Default</i>	2.40	1.83	0.57***	3.06	1.61	1.75	-0.15	1.19

**Panel B. Entropy Balancing**

Dependent Variable:	<i>OCR</i>	
	OCR vs. Bankruptcy (Entropy Balancing)	
Model:	(1)	(2)
<i>Debt IC</i>	0.060 *** (4.260)	0.046 *** (2.869)
<i>IR</i>		-0.014 (-0.318)
<i>Media</i>		0.046 *** (5.725)
<i>Analyst Following</i>		0.007 (0.284)
<i>Restate</i>		-0.028 (-0.393)
Controls	Yes	Yes
Industry FE	Yes	Yes
Year FE	Yes	Yes
Observations	385	385
Adjusted R <sup>2</sup>	0.545	0.581

**Table 6. Information Environment, Coordination Frictions, and OCR Success**

Panel A presents descriptive statistics for the sample of notes proposed to be restructured. Panel B reports results for the regressions of *Successful OCR* (an indicator for successful consummation of the offer) on information environment variables and coordination frictions variables. Information environment variables include debtholder-focused IC activities (*Debt IC*), equity holder-focused IC activities (*IR*), media news coverage (*Media*), analyst coverage (*Analyst Following*), and restatement of financial reports (*Restate*). *Coordination Frictions* variable include an indicator for the prevailing price equal to or less than 80 (*Price*  $\leq$  80), a quintile for the aggregate trading dollar volume that is below \$100,000 deflated by the principal amount (*Small Tr DV*), and the natural logarithm of the number of bonds being proposed to restructured (*NBond Restructured*). In Panel C, *Debt IC* interacts with each of the coordination friction variables. Standard errors are clustered by two-digit SIC industry codes. All variable definitions are in Appendix 2.

**Panel A. Descriptive Statistics**

Variable	N	Mean	SD	Pctl. 25	Median	Pctl. 75
<i>Debt IC (raw)</i>	694	0.872	1.703	0	0	2
<i>Debt IC (log)</i>	694	0.374	0.632	0	0	1.099
<i>IR</i>	694	0.8	0.401	1	1	1
<i>Media (raw)</i>	694	851.451	1228.684	142	353	1090
<i>Media (log)</i>	694	5.712	1.871	4.963	5.869	6.995
<i>Restate</i>	694	0.117	0.321	0	0	0
<i>Analyst Following (raw)</i>	694	11.66	8.131	5	12	18
<i>AnalystFollowing(log)</i>	694	2.206	0.963	1.792	2.565	2.944
<i>Successful OCR</i>	694	0.909	0.288	1	1	1
<i>Price <math>\leq</math> 80</i>	694	0.11	0.313	0	0	0
<i>Small Tr DV (raw)</i>	694	0.482	1.16	0.097	0.205	0.506
<i>NBond Restructured (raw)</i>	694	9.205	16.439	2	4	7
<i>NBond Restructured(log)</i>	694	1.748	0.919	1.099	1.609	2.079
<i>Firm Age (raw)</i>	694	21.393	7.127	17	22	27
<i>Firm Age (log)</i>	694	3.04	0.41	2.89	3.135	3.332
<i>MTB</i>	694	1.233	0.362	1.037	1.161	1.299
<i>Leverage</i>	694	0.503	0.215	0.369	0.481	0.566
<i>Credit Rating</i>	694	13.184	3.003	11	14	15
<i>Size (raw)</i>	694	11,295	12,218	2,137	5,939	17,717
<i>Size (log)</i>	694	8.613	1.329	7.667	8.689	9.782
<i>ROA</i>	694	-0.076	0.264	-0.078	-0.008	0.023
<i>R&amp;D</i>	694	0.023	0.049	0.002	0.009	0.023
<i>Interest Coverage</i>	694	0.943	6.12	0.111	1.13	2.743
<i>Institution Own</i>	694	0.698	0.3	0.586	0.777	0.908
<i>Public Debt Ratio</i>	694	0.699	0.223	0.529	0.744	0.888
<i>Distance to Default</i>	694	2.238	1.561	1.142	2.124	3.373
<i>Favorable Term</i>	694	0.68	0.467	0	1	1
<i>Amt Offering (raw)</i>	694	424,636	403,166	175,250	305,215	525,002
<i>Amt Offering (log)</i>	694	12.522	1.125	12.074	12.629	13.171
<i>Senior</i>	694	0.984	0.125	1	1	1
<i>Secured</i>	694	0.161	0.368	0	0	0
<i>Maturity (raw)</i>	694	59.264	66.678	22	38	62
<i>Maturity (log)</i>	694	3.684	0.889	3.135	3.664	4.143



**Panel B. Information Environment, Coordination Frictions, and OCR Success**

Dependent Variable:	<i>Successful OCR</i>		
	OCR Success vs. OCR Fail - note level		
<i>Coordination Friction:</i>	<u>Price ≤ 80</u>	<u>Small Tr DV</u>	<u>N Bond Restructured</u>
Model:	(1)	(2)	(3)
<i>Debt IC</i>	0.042 ** (2.195)	0.042 ** (2.311)	0.042 ** (2.408)
<i>IR</i>	0.006 (0.131)	-0.001 (-0.012)	0.005 (0.109)
<i>Media</i>	-0.007 (-1.488)	-0.003 (-0.609)	-0.004 (-0.727)
<i>Analyst Following</i>	0.001 (0.052)	0.001 (0.046)	0.002 (0.108)
<i>Restate</i>	0.043 (0.882)	0.042 (0.872)	0.041 (0.834)
<b><i>Coordination Friction</i></b>	<b>-0.109 *</b> <b>(-1.737)</b>	<b>-0.028 **</b> <b>(-2.670)</b>	<b>-0.034 *</b> <b>(-1.884)</b>
<i>Firm Age</i>	-0.070 ** (-2.415)	-0.062 * (-1.948)	-0.063 ** (-2.074)
<i>MTB</i>	0.014 (0.186)	0.027 (0.341)	0.024 (0.298)
<i>Leverage</i>	-0.098 (-0.628)	-0.122 (-0.746)	-0.098 (-0.601)
<i>Credit Rating</i>	-0.001 (-0.087)	-0.003 (-0.250)	-0.005 (-0.434)
<i>Size</i>	-0.017 (-0.804)	-0.017 (-0.874)	-0.010 (-0.395)
<i>ROA</i>	0.062 (0.825)	0.070 (0.956)	0.070 (0.947)
<i>R&amp;D</i>	0.136 (0.514)	0.147 (0.551)	0.157 (0.579)
<i>Interest Coverage</i>	-0.003 (-1.153)	-0.004 (-1.456)	-0.003 (-1.280)
<i>Institution Own</i>	-0.025 (-0.386)	-0.008 (-0.108)	-0.007 (-0.103)
<i>Public Debt Ratio</i>	0.013 (0.158)	0.007 (0.086)	0.037 (0.441)
<i>Distance to Default</i>	0.002 (0.174)	0.001 (0.081)	0.002 (0.110)
<i>Favorable Term</i>	0.027 (0.958)	0.029 (1.056)	0.030 (1.120)
<i>Amt Offering</i>	0.007 (0.434)	-0.004 (-0.281)	0.008 (0.592)
<i>Senior</i>	-0.099 * (-1.808)	-0.116 ** (-2.319)	-0.111 ** (-2.046)
<i>Secured</i>	-0.031 (-1.231)	-0.044 (-1.521)	-0.025 (-0.860)
<i>Maturity</i>	-0.007 (-0.498)	-0.019 (-1.295)	-0.010 (-0.754)
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	694	694	694
Adjusted R <sup>2</sup>	0.204	0.207	0.199

**Panel C. Debt IC, Coordination Frictions, and OCR Success**

Dependent Variable:	<i>Successful OCR</i>		
	OCR Success vs. OCR Fail - note level		
<i>Coordination Friction:</i>	<u>Price <math>\leq</math> 80</u>	<u>Small Tr DV</u>	<u>N Bond Restructured</u>
Model:	(1)	(2)	(3)
<i>Debt IC <math>\times</math> Coordination Friction</i>	0.024 (0.574)	0.023 * (1.995)	0.011 (0.683)
<i>Debt IC</i>	0.023 * (1.927)	0.027 ** (2.202)	0.025 ** (2.104)
<i>Coordination Friction</i>	-0.090 (-1.537)	-0.040 ** (-2.668)	-0.032 * (-1.774)
Controls	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	694	694	694
Adjusted R <sup>2</sup>	0.216	0.227	0.215

**Table 7. Information Environment and Post-OCR Survival**

This table presents a parametric survival analysis model for the time between the first public debt OCR event and the potential sustainability of OCR (Prob(Sustainability)). Sustainability is defined as the absence of another restructuring event within three to five years following the initial OCR, and the absence of a bankruptcy filing during this period or by the end of the sample period. Variable definitions are provided in Appendix 2. Robust standard errors (in parentheses) are adjusted for industry clustering. \*\*\*, \*\*, and \* denoted significance at the 1%, 5%, and 10% levels (two-tailed).

Dependent Variable: Model:	Prob(Sustainability) (1)	Prob(Sustainability) (2)
<i>Debt IC</i>	0.249** (0.124)	0.226* (0.122)
<i>IR</i>		0.195* (0.105)
<i>Media</i>		-0.00876 (0.0334)
<i>Analyst Following</i>		-0.108 (0.0669)
<i>Restate</i>		-0.310* (0.169)
Controls	Yes	Yes
Industry FE	Yes	Yes
Observations	518	518

## Appendix 1: Debt IC Keywords and Examples

### Panel A: Debt-specific Keywords

*“fixed income,” “debt,” “restructuring,” “credit,” “loan,” “bond,” “lender,” “financing,” “leveraged,” “syndicate,” “high yield,” “securitization,” “tender,” “exchange offer,” “notes,” “consent solicitation,” “noteholders,” and “repay.”*

### Panel B: Examples of Identified Debt IC Events

To discuss the company’s pending consent solicitation relating to 10 3/4% senior notes due 2011  
To discuss the company’s exchange offer for 2.00% Convertible Notes due 2021  
To discuss the completion of the Notes offering  
To discuss plan to prepay \$300 million principal amount of its existing bank loans through a public offering of senior notes due in 2013  
To provide business updates for noteholders, debt holders and analysts only  
To discuss restructuring plans and growth strategy  
To discuss about \$141.5 million bad debt provision  
To discuss about long-term debt financing and the NACC transaction  
To discuss strategy and financial results, including revenue growth, expense initiatives, and credit quality.  
To discuss the company’s implementation of restructuring plan to reduce its cash burn rate  
To discuss the company’s implementing of a strategic restructuring to focus its resources on its most promising assets and programs and significantly reduce its cost structure  
To hold fixed income investor presentation  
To provide an overview of recent trends and opportunities in the taxable fixed income market  
To make a presentation to the current lenders under SIRVAs outstanding credit agreements  
To discuss on secured term loan B facility due in 2021  
Presents at 9<sup>th</sup> Annual Global Covered Bonds Conference  
Stena AB, Q2 2011 Fixed Income Call, Aug 30, 2011  
UBS Leveraged Finance Conference in Las Vegas.  
Credit Suisse Group AG Presents at Credit Suisse 2015 Global Credit Products Conference, Sep-30-2015 through Oct-01-2015. Venue : W Hotel, Placa de la Rosa del Vents, 1, Barcelona, Spain.  
Presentation Date & Speakers: Oct-01-2015, Adam Plissner, Managing Director, Co-head of the Leveraged Finance Sector Strategy Group, ...

**Panel C: Examples of Fixed Income Investor Conference Presentations**  
**Ex1. SM Energy – J.P. Morgan 2021 Global High Yield & Leveraged Finance Conference<sup>20</sup>**

**PLAN – OBJECTIVES & PRIORITIES**

**LONG-TERM STRATEGIC DIRECTION: FIVE-YEAR PLAN**

### Strategic Objectives:

**OPTIMIZE ACTIVITY LEVEL FOR SUSTAINABLE FREE CASH FLOW<sup>(1)</sup>**  
Establish an optimal activity level to maximize free cash flow and reduce leverage

**DEMONSTRATE MEASURABLE, TOP-TIER ESG STEWARDSHIP**  
Short-term annual cash bonus and long-term executive compensation plan targets include key environmental and safety metrics

### Key Priorities:

- Free cash flow<sup>(1)</sup> generation**
  - Maximize cash flow over five years
  - Sustain <75% reinvestment rate<sup>(1)</sup> beginning in 2022 and beyond<sup>(2)</sup>
- Improve balance sheet strength**
  - FCF generation through 2024 expected to enable retirement of all debt due through 2024<sup>(2)</sup>
  - Target less than 2x net debt-to-Adjusted EBITDAX<sup>(1)</sup> by year-end 2022<sup>(2)</sup>
- Maintain top-tier inventory**
  - Low breakeven prices demonstrate high-quality asset base that is resilient to downside and offers substantial upside
- Differential ESG**
  - We listened to our investors and have changed our long-term incentive program to measure performance against targets for free cash flow, leverage, GHG emissions, safety and spills; short-term incentive program now includes a free cash flow component

**SM ENERGY** (1) Free cash flow, reinvestment rate, and net debt-to-Adjusted EBITDAX are non-GAAP financial measures. See Definitions of non-GAAP measures as calculated by the Company and related disclosures in the Appendix.  
(2) Based on strategy as of January 26, 2021 and reserve cases.

**BALANCE SHEET**

**FOCUSED ON IMPROVING BALANCE SHEET STRENGTH**

Liquidity  
**~\$965 million<sup>(1)</sup>**

Net debt-to-Adjusted EBITDAX<sup>(2)</sup>  
**2.3 times<sup>(1)</sup>**

2020 Principal Debt Reduction  
**~\$500 million<sup>(1)</sup>**

**Debt Maturities<sup>(1)</sup>**



(1) As of December 31, 2020.  
(2) Net debt-to-Adjusted EBITDAX is a non-GAAP measure. See the "Non-GAAP Definitions and Reconciliations" section in the Appendix. Based on reserve cases.  
(3) Borrowing base and commitments are subject to certain conditions. It is not an amount that is available to be used in unlimited amounts at all times.

<sup>20</sup> <https://ir.sm-energy.com/ir-home/news-and-events/events-and-presentations/event-details/2021/JP-Morgan-2021-Global-High-Yield--Leveraged-Finance-Conference/default.aspx>

## **Ex2. Inseego Corp. – Fixed Income Call on Dec 12, 2016**

**Colyer Curtis (Managing Director at Jefferies LLC):** [Speech] I'm going to quickly review the offering summary slide. So on Slide 4, we announced last week the commencement of an exchange offer on the Novatel 5.5% convertible senior notes due 2020 for new Inseego 5.5% notes due 2022. Ranking will be senior unsecured. The principal amount is \$120 million. There's a minimum participation threshold of 98% in terms of exchange acceptances. ... The new bond will contain some covenants, including a restriction on the incurrence of secured and unsecured debt and a restriction on the ability to make restrictive payments, such as dividends or repurchases of equity securities. These covenants fall away after the put date in 2020.

...

**Cobb Sadler (Managing Partner at Catamount Strategic Advisor LLC):** [Question] Just had a question on – you talked about some losses slide here. But you talked about some upside – you have a base case for your revenue and then you have some upside. I think it was winning telematics. And could you tell – just talk about that? I mean, I guess on your website I saw a product cog, I think it's fleet core. Could you talk about like what's – what – I guess maybe give us some growth scenarios. You've guided 20% plus. I mean, are you saying that, that could be higher? On what scenario would it be higher? Can you just give us a little color on that slide. I think it's Slide 16, as I remember.

**Susan Swenson (CEO of Inseego Corp.):** [Answer] Cobb, just in terms of that, what we're doing is we're really looking at those opportunities. As you know, we go direct to fleet customers today. And as you know, we seen some nice industry pace growth there. With some new emerging opportunities, we may have the opportunity to have different customer – a different customer than the end user fleet customer, but actually provide capability to that customer that would reach a broader set of fleet and the technology agnostic and hardware agnostic. So we aren't talking details about that right now because it's fairly nascent, but we think there is a – we think there is potential that there to basically augment and enhance what we have in the market today and approach the market in a little bit different way while we continue to penetrate the market – the markets that we currently have and the products we currently have, so it'd be incremental to our current business. But Mike, you may have something.

**Michael Newman (CFO of Inseego Corp.):** [Answer] And then I would just add that we – one of the benefits of changing to this model is it's a subscription-based model from where we've been, which is a hardware model. And when you look at our ability to forecast revenues, obviously that improves in a subscription-based model since at the beginning of the period. You have a much better sense of what revenues are going to be coming in. And that enables you to expense plan better without all of the ups and downs that we experienced in the hardware business, where we have a sense of what our revenues will be before the quarter begins, but really, the quarter tends to come down to, does Verizon make the last few orders at the end of the quarter or not. Or did they push into the next cycle. So it will be really – it'll be nice running the business with that sense of visibility. It will enable us to better match our expenses to the known revenues that are coming in. And we think we'll be able to get back to a place of much better consistent performance. I feel like we've consistently performed throughout this year, but that's been with the hardware business and we're really looking forward to running the subscription-based model business.

## Appendix 2: Variable Descriptions

Variables	Variable Description	Sources
<b>Information Environment Variables</b>		
<i>Debt IC</i>	The natural logarithm of one plus Debt IC events in the year prior to either offer commencement dates for OCR or bankruptcy filing dates. See Appendix 1 for a detailed description.	Capital IQ
<i>IR</i>	An indicator variable that equals one if the sample firms' conference transcripts in the year prior to either offer commencement dates for OCR or bankruptcy filing dates contain any keywords related to investor relations professionals and 0 otherwise (Chapman et al. 2019).	Capital IQ
<i>Media</i>	The natural logarithm of one plus the number of news articles published about a company in the year prior to either offer commencement dates for OCR or bankruptcy filing dates.	RavenPack
<i>Restate</i>	Restate is an indicator variable that equals one if firms restate their financial statement within a year prior to OCR or bankruptcy filing dates.	COMPUSTAT
<i>Analyst Following</i>	The natural logarithm of one plus the number of analysts in the year prior to either offer commencement dates for OCR or bankruptcy filing dates.	I/B/E/S
<b>OCR Outcome Variables</b>		
<i>OCR</i>	An indicator variable that equals one if firms have a public debt out-of-court restructuring event (either tender or exchange offers) and zero if firms file for legal insolvency procedure.	Mergent; New Generation Research Bankruptcy
<i>Successful OCR</i>	An indicator variable that equals one if a proposed offer (either tender or exchange offers) is successfully consummated and zero otherwise.	Mergent
<b>Coordination Friction Variables</b>		
<i>Price ≤ 80</i>	An indicator variable that equals one if the average price in the year prior to either offer commencement dates for OCR or bankruptcy filing dates is equal to or less than 80 and zero otherwise.	TRACE Enhanced
<i>Small Tr DV</i>	The aggregate trading dollar volume that is below \$100,000 in the year prior to either offer commencement dates for OCR or bankruptcy filing dates deflated by the principal amount of the note.	TRACE Enhanced
<i>NBond Restructured</i>	The natural logarithm of the number of bond types being restructured for a particular firm-OCR date.	Mergent
<b>Firm-level Explanatory Variables</b>		
<i>Firm Age</i>	The natural logarithm of firm age in years.	COMPUSTAT
<i>MTB</i>	Market to Book ratio.	COMPUSTAT
<i>Leverage</i>	The ratio of total debt divided by total assets.	COMPUSTAT
<i>Credit Rating</i>	S&P firm credit ratings are transformed to an ordinal scale as follows: "DD" rating is coded with the value of 1, and "AAA" rating is coded with the value of 22. For the "NR" rating, we use the most recent credit ratings available before the withdrawal is made.	S&P Capital IQ Ratings

<i>Size</i>	The natural logarithm of total assets in millions plus one at the period end.	COMPUSTAT
<i>ROA</i>	Return on Assets.	COMPUSTAT
<i>R&amp;D</i>	R&D expenditure divided by total assets.	COMPUSTAT
<i>Interest Coverage</i>	Earnings before interest and taxes (EBIT) divided by interest payment.	COMPUSTAT
<i>Institution Own</i>	The number of shares owned by institutions divided by the total shares outstanding.	Factset
<i>Public Debt Ratio</i>	The ratio of public debt to total debt, calculated as the sum of senior bonds and notes, subordinated bonds and notes, and commercial paper divided by total debt.	Capital IQ
<i>Distance to Default</i>	$D2D = \frac{\ln\left(\frac{V_\alpha}{debt}\right) + (\mu - 0.5 * \sigma_V^2)}{\sigma_V}$ $d1 = \frac{\ln\left(\frac{V_0}{debt}\right) + (rf + 0.5 * \sigma_V^2)}{\sigma_V}$ $d2 = d1 - \sigma_V$ <p>We use <math>V_0</math> in <math>N(d1)</math> and <math>N(d2)</math>, which is from the step nearest iteration and is <math>V_e + debt</math> for the first step iteration. <math>V_e</math> is estimated from the black-sholes. <math>\sigma_V</math> is the moving standard deviation of the change of the firm value from the nearest step iteration (Merton, 1974; Bharath and Shumway, 2008).</p>	COMPUSTAT CRSP Daily Stock Files
<b>Note or Offer-level Explanatory Variables</b>		
<i>Amt Offering</i>	The natural logarithm of outstanding principal proposed to be tendered or exchanged.	Mergent
<i>Senior</i>	An indicator variable that equals one if the note being tendered or exchanged is a senior issue of the issuer and zero otherwise.	Mergent
<i>Secured</i>	An indicator variable that equals one if the note being tendered or exchanged is a secured issue of the issuer and zero otherwise.	Mergent
<i>Maturity</i>	The natural logarithm of the number of months until maturity.	Mergent
<b>Subsample Variables</b>		
<i>Specific FLS</i>	The probability that firms' MD&A sections in the 10-K annual reports contain specific forward-looking statements, as estimated by the recent large language model, the fine-tuned FinBERT-FLS model.	10-K Annual Reports
<i>Favorable Term</i>	An indicator variable that equals one if the issuer pays a premium to the tendered note in addition to the tender price or if the note offered in exchange for the original note contains any favorable terms for note holders (higher coupon rates, shorter maturity, or increased security) and does not include any unfavorable terms for note holders (lower coupon rates, extended maturity, or reduced security).	Mergent
<i>VIX</i>	An indicator variable that equals one if the average of daily VIX within one year of OCR is greater than the sample median and zero otherwise.	Chicago Board Options Exchange Market
<i>Regular Debt IC</i>	An indicator variable that equals one if the firm has engaged in Debt IC for two out of three years preceding the OCR or bankruptcy event and zero otherwise.	Capital IQ



## **Appendix 3. Examples of Low vs. High Specific Forward-Looking Statements**

### **Disclosures in MD&A Sections of Annual Reports**

#### **High Specific Forward-Looking Statements (FLS)**

The Secured Term Loan in connection with the construction and completion of the new ammonia plant at the El Dorado Facility, which when completed, we believe will significantly decrease our cost and exposure to fluctuations in the price of ammonia in the spot market; in connection with the construction of the 65 nitric acid plant and concentrator also at the El Dorado Facility, which, when completed, will replace lost capacity and add additional capacity to facilitation growth; to improve plant reliability and environmental and safety upgrades at our chemical facilities; and for the development of our natural gas working interest leasehold, which we believe will provide a partial hedge for our cost of natural gas, one of the key raw material imports.

We and our joint venture partner are developing CityCenter located on a 67-acre site on the Las Vegas Strip, between Bellagio and Monte Carlo. CityCenter will feature a 4,000-room casino resort designed by world-famous architect Cesar Pelli; two 400-room non-gaming boutique hotels, one of which will be managed by luxury hotelier Mandarin Oriental. We will continue to serve as developer of CityCenter and will receive additional consideration of up to 100 million if the project is completed on time and actual development costs, net of residential proceeds, are within specified parameters.

#### **Low Specific FLS**

Absent a more severe deterioration in market conditions, the Company believes that it will be able to continue to fund its homebuilding and financial services operations, plus any future cash needs (including debt maturities), through its existing cash resources for the foreseeable future.

The Company is prepared for prices and margins to remain under pressure for an extended period of time, knowing that additional volume declines, inventory impairments and land option contract abandonment could result, though potentially less in magnitude.

Recent activity by the federal government designed to stimulate the economy could improve demand, but the Company is unable to predict when or whether this will occur. As long as the imbalance of housing supply and demand continues, the Company will not only remain focused on its liquidity and balance sheet, while seeking to optimize its operating performance, but also on positioning itself for a return to a more favorable economic environment.

Looking to 2012, we anticipate continued modest growth in demand. We believe our business should benefit from our expanded product line brought about both by our 2011 Acquisitions and the new products we have internally developed and brought to market over the past two years.

If general U.S. economic conditions improve further in 2012, we would expect to benefit given the diversity of our product offerings despite challenges which may persist in particular end-markets. We remain confident the Company is well positioned heading into 2012. We have and intend to continue to pursue acquisition opportunities that have the potential to increase the size of our business operation or provide us with strategic advantages.