

# Assessing the Accuracy of Forward-Looking Information in Debt Contract Negotiations

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## **Assessing the Accuracy of Forward-Looking Information in Debt Contract Negotiations**

### **Abstract**

We examine how perceived accuracy of forward-looking information obtained during debt contract negotiations affects the cost of debt. The lender uses forward-looking information to screen borrowers and assess creditworthiness. However, forward-looking information is not verifiable, and therefore the lender must estimate the accuracy of forward-looking information obtained from the borrower. We find evidence consistent with the lender using the borrower's historical forecast accuracy to estimate the expected accuracy of forward-looking information; on average, borrowers with more accurate forecasts have lower interest rates on their private loans.

**Keywords:** Debt Contracting; Cost of Debt; Forward-looking Information; Management Forecasts; Voluntary Disclosure

*JEL Classification:* G30; M40; M41

## **1. Introduction**

In debt contracting, the lender uses forward-looking information to screen potential borrowers and assess the borrower's creditworthiness. As a result, forward-looking information, including forecasts, projections, and anticipated returns from investment opportunities, is a key input to establishing the initial debt contract terms (Armstrong, Guay, and Weber, 2010; Plumlee, Xie, Yan, and Yu, 2015). However, despite its importance, prior literature provides relatively little evidence regarding the features that make forward-looking information decision-useful to the lender for screening borrowers. One important aspect of decision-usefulness is the ability to verify the accuracy of the information. However, unlike historical information, where accuracy is relatively easy to ascertain, assessing the accuracy of forward-looking information presents a greater challenge to the lender because forward-looking information is inherently uncertain. In this study, we consider how the lender estimates the accuracy of forward-looking information, and whether the lender's assessment of forward-looking information accuracy affects the borrower's cost of debt.

When screening potential borrowers, the lender uses information to estimate a distribution of the borrower's future value. This distribution represents the lender's expectation of the borrower's ability to repay his debt in the future. However, the lender's payoff over the distribution of the borrower's future value is asymmetric; the lender does not benefit when the upper bound of the borrower's expected value increases, but she does bear the higher costs of expected borrower default when the lower bound of the borrower's expected value decreases (Watts, 2003). In other words, a higher expected variance results in a lower expected payoff to the lender, holding the expected value of the distribution constant. The lender will price this lower expected payoff, leading to a higher interest rate for the borrower. The accuracy of

information obtained during contract negotiations is a key input used by the lender to estimate the variance of the borrower's future value. If the lender assesses the borrower's information to be less accurate, she estimates a higher variance of the borrower's future value. Therefore, we expect less accurate information to increase the borrower's cost of debt, *ceteris paribus*.

The lender's ability to assess the accuracy of the information obtained during contract negotiations depends on the information source. Unlike historical information, which can be verified *ex-post*, it is difficult for the lender to validate the accuracy of forward-looking information at the time of its issuance because the associated realizations have not yet occurred. Since third parties cannot readily attest to the accuracy of the forward-looking information, the lender lacks the validation of an outside audit opinion for forward-looking information. As a result, the lender must use another approach to assess the accuracy of the borrower's forward-looking information.

We posit that the accuracy of the borrower's forward-looking disclosures from prior periods serves as an indicator for the borrower's ability to produce accurate forward-looking information. Specifically, we propose that the historical accuracy of the borrower's earnings forecasts serves as a credible and observable signal of the borrower's ability to produce accurate forward-looking projections. Using a sample of private debt contracts initiated between 2003 and 2012, we find evidence that borrowers with more accurate earnings forecasts over the three-year period prior to the contract inception receive lower interest rates.<sup>1</sup> This result is economically significant, as moving from the bottom to top decile of management forecast accuracy reduces the borrower's cost of debt by approximately 13%, after controlling for observable borrower

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<sup>1</sup> We note that our results are not sensitive to the use of quarterly or annual management forecasts, first or last management forecasts, and 2 to 5 year windows when measuring management forecasts. See Section 3.3 for more discussion on these robustness tests. We also examine the standard deviation of management forecast errors as an alternative measure of the accuracy of forward-looking information; we discuss this analysis in Section 5.1.

characteristics, economic uncertainty, actual performance, and other loan-specific characteristics. We corroborate this finding using an instrumental variable approach.<sup>2</sup>

We also examine whether the lender uses alternative information sources to assess the expected accuracy of forward-looking information communicated during debt contract negotiations. We anticipate that when useful and relevant information sources are available to assess the expected accuracy of forward-looking information, the lender will reduce her reliance on historical forecast accuracy as an indicator of the borrower's ability to predict future outcomes. To examine this prediction, we perform two tests. First, we examine whether the lender is less likely to use the borrower's historical forecast accuracy as an indicator to assess the accuracy of forward-looking information when future earnings are less difficult to predict. If the borrower's reported earnings are relatively stable, the lender can use the borrower's historical earnings to assess the reasonableness of forward-looking information obtained during debt contract negotiations. Consistent with this argument, we find the effect of historical forecast accuracy on interest rates is attenuated when the borrower has less volatility in historical earnings.

Second, we examine whether the lender is less likely to use the borrower's historical forecast accuracy to estimate the accuracy of forward-looking information when other capital market participants provide information about the borrower's expected future performance. Consistent with expectations, we find that the negative relation between historical forecast accuracy and the cost of debt is concentrated among borrowers who are followed by fewer sell-side equity analysts. While sell-side equity analysts do not directly provide information about the borrower's creditworthiness, they provide independent forecasts and additional analyses of the

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<sup>2</sup> As discussed in Section 6.1, we use the level of public information asymmetry as an instrument for management forecast accuracy to estimate its effect on the cost of private debt.

borrower's future performance, which may be useful to the lender in assessing the accuracy of the borrower's forward-looking information. Collectively, these findings suggest that the lender is less likely to rely on historical management forecasts as an indicator for the borrower to predict future performance when other sources of information allow the lender to assess the expected accuracy of forward-looking information.

A variety of additional analyses support our main predictions. We find that our results are stronger for loans with shorter maturities, suggesting that management forecast accuracy is more relevant in assessing the accuracy of shorter-term projections. We also examine relationship banking and find that our results are concentrated among borrowers who do not have an existing relationship with the lender. Finally, we find no association between the borrower's historical forecast accuracy and the use of accounting-based financial covenants, suggesting that the perceived accuracy of forward-looking information is important for screening, but not for the monitoring provisions of the debt contract.

Our findings make two important contributions to the debt contracting literature. First, the prior literature is largely silent on how the perceived accuracy of the borrower's forward-looking information affects the lender's ability to screen borrowers. The prior literature examines the how the "quality" of the borrower's financial statement information affects debt contracting. This perspective focuses on historical information, leaving forward-looking information relatively unexplored. We provide evidence consistent with the lender estimating the accuracy of the borrower's forward-looking information using the historical accuracy of management's guidance, which provides evidence on the role of forward-looking information in private debt contracting. We believe that we are the first study to identify a signal that lenders use to assess

the borrower's forward-looking information and how that information is used in the loan's pricing.

Second, we provide evidence that suggests voluntary disclosure is not only useful for valuation but also for contracting purposes. The majority of the extant literature examines how voluntary disclosure is useful for equity valuation purposes (e.g., Lennox and Park, 2006; Beyer, Cohen, Lys, and Walther, 2010). We provide evidence consistent with the lender using the borrower's historical forecast accuracy as an input to the debt contract, ultimately affecting the borrower's cost of debt. We believe that providing evidence consistent with voluntary disclosure informing contract negotiations is a contribution to the accounting literature.

The rest of this paper is organized as follows. Section 2 discusses the role of information in debt contracting and develops empirical hypotheses. Section 3 describes sample selection procedures and presents descriptive statistics. Section 4 specifies the research design and provides empirical results. Sections 5 and 6 perform additional analyses to corroborate the main results. Section 7 summarizes and concludes.

## **2. Motivation and Hypothesis Development**

### *2.1. Information in Debt Contracting: Historical vs. Forward-Looking Information*

Prior to the initiation of the loan, the lender screens potential borrowers by collecting information to assess the borrower's creditworthiness and uses this information to set the contract terms of the loan. One of the lender's key objectives in assessing the creditworthiness of the borrower is to determine the probability that the borrower will default prior to the loan's maturity and fail to pay the principal and interest associated with the debt contract. The lender also assesses the expected payment she will receive if payment default occurs. Payment default is costly to the lender, as it reduces the lender's return (Franks and Torous, 1994; Acharya et al.,

2007; Donovan et al., 2015). However, the lender does not fully bear the costs associated with expected payment default by passing them on to the borrower in the form of a higher interest rate.

The lender collects various types of information in forming her assessment of the borrower's default risk. Historical information about the borrower's past performance represents one important information source, providing the lender backward-looking information such as sales and expenses, operating efficiency, profitability, and the outcomes of investments in prior periods. Historical information may be useful for understanding the borrower's default risk, particularly when the borrower's operations, investments, and capital structure are relatively stable over time and predictive of the borrower's future activities.

In addition to historical information, the lender also collects forward-looking information about the borrower's expected future performance. Unlike historical information, which refers to past transactions and activities, forward-looking information includes projections and estimates of future activities, including expected future sales and expenses, budgets, and future investments with their associated earnings. Projections of future activities and outcomes are important to the lender's assessment of the borrower's default risk, as the lender is interested in the borrower's ability to make future interest and principal payments. As a result, we expect that forward-looking information, along with historical information, is informative to the lender in developing her assessment of the borrower's default risk and directly affects the debt contract terms (Bharath et al., 2008; Bozanic, Cheng, and Zach, 2013; Plumlee et al., 2015).

The lender collects historical and forward-looking information from a variety of public sources when screening potential borrowers. Historical information is generally communicated through the borrower's reported financial statements, including 10-K and 10-Q filings. The



financial statements themselves provide historical information, including past operating results (the Income Statement), sources and uses of cash (the Statement of Cash Flows), and financial position based on past transactions (the Balance Sheet). Additionally, SEC filings also provide some forward-looking information, such as the MD&A. The lender also examines the borrower's public voluntary disclosures for information that is not required in mandatory SEC filings. Voluntary disclosures may contain information useful in assessing both the historical and expected future performance of the firm.<sup>3</sup>

In addition to these public sources of information, the borrower can privately disclose historical and forward-looking information to the lender. The concentrated ownership structure of private loans allows the borrower to privately disclose information to the lender while minimizing proprietary and litigation costs (e.g., Jovanovic, 1982; Baginski, Hassell, and Kimbrough, 2002; Verrecchia and Weber, 2006; Wang, 2007; Rogers and Van Buskirk, 2009), which increase when information is publicly disclosed to competitors and investors. As a result, the additional private information obtained by the lender during debt contract negotiations can be integrated into the loan terms by the lender while minimizing its revelation to the public.

## 2.2. *Information, Confidence, and Debt Pricing*

As noted above, a key objective in the lender's screening process is to assess the likelihood of borrower default. The lender uses information to determine the borrower's expected future value at loan maturity. Higher expected future values increase the likelihood of full repayment, while lower expected future values imply a higher likelihood of default.

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<sup>3</sup> We note that voluntary disclosures provided by the borrower are not the only source of information to lenders. Lenders may also use information generated by other information intermediaries such as equity analysts and credit rating agencies to further assess the borrower's expected future performance and position.

Therefore, the lender's assessment of the borrower's future value is an important process that affects debt contract pricing.

In addition to forming an expectation of the borrower's future value, the lender also develops a range of possible outcomes around this expectation. This range (or variance) reflects her confidence in the estimate of the borrower's future value. A number of factors can affect the variance of the borrower's expected value, including the complexity of the borrower's operations, the amount of information available about the borrower, and the perceived accuracy of the information used to assess the borrower's expected value. As the lender becomes less certain about the borrower's expected value, the variance in the borrower's future value likely increases, *ceteris paribus*.

Due to the lender's asymmetric payoffs with respect to the borrower's future value (Watts, 2003), a larger variance in the borrower's expected future value increases the interest rate of the debt contract. The lender's asymmetric payoffs are characterized by the lender not receiving additional compensation beyond the required interest and principal payments when the borrower's value increases (assuming that interest and principal payments can be met) but receiving less than the required interest and principal payments when the borrower's value decreases below the minimum threshold required to fully repay the principal and interest. In other words, as long as the borrower's future value is above the minimum required threshold to meet his interest and principal payments, increases in the borrower's value do not affect the lender's payoff. As a result, a higher variance in firm value increases the likelihood of default and leads to a lower expected payoff to the lender, even after holding the borrower's expected value constant (Myers, 1977). Therefore, we expect the borrower's cost of debt to decrease as the lender's confidence in her estimate of the borrower's future value increases, *ceteris paribus*.

### 2.3. *Hypothesis*

The above discussion suggests that the lender's confidence in her estimate of the borrower's future value is factored into debt pricing. One of the major drivers of this confidence is the accuracy of the information that the lender uses to estimate the borrower's future value. As a result, we expect less accurate information to result in a higher interest rate. If the accuracy of information obtained during contract negotiations cannot be directly determined, the lender must estimate the accuracy. As the lender perceives the information to be more accurate, the expected variance of the borrower's future value decreases, leading to a lower cost of debt.

The type and source of the information used to assess the borrower's future value impacts the mechanism used by the lender to assess the accuracy of the information provided by the borrower during contract negotiations. Historical information disclosed in the borrower's financial statements is required to be audited by external auditors, who attest to compliance with GAAP and representativeness of the borrower's condition.<sup>4</sup> The accounting literature has focused on how the "quality" of the financial statements affects debt contracting (e.g., Ball, Robin, and Sadka, 2008; Bharath, Sunder, and Sunder, 2008; Costello and Wittenberg-Moerman, 2011). To the extent that the quality of financial statements reflects the accuracy of the historical information, the evidence in the antecedent literature suggests that the accuracy of historical information in the financial statements is readily measurable, observable, and should be reflected in debt pricing.

Despite its importance in debt contracting, there is considerably less evidence examining if and how lenders assess the accuracy of forward-looking information, which is likely a key input to screening the borrower and assessing his creditworthiness. Unlike historical information,

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<sup>4</sup> The financial statements themselves are reviewed by the external auditor; however, forward-looking information in the MD&A is not.

the role of forward-looking information in debt contracting is primarily for screening.<sup>5</sup> The lender uses forward-looking information to estimate the borrower's future performance, providing additional information about the borrower's ability to meet his future interest and principal payments. While historical performance can be an indication of the borrower's ability to meet its obligations, it does not reflect changes to the borrower's expected performance and financial position, which can be affected by changes to the industry, customer preferences, and other factors. Therefore, forward-looking information is an important information source to the lender when assessing the borrower's creditworthiness.

The lender also estimates the accuracy of the borrower's forward-looking information. However, third parties, such as auditors, cannot readily attest to the accuracy of forward-looking information prior to its realization. Therefore, the lender must find an alternative mechanism to assess the expected accuracy of the forward-looking information provided by the borrower. We argue that the lender assesses the borrower's ability to produce accurate forward-looking information by examining the accuracy of the borrower's forward-looking information issued in previous periods. Both the prior literature and existing regulatory guidelines suggest that examining the historical accuracy of estimates in prior periods is an effective way to assess the reliability of current estimates (Williams, 1996; Hutton and Stocken, 2009; AU 342). As a result, we predict that the borrower will receive a lower cost of debt as the lender perceives the borrower's forward-looking information to be more accurate. This leads us to our first hypothesis, which we state in alternative form.

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<sup>5</sup> Forward-looking information is not typically used to monitor the lender's investment because it cannot be readily verified by both the lender and borrower. As a result, debt covenant and pricing provisions typically use information that included in the borrower's financial statements that can be verified by the auditor.

*H1: The borrower receives a lower cost of debt when the lender perceives the borrower's forward-looking information to be more accurate.*

### **3. Data**

#### *3.1. Data Sources*

We use several databases to construct our final sample of debt facilities, resulting in 2,632 private debt contracts between 2003 and 2012.<sup>6</sup> Dealscan contains detailed information on private debt contracts, including the borrower, lender, face value, maturity, loan pricing, and many other contract features, including contract type and covenant use.<sup>7</sup> We measure financial information on Compustat in the last fiscal year available prior to debt contract inception. The borrower's historical forecast accuracy is constructed from the Company Issued Guidance (CIG) and IBES databases. We measure all return-related control variables using CRSP stock returns. We further discuss the construction of the each variable used in our analysis below and provide descriptive statistics for the sample used to test our predictions.

#### *3.2. Empirical Proxy: The Accuracy of Forward-Looking Information*

As discussed in Section 2.2, the lender's expectation for the accuracy of forward-looking information affects the expected payoff from the loan, which factors into the loan's pricing. Since the accuracy of forward-looking information is unobservable *ex ante*, we expect that the lender seeks an *ex-ante* observable measure that allows her to assess the accuracy of the forward-looking information. In this section, we describe how the borrower's historical forecast accuracy

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<sup>6</sup> Our sample period starts in 2003 to include management forecasts issued prior to contract inception following the passage of Regulation Fair Disclosure (Reg FD), and due to limited forecast data availability prior to 2002 (Chuk, Matsumoto, and Miller, 2013).

<sup>7</sup> We thank Michael Roberts for providing the dataset linking the *Compustat* and *Dealscan* databases. See Chava and Roberts (2008) for details.

serves as a measure for the expected accuracy of forward-looking information obtained during contract negotiations.

Management forecasts incorporate both public and private information available to the manager producing the forecast. We anticipate that much of the information that management uses to produce these forecasts is private in nature. This private information includes sales and expense forecasts, budget projections, and the expected future payoff of investments. The manager's ability to produce useful and accurate private information directly factors into the accuracy of the earnings forecast, *ceteris paribus*. Since earnings are instrumental in forecasting changes to the firm's future value, the lender can use management's earnings forecasts when developing an expectation of the borrower's future value.

Management forecasts also have a natural feedback mechanism for assessing their accuracy. The realization of earnings allows the lender to check the accuracy of forward-looking information produced in prior periods, giving the lender the opportunity to assess the borrower's skill in producing forward-looking estimates. In addition, management forecasts are typically provided on a regular basis, giving the lender a times-series of observations with which to more precisely estimate accuracy. Even though management earnings forecasts may not capture the exact same forward-looking information used by the lender in setting contract terms, we believe that forecast accuracy is an observable and informative measure of management's ability to produce accurate forward-looking information.

Finally, the use of *historical* forecast accuracy as a proxy for *future* forecast accuracy relies on a key assumption – that the borrower's forecast history is indicative of management's ability to provide accurate estimates in the future. Prior literature and existing regulatory requirements provide support for this assumption. Williams (1996) demonstrates that prior

management earnings forecast accuracy provides a signal to analysts regarding the expected precision of current management forecasts. Hutton and Stocken (2009) provide empirical evidence that the stock price response to the news contained in management forecasts is greater when firms have issued more accurate forecasts in prior periods. Additionally, the AICPA and PCAOB provide guidance suggesting that auditors should consider the historical experience of the firm issuing estimates when assessing the reasonableness of current estimates.<sup>8</sup> Finally, recent studies use management forecast accuracy as a proxy for firms with more accurate and higher quality internal information environments (Gallemore and Labro, 2014; Goodman, Neamtiu, Shroff, and White, 2014). While this evidence does not provide a direct narrative on whether lenders use historical forecast accuracy to assess the expected accuracy of forward-looking information obtained during contract negotiations, it does provide some support that historical forecast accuracy can provide a valuable signal to prospective lenders.

### 3.3. *Variable Definitions and Descriptive Statistics*

We measure management forecast accuracy over the three-year period prior to debt contract inception as a proxy for the expected accuracy of the borrower's forward-looking information obtained during contract negotiations. Untabulated analysis indicates that the mean (median) borrower in our sample issues 5.5 (4.0) EPS forecasts over the three-year period prior to debt contract inception. We calculate forecast accuracy (*Forecast Accuracy*) as the absolute value of the difference between the final management forecast of quarterly EPS for the period

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<sup>8</sup> The PCAOB issued AU Section 342 to provide additional guidance on how to audit accounting estimates for public firms. In paragraph .09, the PCAOB suggests that the "auditor should consider the historical experience of the entity in making past estimates as well as the auditor's experience in the industry" when assessing the reasonableness of an estimate. AU-C Section 540 provides guidance to auditors on how to evaluate estimates for non-public firms. AU-C Section 540 provides guidance that is nearly identical to AU Section 342.

and IBES actual quarterly EPS, divided by the absolute value of the forecast.<sup>9,10</sup> Table 1 presents descriptive statistics for all sample observations. Borrowers in our sample are large, with average (median) total assets (*Total Assets*) equal to approximately \$8.3 billion (\$1.7 billion) and average leverage (*Leverage*) equal to 26% of total assets during the quarter prior to contract inception. Additionally, the average contract size (*Debt Size*) in our sample is approximately \$800 million, with a maturity (*Maturity*) of 51 months, and an interest rate (*Interest Spread*) of 169 basis points above LIBOR. Consistent with prior literature, the majority of debt contracts in our sample include a contract provision written directly on public information to mitigate moral hazard concerns (Demerjian, 2011), as 96% of contracts contain financial covenants (*Financial Covenant*), and 77% of contracts include a performance pricing provision (*Performance Pricing*). Approximately 52% of debt contracts are secured (*Collateral*), and 39% of contracts are relationship loans (*Relationship Lender*). Finally, average (median) management forecast errors (*Forecast Accuracy*) are 44.4% (14.1%), indicating that, on average, reported earnings differ from expected earnings targets. We define all variables in Table 1. Univariate correlations in Table 2 provide initial evidence for our H1, suggesting that borrowers with more accurate earnings forecasts prior to contract inception receive a lower cost of debt. Specifically, *Forecast Accuracy* is negatively correlated with interest rates [*Log(Spread)*] at the 1% level.

#### **4. Research Method and Empirical Result**

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<sup>9</sup> We eliminate all pre-announcement forecasts issued after the period-end date because we are interested in capturing the firm's ability to predict future economic outcomes. We also eliminate stale forecasts outstanding for more than 365 days to ensure our results are not driven by these potential outliers. Additionally, if borrowers issue a range forecast, we use the midpoint of the range to calculate forecast accuracy.

<sup>10</sup> Our primary results are qualitatively similar if we measure forecast accuracy: (i) using either quarterly or annual earnings forecasts, (ii) based on the first forecast, average forecast over the period, or final forecast issued for each period-end date, or (iii) over the two, three, four, or five year period prior to contract inception. Results are also qualitatively similar if we scale forecast accuracy by stock price. Finally, results are qualitatively similar if we measure forecast accuracy as the standard deviation of the difference between the management forecast and actual EPS. We more fully discuss this alternative specification in Section 5.1.



#### 4.1. Management forecast accuracy and the cost of debt in private debt contracts

To formally test the relation between the expected accuracy of forward-looking information and the borrower's cost of debt (H1), we estimate the following regression model at the Dealscan facility level.<sup>11</sup>

$$\begin{aligned} \text{Log}(\text{Spread}) = & \alpha_0 + \beta_1 \mathbf{Forecast Accuracy} + \beta_2 \text{Size} + \beta_3 \text{Leverage} + \beta_4 \text{MTB} + \beta_5 \text{ROA} + \beta_6 \text{Sales Growth} + \quad (1) \\ & \beta_7 \text{Firm Age} + \beta_8 \text{Std}(\text{Earnings}) + \beta_9 \text{Std}(\text{Stock Returns}) + \beta_{10} \text{ICW} + \beta_{11} \text{Consecutive Loss} + \\ & \beta_{12} \text{Relationship Lender} + \beta_{13} \text{Analyst Following} + \beta_{14} \text{Institutional Ownership} + \beta_{15} \text{Disc} \\ & \text{Accruals} + \beta_{16} \text{Revolver} + \beta_{17} \text{Performance Pricing} + \beta_{18} \text{BS Covenant} + \beta_{19} \text{IS Covenant} + \\ & \beta_{20} \text{Syndicate Size} + \beta_{21} \text{Capex Restrict} + \beta_{22} \text{Inst Tranche} + \beta_{23} \text{Sweep Covenant} + \\ & \beta_{24} \text{Dividend Restrict} + \beta_{25} \text{Collateral} + \beta_{26} \text{Log}(\text{Debt Size}) + \beta_{27} \text{Log}(\text{Maturity}) + \Sigma \\ & \text{Industry} + \Sigma \text{Year} + \varepsilon \end{aligned}$$

The *Spread* variable represents our proxy for the borrower's cost of debt and is equal to the stated interest rate above LIBOR on Dealscan (*AllInDrawn*). Our primary independent variable of interest is the voluntary forecast accuracy of the borrower over the three-year period prior to contract inception. To facilitate the interpretation of our results, we multiply *Forecast Accuracy* by negative one so that higher values represent more accurate forecasters. Furthermore, we decile rank the measure (from 0 to 9) and divide by nine to standardize *Forecast Accuracy* from zero to one.<sup>12</sup> We expect a negative coefficient on the *Forecast Accuracy* variable, suggesting that borrowers are able to negotiate a lower cost of debt when the borrower is able to increase the lender's confidence in the estimate for the borrower's future value.

We include numerous borrower-specific control variables, including borrower size (*Size*), leverage (*Leverage*), growth opportunities (*MTB*), profitability (*ROA*), sales growth (*Sales Growth*), firm age (*Firm Age*), and discretionary accruals (*Disc Accruals*). We also control for

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<sup>11</sup> We perform tabulated analysis at the Dealscan facility level. Results are qualitatively similar at the package level, using weighted average interest rates and maturities for each loan package with multiple facilities.

<sup>12</sup> Results are qualitatively using the level of forecast accuracy, or using the natural log of forecast accuracy.

the firm's information environment using analyst following (*Analyst Following*) and the percentage of institutional ownership (*Institutional Ownership*), and proxy for borrower's credit risk and economic uncertainty using the standard deviation of earnings [*Std(Earnings)*] and stock returns [*Std(Stock Returns)*] over the five-year period prior to contract inception. We also control for internal control weaknesses (ICW) and include an indicator variable equal to one if the borrower reports two consecutive quarters of negative earnings prior to contract inception (*Consecutive Loss*). Finally, we control for other contract characteristics that may affect loan pricing including debt size (*Debt Size*), maturity (*Maturity*), covenant type (*BS Covenant*, *IS Covenant*, *Capex Restrict*, *Dividend Restrict*, and *Sweep Covenant*), collateral (*Collateral*), syndicate size (*Syndicate Size*), revolving credit facilities (*Revolver*), and performance pricing provisions (*Performance Pricing*). We include year and Fama-French 48 industry fixed effects, and cluster standard errors by borrower to address potential temporal correlation of the error terms within each firm over time.

The multivariate results are presented in Table 3. Column (1) includes the regression results without control variables and column (2) includes the regression results with the control variables. Consistent with H1, we find a negative and significant coefficient on the *Forecast Accuracy* variable in both column (1) and (2), suggesting that borrowers receive a lower cost of debt when lenders perceive that the borrower's forward-looking information is more accurate. When examining the results in column (2) in terms of economic significance, we find that the interest rate falls by approximately 12.7% as the *Forecast Accuracy* variable moves from the bottom to top decile.

#### 4.2. *Cross-sectional analysis based on the availability of other useful information*

Our first analysis implicitly assumes that the lender requires an indicator for the borrower's ability to predict future outcomes to assess the expected accuracy of forward-looking information. In this section, we examine whether the lender alters the use of the borrower's historical forecast accuracy when alternative information sources are available to assess the expected accuracy of forward-looking information. We predict that the lender is less likely to rely on the accuracy of the borrower's past forward-looking information to estimate the accuracy of forward-looking information in pricing debt when other useful information sources are available to evaluate the borrower's forward-looking information.

To empirically test this hypothesis, we identify two proxies for additional information useful in assessing future borrower outcomes. First, we estimate the stability of publicly reported earnings in SEC filings. When the borrower demonstrates a stable earnings stream, the borrower's profitability prior to contract inception serves as a useful signal to assess the reasonableness of the forward-looking information provided by the borrower. We expect this to reduce the lender's reliance on the historical accuracy of the borrower's forward-looking information. We estimate earnings stability based on the standard deviation of seasonally-adjusted quarterly earnings (*ibq*) over the three-year period prior to contract inception. We then split the sample observations into firms with more (less) stable reported earnings based on whether the standard deviation is below (above) the sample median and estimate model (1) for each sub-sample.

Table 4 presents the results using the stability of the firm's reported earnings as a proxy for another information source useful in assessing the accuracy of the forward-looking

information obtained during contract negotiations.<sup>13</sup> In column 1, we estimate the relation between the borrower's historical forecast accuracy and the cost of debt for firms with more volatile reported earnings (i.e., the standard deviation of seasonally adjusted quarterly earnings is greater than the sample median). Consistent with expectations, we find the predicted negative relation between the borrower's forecast accuracy and interest spreads. In column (2), we estimate model (1) for firms with more stable reported earnings (i.e., the standard deviation of seasonally adjusted earnings is below the sample median). For this sub-sample, the coefficient on forecast accuracy is negative but insignificant, indicating that the importance of an indicator for the borrower's ability to produce accurate information is less important in setting loan terms when lenders can use the reported earnings to predict future performance and assess forward-looking information. Furthermore, the differential effect of forecast accuracy on the cost of debt between high and low earnings volatility is significant at the 5% level, based on a one-tailed t-test. This evidence is consistent with H2 and suggests that lenders are less likely to rely on the borrower's historical earnings forecast accuracy to estimate the expected accuracy of forward-looking information obtained during contract negotiations when other useful information is available to estimate this expectation.

We also use analyst following as a proxy for the availability and usefulness of another information source that a lender can use to assess the expected accuracy of the borrower's forward-looking information. Equity analysts combine their own private information with public information (e.g., firm disclosures) to produce an independent forecast of future performance (Ramnath, 2002; Piotroski and Roulstone, 2004; Bradshaw, 2011). While sell-side equity

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<sup>13</sup> Due to our relatively small sample size, we do not include industry fixed effects when estimating our cross-sectional tests to increase the power of the tests. In untabulated analysis, we re-estimate all of our cross-sectional tests including Fama French 48 industry fixed effects, and find a similar magnitude on our coefficients of interest, with generally weaker statistical significance.

analysts do not directly provide information about the borrower's creditworthiness, they provide independent forecasts of the borrower's future performance, which can be useful in helping the lender assess the expected accuracy of forward-looking information. If the borrower has more equity analysts following the firm, we predict more information to be publicly available regarding the borrower's expected future value. Therefore, we predict an indicator for the borrower's ability to predict future outcomes will be less important in debt contracting when borrowers have greater analyst coverage.

In Table 5, we separately estimate the impact of management forecast accuracy on interest spreads for firms with high (low) analyst following, i.e. analyst following above (below) the sample median. The results in column (1) suggest that an indicator for the expected accuracy of the borrower's forward-looking information decreases the borrower's cost of debt when analyst following is lower. In column (2), the insignificant coefficient on *Forecast Accuracy* suggests that the borrower's historical forecast accuracy is less important in setting contract terms for firms with more independent forecasts of the borrower's future value (e.g. higher analyst following) to assess the expected accuracy of forward-looking information. Additionally, the differential effect of forecast accuracy on the cost of debt between high and low analyst following is significant at the 10% level, based on a one-tailed t-test. Overall the evidence presented in Tables 4 and 5 suggests that lenders are less likely to rely on the historical accuracy of the borrower's forward-looking information as an indicator for the borrower's ability to predict future performance if other information is available to assess the expected accuracy of the borrower's forward looking information.

## **5. Additional Analysis**

### *5.1. Alternative Proxy for the Accuracy of Forward-Looking Information*

It is possible that managers produce forecasts that are systematically and consistently biased over time. For example, managers may issue downward-biased forecasts to reduce the likelihood that an unexpected shock causes the manager to miss expected performance targets. If some managers systematically bias earnings forecasts downward to protect against negative shocks, our measure of forecast accuracy would identify these managers as producing inaccurate forecasts. However, the lender would likely be able to unravel any intentional systematic bias in public forecasts, allowing these firms to demonstrate their ability to produce accurate, forward-looking information. This is consistent with Hillary et al. (2014), who provide evidence that precise but biased forecasts provide more information than unbiased but noisy forecasts.

To ensure our results are not driven by potential systematic bias in forecasts, we use the standard deviation of managerial forecast errors over the prior three years as an alternative measure that lenders can use to estimate the accuracy of forward-looking information obtained during contract negotiations.<sup>14</sup> In untabulated analysis, we find qualitatively similar results to those presented in the tables.

## 5.2. *Managerial Ability*

Prior literature provides evidence that a manager's ability is positively correlated with forecast accuracy (Baik, Farber, and Lee, 2011). In addition to having superior forecasting ability, high ability managers are able to identify better projects and manage them more efficiently. To the extent that this type of operational acumen lowers the cost of debt to borrowers with high ability managers (above and beyond the ability to make accurate future projections), managerial ability could be a correlated omitted factor explaining the empirical relation we observe.

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<sup>14</sup> Similar to our calculation of the *Forecast Accuracy* variable, we use the past three years of managerial forecasts prior to the debt contract initiation to calculate the standard deviation of forecast errors.

We perform two additional robustness tests to assess whether the manager's operational ability is driving the negative relation between historical forecast accuracy and interest spreads. We first re-estimate model (1) after including the managerial ability score, which measures the manager's ability to generate revenues, developed by Demerjian, Lev, and McVay (2012). Untabulated analysis reveals that the relation between management forecast accuracy and interest spreads remains significantly negative after including the managerial ability score (coefficient -0.154, p-value 0.005). Additionally, we re-estimate model (1) including ex-post profitability (ROA) in the four quarters following contract inception to control for the expected future performance communicated to the lender at contract inception.<sup>15</sup> In untabulated analysis, our results are qualitatively similar after controlling for future profitability (*Forecast Accuracy* coefficient = -0.112, p-value = 0.019). These two additional tests provide additional evidence that the historical accuracy of forward-looking information allows lenders to assess the borrower's ability to provide accurate forecasts during contract negotiations.

### 5.3. *Cross-sectional Test Based on Debt Contract Maturity*

Managers generally forecast earnings over a short horizon, usually for the next quarter or fiscal year. Therefore, forecast accuracy provides a useful signal to creditors regarding management's ability to predict performance in the near future, but may not provide information about the manager's ability to predict cash flows over the life of a long-term contract. Therefore, we anticipate that the effect of historical forecast accuracy on interest rates will be concentrated among loans with shorter maturities. To test this prediction, we separately estimate model (1) for contracts with high and low maturities, based on whether the stated maturity of the contract is above or below the sample median.

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<sup>15</sup> Ex-post profitability is measured as the cumulative return on assets over the first four quarters following contract inception.

We present regression results in Table 6. In column 1, we estimate model (1) for debt contract observations with low maturities (i.e., below the sample median). The negative and significant coefficient on the *Forecast Accuracy* variable is consistent with earlier results (i.e., negative and significant at the 1% level), suggesting that more accurate forecasters obtain lower interest rates at contract inception when the contract maturity is relatively short. In contrast, the coefficient on *Forecast Accuracy* in column 2 is insignificant, providing no evidence that forecast accuracy has an effect on the cost of debt for high maturity loans. Additionally, the differential effect of forecast accuracy on the cost of debt between high and low maturity loans is significant at the 5% level based on a one-tailed t-test, consistent with our hypothesis that the borrower's historical forecast accuracy conveys information to lenders regarding the accuracy of short-term forward-looking information used to price the loan.

#### 5.4. *Cross-sectional Test Based on Relationship Lending*

We expect that the relation we observe in this study is important when the borrower and lender engage in an arm's length transaction, with no preexisting information. However, if the lender has an existing relationship with the borrower, she can assess the borrower's ability to produce accurate forward-looking information by examining realizations for the forward-looking information obtained in screening borrowers during prior contract negotiations. Therefore, a relationship lender may not require an external indicator regarding the accuracy of forward-looking information. As a result, we predict that the borrower's forecast accuracy will only affect the cost of debt when the borrower and lender do not have an existing relationship.

We test this hypothesis by separately estimating model (1) for non-relationship and relationship loans. We define a relationship loan if the borrower has a contract with the lender available on Dealscan in the five-year period prior to contract inception following Costello and



Wittenberg-Moerman (2011). We present the results in Table 7. In column (1), we estimate the impact of historical forecast accuracy on the cost of debt for debt contracts with non-relationship banks. Consistent with expectations, we find a negative and significant (5% level) coefficient on the *Forecast Accuracy* variable. In column 2 we estimate the impact of historical forecast accuracy on the cost of debt for borrowers who have had a previous relationship with the lender and find an insignificant coefficient on the *Forecast Accuracy* variable. This evidence suggests that borrowers obtain lower interest rates when the lender is able to use historical forecast accuracy to assess the accuracy of forward-looking information, but only when the borrower does not have an existing relationship with the lender.

5.5. *Management forecast accuracy and the use of contract provisions written directly on accounting information*

In addition to using information to screen borrowers, the lender also uses information to monitor her investment. Common monitoring provisions in debt contracts include financial covenants and performance pricing provisions.<sup>16</sup> For information to be useful in monitoring, the contracting parties must view the information as verifiable (Watts, 2003; Kothari, Ramanna, and Skinner, 2011). For this reason, contracts are generally written on audited historical accounting numbers. Since forward-looking information cannot be easily verified, contracting parties are unlikely to include forward-looking information as a direct input to the debt contract terms (e.g. financial covenants and performance pricing provisions) that are used to monitor the borrower. Therefore, we do not expect the accuracy of forward-looking information to affect the direct contracting role of information. In untabulated results, we find no evidence that the borrower's

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<sup>16</sup> Prior research extensively discusses the features of accounting information that make it useful for contracting purposes and the ex-post monitoring of loans (Zhang, 2008; Demerjian, 2011; Christensen and Nikolaev, 2012; Demerjian, Donovan, and Larson, 2015).

historical forecast affects the inclusion of a financial statement or an income statement covenant, providing no evidence that the borrower's historical forecast accuracy affects the monitoring provisions of the contract.

## **6. Identification and Falsification Test**

### *6.1. Instrumental Variable Test*

In this section, we employ an instrumental variable approach to address the concern that our results are driven by unobservable omitted variables that are correlated with both management forecast accuracy and the cost of debt. We attempt to identify an instrument that captures the variation in forecast accuracy but is uncorrelated with interest rates in private debt contracts. We believe that the level of information asymmetry between the firm and *public* capital market participants serves as an instrument for management forecast accuracy in our setting. Prior literature demonstrates a relation between the level of public information asymmetry and management forecasts (e.g. Healy and Palepu, 2001; Balakrishnan et al., 2014). However, the level of public information asymmetry should not affect the cost of debt for private loans, because the borrower can provide additional private disclosures to bank lenders without publicly revealing the information to capital market participants (Bharath et al., 2008). Therefore, we believe the level of public information asymmetry represents a valid instrument to address our research question.

We use the borrower's bid-ask spread as a proxy for the level of public information asymmetry. We measure *Bid-Ask Spread* as the decile rank of the average bid-ask spread (scaled by the firm's stock price) over the three-year period prior to debt contract inception, matching the window over which we measure management forecast accuracy.<sup>17</sup> We then estimate the

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<sup>17</sup> Consistent with prior literature, we eliminate all bid-ask spreads less than zero.

relation between management forecast accuracy and the cost of debt in private loans using two-stage least squares estimation. Results are presented in Table 8. The first-stage estimation results are found in column 1. We find a negative and significant relation between *Bid-Ask Spread* and *Forecast Accuracy*, suggesting that public information asymmetry represents a valid instrument for management forecast accuracy. Additionally, the first stage F-stat of 9.127 presented at the bottom of Table 8 indicates that our results are unlikely to be affected by a “weak instrument” problem (Larcker and Rusticus, 2010; Stock et al., 2002). In column 2, we present the results estimating the effect of forecast accuracy on the cost of debt. The negative and significant (at the 5% level) coefficient on the instrumented *Forecast Accuracy* variable is consistent with previous results, and provides comfort that our results are not driven by unobservable firm characteristics.

## 6.2. *Falsification Test: The Cost of Debt in Public Debt Contracts*

As discussed in Section 2.1, private lenders obtain information from both public (e.g. financial statements) and private (e.g. information disclosed only to the lender) information sources. We note that historical information is largely obtained from public sources, such as SEC filings. However, forward-looking information is more likely to be obtained from both public and private information sources. Public sources of forward-looking information typically include managerial earnings forecasts and other forward-looking information disclosed through public channels (e.g., conference calls). Due to litigation and proprietary costs that firms face when disclosing forward-looking information to the public, the amount of forward-looking information that borrowers disclose through public channels is typically limited relative to the amount of forward-looking information disclosed privately to lenders. As a result, private lenders are more

likely to receive additional and more detailed information that is useful in assessing the borrower's future value.

In contrast, public lenders (bondholders) do not typically have this information advantage, because the borrower cannot privately disclose information to bondholders without publicly disclosing it to all capital market participants (Bharath et al., 2008). If forward-looking information is more likely to be communicated through private channels, we do not expect more accurate historical earnings forecasts to serve as a useful measure for the expected accuracy of forward-looking information obtained during contract negotiations with public lenders (i.e., bondholders). Therefore, we do not expect historical forecast accuracy to affect the borrower's cost of debt for public issuances.

We examine the association between the historical accuracy of forward-looking information and interest rate spreads for public borrowers. We identify a sample of 2,151 public bond issuances on Mergent FISD with available financial information on Compustat and management forecast accuracy data available on CIG or IBES between 2003 and 2012. We estimate a regression model similar to model (1) for this sample, where the dependent variable [ $\text{Log}(\text{Bond Spread})$ ] is equal to the natural log of the initial bond interest rate on Mergent FISD less the one-year LIBOR rate available from the St. Louis Federal Reserve Bank website. Results are presented in Table 9. Consistent with expectations, we find a positive and insignificant coefficient on our measure of forecast accuracy, providing no evidence that more accurate management earnings forecasts reduce the cost of debt for public debt contracts.

Denis and Mihov (2003) provide evidence that the borrower's credit risk is the primary determinant of the choice between public and private debt. To reduce the likelihood that our results are driven by differences in risk and uncertainty between these two markets, we perform

additional untabulated analysis on a sample of firms accessing both public and private debt markets. We re-estimate the relation between the borrower's historical forecast accuracy and interest spreads in private debt contracts using a sample of Dealscan loan facilities for which the borrowers also have public bond data available on either TRACE or Mergent FISD over the sample period. Using this sample of 1,902 loan facilities, we find a negative and statistically significant relation between forecast accuracy and the cost of debt (coefficient = -0.119, p-value = 0.057), corroborating the tabulated results in Table 3. We also find qualitatively similar results if we restrict our sample to 1,539 Dealscan loan facilities (private loans) to borrowers with a credit rating from S&P available on Compustat (coefficient = -0.192, p-value = 0.008), consistent with H1. Lastly, we re-estimate the relation between the initial interest rate charged on public bonds and forecast accuracy using a sample of 2,135 bonds to borrowers with both public bonds on Mergent FISD and private debt contracts on Dealscan over the sample period. We find an insignificant coefficient on *Forecast Accuracy* (coefficient = 0.176, p-value = 0.173), providing no evidence that historical forecast accuracy has any effect on the cost of public debt, where forward-looking information is less likely to be disclosed to the lender.

## **7. Summary and Conclusion**

We examine whether the expected accuracy of forward-looking information obtained by the lender to screen the borrower affects the borrower's cost of debt. We use the historical accuracy of management forecasts as a proxy for the expected accuracy of the borrower's forward-looking information. Consistent with our predictions, we find evidence that the borrower receives a lower interest rate when his historical forecasts are more accurate. Furthermore, we find that the lender relies less on the borrower's historical forecast accuracy as an indicator for the expected accuracy of forward-looking information when the lender has

access to other information sources (e.g., reported earnings stability and analyst forecasts) that are useful in estimating this expectation.

Our theory suggests that forward-looking information is primarily useful to the lender when screening potential borrowers, improving the lender's assessment of the borrower's default risk. We contribute to the debt contracting literature in two ways. First, we provide evidence that the lender's assessment of the accuracy of forward-looking information affects the perceived creditworthiness of the borrower, influencing the borrower's cost of debt. Second, our evidence suggests that voluntary disclosure is not only useful for valuation purposes but is also useful for contracting purposes. We specifically find that the borrower's historical forecast accuracy is useful to the lender when assessing the accuracy of forward-looking information obtained during contract negotiations.

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**Table 1: Descriptive Statistics**

This table reports descriptive statistics for all sample firms with available information in the intersection of the *Dealscan*, *Compustat*, and CIG or I/B/E/S databases. Financial and loan-specific variables are used to estimate the impact of management forecast accuracy on initial debt contract terms.

Variable	N	Mean	25th Pctl	Median	75th Pctl	Std Dev
<b>Dependent Variables:</b>						
<i>Interest Spread (BP)</i>	2,632	169.430	75.000	150.000	225.000	119.459
<i>Financial Covenant</i>	1,992	0.956	1.000	1.000	1.000	0.204
<b>Treatment Variables:</b>						
<i>Forecast Accuracy</i>	2,632	0.444	0.308	0.141	-0.066	3.349
<b>Control Variables:</b>						
<i>Total Assets</i>	2,632	8,296.710	586.081	1,666.580	4,332.060	46,173.200
<i>Leverage</i>	2,632	0.256	0.101	0.235	0.365	0.196
<i>MTB</i>	2,632	2.763	1.474	2.240	3.389	15.655
<i>ROA</i>	2,632	0.045	0.023	0.048	0.081	0.087
<i>Sales Growth</i>	2,632	0.130	0.016	0.092	0.184	0.272
<i>Firm Age</i>	2,632	24.111	10.000	16.000	36.000	19.129
<i>Std(Earnings)</i>	2,632	0.020	0.006	0.010	0.021	0.035
<i>Std(Stock Returns)</i>	2,632	0.127	0.087	0.113	0.152	0.061
<i>ICW</i>	2,632	0.055	0.000	0.000	0.000	0.229
<i>Consecutive Loss</i>	2,632	0.075	0.000	0.000	0.000	0.263
<i>Relationship Lender</i>	2,632	0.385	0.000	0.000	1.000	0.487
<i>Analyst Following</i>	2,632	9.521	5.000	8.000	13.000	6.539
<i>Institutional Ownership</i>	2,632	0.789	0.694	0.834	0.934	0.192
<i>Disc Accruals</i>	2,632	0.212	0.034	0.082	0.205	0.554
<i>Revolver</i>	2,632	0.689	0.000	1.000	1.000	0.463
<i>BS Covenant</i>	2,632	0.344	0.000	0.000	1.000	0.475
<i>IS Covenant</i>	2,632	0.859	1.000	1.000	1.000	0.348
<i>Syndicate Size</i>	2,632	10.216	4.000	8.000	14.000	8.222
<i>Capex Restrict</i>	2,632	0.205	0.000	0.000	0.000	0.404
<i>Inst Tranche</i>	2,632	0.133	0.000	0.000	0.000	0.339
<i>Sweep Covenant</i>	2,632	0.397	0.000	0.000	1.000	0.489
<i>Dividend Restrict</i>	2,632	0.737	0.000	1.000	1.000	0.440
<i>Debt Size</i>	2,632	797.441	150.000	350.000	800.000	1,768.060
<i>Maturity</i>	2,632	50.537	36.000	60.000	60.000	18.581
<i>Collateral</i>	2,632	0.520	0.000	1.000	1.000	0.500
<i>Performance Pricing</i>	2,632	0.771	1.000	1.000	1.000	0.421

**Variable Descriptions:** *Interest Spread*: Interest rate (*AllInDrawn*) of the debt facility on Dealscan. *Financial Covenant*: Indicator variable equal to one if the debt contract available on Dealscan includes a leverage ratio, debt-to-equity ratio, net worth, current ratio, quick ratio, interest coverage ratio, fixed charge, debt service, minimum EBITDA, or debt-to-earnings covenant, and zero otherwise. *Forecast Accuracy*: Average management forecast accuracy over the three-year period prior to contract inception, measured as the absolute value of the difference between the management forecasted and IBES actual EPS, scaled by the absolute value of forecasted EPS. *Total Assets*: Total assets on Compustat. *Leverage*: Total debt scaled by total assets. *MTB*: Market value of equity scaled by book value of equity. *ROA*: Income before extraordinary items scaled by total assets. *Sales Growth*: Percentage change in annual revenue (Compustat *revt*) from the prior year. *Firm Age*: Firm Age (in years) based on the first date the firm appears in Compustat or CRSP. *Std(Earnings)*: Standard deviation of quarterly earnings measured over the previous five year period. *Std(Stock Returns)*: Standard deviation of monthly stock returns available on CRSP measured over the

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previous five year period. *ICW*: Indicator variable equal to one if the firm reported an internal control weakness in the annual period prior to contract inception based on data available on Audit Analytics, and zero otherwise. *Consecutive Loss*: Indicator variable equal to one if the firm reported two consecutive quarters of negative income before extraordinary items (ibq) in the two quarters immediately prior to debt contract inception. *Relationship Lender*: Indicator variable equal to one if the borrower has a debt contract with the same lender available on Dealscan in the five-year period prior to loan inception, and zero otherwise. *Analyst Following*: IBES analyst following in the period prior to contract inception. *Institutional Ownership*: Thomson-Reuters institutional ownership in the period prior to contract inception. *Disc Accruals*: Absolute value of the difference between total accruals (income before extraordinary items less operating cash flows from the statement of cash flows scaled by average total assets) and expected accruals based on the fitted value of total accruals regressed on lagged, current, and future operating cash flows following Dechow and Dichev (2002), estimated annually by Fama French 48 industry affiliation. *Revolver*: Indicator variable equal to one if the debt contract available on Dealscan is a revolving credit facility, and zero otherwise. *BS Covenant*: Indicator variable equal to one if the debt contract available on Dealscan includes a leverage ratio, debt-to-equity ratio, net worth, current ratio, or quick ratio covenant, and zero otherwise. *IS Covenant*: Indicator variable equal to one if the debt contract available on Dealscan includes an interest coverage ratio, fixed charge, debt service, minimum EBITDA, or debt-to-earnings covenant, and zero otherwise. *Syndicate Size*: The number of syndicate lenders in the syndicated debt contract available on Dealscan. *Capex Restrict*: Indicator variable equal to one if the debt contract available on Dealscan includes a covenant restricting the level of capital expenditures, and zero otherwise. *Inst Tranche*: Indicator variable equal to one if the debt contract available on Dealscan has a Term Loan B or higher, and zero otherwise. *Sweep Covenant*: Indicator variable equal to one if the debt contract available on Dealscan includes an excess cash flow sweep, asset sales sweep, debt issuance sweep, equity issuance sweep, or insurance proceeds sweep, and zero otherwise. *Dividend Restrict*: Indicator variable equal to one if the debt contract available on Dealscan includes a dividend restriction, and zero otherwise. *Debt Size*: Face value (in millions) of the debt facility on Dealscan. *Maturity*: Maturity (in months) of the debt facility on Dealscan. *Collateral*: Indicator variable equal to one for secured debt contracts available on Dealscan, and zero otherwise. *Performance Pricing*: Indicator variable equal to one if the debt contract available on Dealscan includes a performance pricing provision, and zero otherwise.

**Table 2: Correlation Matrix**

This table reports correlation coefficients and p-values for all sample firms with available information in the intersection of the Dealscan, Compustat, and CIG or I/B/E/S databases. Spearman correlation coefficients are presented below the diagonal; Pearson correlations are presented above the diagonal.

	<i>Forecast Accuracy</i>	<i>Log (Spread)</i>	<i>Log (Debt Size)</i>	<i>Log (Maturity)</i>	<i>Collateral</i>	<i>Financial Covenant</i>	<i>IS Covenant</i>
<i>Forecast Accuracy</i>		-0.237 <.0001	0.235 <.0001	0.043 0.03	-0.243 <.0001	0.039 0.05	-0.039 0.04
<i>Log (Spread)</i>	-0.252 <.0001		-0.238 <.0001	-0.011 0.58	0.547 <.0001	-0.063 <.01	0.192 <.0001
<i>Log (Debt Size)</i>	0.235 <.0001	-0.258 <.0001		0.236 <.0001	-0.272 <.0001	0.008 0.66	-0.150 <.0001
<i>Log (Maturity)</i>	0.012 0.53	0.090 <.0001	0.151 <.0001		0.141 <.0001	0.059 <.01	0.135 <.0001
<i>Collateral</i>	-0.243 <.0001	0.542 <.0001	-0.268 <.0001	0.157 <.0001		-0.083 <.0001	0.159 <.0001
<i>Financial Covenant</i>	0.039 0.05	-0.043 0.03	-0.037 0.05	0.073 <.0001	-0.083 <.0001		0.529 <.0001
<i>IS Covenant</i>	-0.039 0.04	0.244 <.0001	-0.147 <.0001	0.169 <.0001	0.159 <.0001	0.529 <.0001	

**Variable Descriptions:** *Forecast Accuracy:* Average management forecast accuracy over the three-year period prior to contract inception, measured as the decile rank (divided by nine) of negative one multiplied by the absolute value of the difference between the management forecasted and IBES actual EPS, scaled by the absolute value of forecasted EPS. *Interest Spread:* Interest rate (*AllInDrawn*) of the debt facility on Dealscan. *Debt Size:* Face value (in millions) of the debt facility on Dealscan. *Maturity:* Maturity (in months) of the debt facility on Dealscan. *Collateral:* Indicator variable equal to one for secured debt contracts available on Dealscan, and zero otherwise. *Financial Covenant:* Indicator variable equal to one if the debt contract available on Dealscan includes a leverage ratio, debt-to-equity ratio, net worth, current ratio, quick ratio covenant, interest coverage ratio, fixed charge, debt service, minimum EBITDA, or debt-to-earnings covenant and zero otherwise. *IS Covenant:* Indicator variable equal to one if the debt contract available on Dealscan includes an interest coverage ratio, fixed charge, debt service, minimum EBITDA, or debt-to-earnings covenant, and zero otherwise.

**Table 3: Management Forecast Accuracy and Interest Spreads**

This table reports the results of a regression model testing the impact of management forecast accuracy on interest spreads of private debt contracts initiated over the period from 2003-2012. The dependent variable in this model is the natural log of interest spreads available on Dealscan. Standard errors are clustered by firm.

	Prediction	[1]		[2]	
		<i>Log(Spread)</i>		<i>Log(Spread)</i>	
		Coefficient	t-stat	Coefficient	t-stat
<b>Forecast Accuracy</b>	-	<b>-0.588</b> ***	<b>(-7.52)</b>	<b>-0.127</b> ***	<b>(-2.63)</b>
<i>Size</i>				-0.088 ***	(-4.38)
<i>Leverage</i>				0.443 ***	(5.04)
<i>MTB</i>				-0.001 **	(-2.43)
<i>ROA</i>				-0.718 ***	(-3.01)
<i>Sales Growth</i>				0.001	(0.03)
<i>Firm Age</i>				-0.001	(-1.19)
<i>Std(Earnings)</i>				0.385	(1.02)
<i>Std(Stock Returns)</i>				1.455 ***	(5.07)
<i>ICW</i>				0.159 ***	(2.68)
<i>Consecutive Loss</i>				0.006	(0.12)
<i>Relationship Lender</i>				-0.013	(-0.50)
<i>Analyst Following</i>				-0.010 ***	(-3.95)
<i>Institutional Ownership</i>				0.285 ***	(3.90)
<i>Disc Accruals</i>				-0.002	(-0.11)
<i>Revolver</i>				-0.073 ***	(-2.54)
<i>Performance Pricing</i>				-0.129 ***	(-4.19)
<i>BS Covenant</i>				-0.048	(-1.69)
<i>IS Covenant</i>				0.196 ***	(3.94)
<i>Syndicate Size</i>				-0.090 ***	(-3.23)
<i>Capex Restrict</i>				0.076 **	(2.37)
<i>Inst Tranche</i>				0.164 ***	(4.12)
<i>Sweep Covenant</i>				0.161 ***	(4.89)
<i>Dividend Restrict</i>				-0.001	(-0.06)
<i>Collateral</i>				0.306 ***	(9.75)
<i>Log(Debt Size)</i>				0.042	(1.56)
<i>Log(Maturity)</i>				0.044	(1.65)
<i>Constant</i>		5.166 ***	(129.47)	4.913 ***	(26.35)
Year Fixed Effects		No		Yes	
Industry Fixed Effects		No		Yes	
Number Obs		2,632		2,632	
R-square		0.059		0.675	

\*\*\*, \*\*, \* Indicates statistical significance at the 1%, 5%, and 10% levels respectively.

**Variable Descriptions:** *Log(Spread)*: Natural log of the interest rate (*AllInDrawn*) of the debt facility on Dealscan. *Forecast Accuracy*: Average management forecast accuracy over the three-year period prior to contract inception, measured as the decile rank (divided by nine) of negative one multiplied by the absolute value of the difference between the management forecasted and IBES actual EPS, scaled by the absolute value of forecasted EPS. All control variables are defined in Table 1.

**Table 4: Management Forecast Accuracy and Interest Spreads Based on Earnings Stability**

This table reports the results of a regression model testing the impact of management forecast accuracy on interest spreads of private debt contracts initiated over the period from 2003-2012. The dependent variable in this model is the natural log of interest spreads available on Dealscan. Column 1 estimates the model for loans to borrowers with unstable reported earnings, with the standard deviation of seasonally-adjusted quarterly earnings of the three-year period prior to contract inception above sample median. Column 2 estimates the model for loans from to borrowers with stable reported earnings, with the standard deviation of seasonally-adjusted quarterly earnings of the three-year period prior to contract inception below sample median. Standard errors are clustered by firm.

	[1]			[2]			Difference	p-value	
	<i>Log(Spread)</i>			<i>Log(Spread)</i>					
	Coefficient		t-stat	Coefficient		t-stat			
<i>Forecast Accuracy</i>	<b>-0.202</b>	***	<b>(-3.00)</b>	<b>-0.058</b>		<b>(-1.12)</b>	<b>-0.144</b>	**	<b>0.038</b>
<i>Size</i>	0.0004		(0.02)	-0.172	***	(-6.45)			
<i>Leverage</i>	0.465	***	(4.06)	0.384	***	(3.81)			
<i>MTB</i>	-0.001		(-1.34)	-0.002	**	(-2.05)			
<i>ROA</i>	-0.451		(-1.57)	-1.472	***	(-4.68)			
<i>Sales Growth</i>	-0.014		(-0.25)	0.020		(0.43)			
<i>Firm Age</i>	-0.001		(-0.97)	-0.002	**	(-2.38)			
<i>Std(Earnings)</i>	-0.057		(-0.12)	1.456	*	(1.83)			
<i>Std(Stock Returns)</i>	1.810	***	(3.99)	1.049	***	(3.41)			
<i>ICW</i>	0.260	**	(2.17)	0.154	***	(2.51)			
<i>Consecutive Loss</i>	0.068		(0.83)	-0.079		(-1.21)			
<i>Relationship Lender</i>	-0.060		(-1.52)	0.046		(1.51)			
<i>Analyst Following</i>	-0.010	***	(-3.16)	-0.005		(-1.55)			
<i>Institutional Ownership</i>	0.299	***	(2.52)	0.340	***	(4.41)			
<i>Disc Accruals</i>	0.002		(0.09)	0.006		(0.32)			
<i>Revolver</i>	-0.091	*	(-1.92)	-0.035		(-1.01)			
<i>Performance Pricing</i>	-0.150	***	(-2.96)	-0.128	***	(-3.62)			
<i>BS Covenant</i>	-0.047		(-1.07)	0.015		(0.44)			
<i>IS Covenant</i>	0.261	***	(3.96)	0.136	*	(1.85)			
<i>Syndicate Size</i>	-0.079		(-1.65)	-0.095	***	(-2.86)			
<i>Capex Restrict</i>	0.089		(1.60)	0.072	*	(1.96)			
<i>Inst Tranche</i>	0.215	***	(3.18)	0.133	***	(2.74)			
<i>Sweep Covenant</i>	0.176	***	(3.11)	0.184	***	(5.10)			
<i>Dividend Restrict</i>	0.004		(0.09)	0.051		(1.17)			
<i>Collateral</i>	0.292	***	(6.10)	0.292	***	(7.42)			
<i>Log(Debt Size)</i>	-0.004		(-0.08)	0.083	***	(2.75)			
<i>Log(Maturity)</i>	0.108	***	(3.09)	0.003		(0.09)			
<i>Constant</i>	4.829	***	(19.22)	5.463	***	(26.14)			
Year Fixed Effects	Yes			Yes					
Number Obs	1,316			1,316					
R-square	0.700			0.617					

\*\*\*, \*\*, \* Indicates statistical significance at the 1%, 5%, and 10% levels respectively.

Variable Descriptions: *Interest Spread:* Interest rate (*AllInDrawn*) of the debt facility on Dealscan. *Forecast Accuracy:* Average management forecast accuracy over the three-year period prior to contract inception, measured as the decile rank (divided by nine) of negative one multiplied by the absolute value of the difference between the management forecasted and IBES actual EPS, scaled by the absolute value of forecasted EPS. All control variables are defined in Table 1.

**Table 5: Management Forecast Accuracy and Interest Spreads Based on Analyst Following**

This table reports the results of a regression model testing the impact of management forecast accuracy on interest spreads of private debt contracts initiated over the period from 2003-2012. The dependent variable in this model is the natural log of interest spreads available on Dealscan. Column 1 estimates the model for loans to borrowers with low analyst following below sample median. Column 2 estimates the model for loans to borrowers with high analyst following above sample median. Standard errors are clustered by firm.

	[1]		[2]		Difference	p-value
	<i>Log(Spread)</i>		<i>Log(Spread)</i>			
	Coefficient	t-stat	Coefficient	t-stat		
<b>Forecast Accuracy</b>	<b>-0.122</b> **	<b>(-2.22)</b>	<b>-0.040</b>	<b>(-0.52)</b>	<b>-0.082</b> *	<b>0.098</b>
<i>Size</i>	-0.077 ***	(-2.79)	-0.030	(-0.95)		
<i>Leverage</i>	0.367 ***	(3.39)	0.447 ***	(3.48)		
<i>MTB</i>	-0.001	(-1.64)	-0.001	(-1.57)		
<i>ROA</i>	-0.754 ***	(-2.78)	-1.137 ***	(-2.87)		
<i>Sales Growth</i>	-0.051	(-1.27)	0.200 **	(2.27)		
<i>Firm Age</i>	-0.002 *	(-1.99)	-0.0007	(-0.50)		
<i>Std(Earnings)</i>	0.153	(0.23)	0.148	(0.27)		
<i>Std(Stock Returns)</i>	1.311 ***	(4.11)	3.169 ***	(5.53)		
<i>ICW</i>	0.149 **	(2.48)	0.294 *	(1.97)		
<i>Consecutive Loss</i>	-0.029	(-0.47)	0.120	(1.07)		
<i>Relationship Lender</i>	-0.0001	(-0.00)	-0.033	(-0.82)		
<i>Institutional Ownership</i>	0.239 ***	(3.21)	0.287 *	(1.85)		
<i>Disc Accruals</i>	-0.007	(-0.36)	0.021	(0.91)		
<i>Revolver</i>	-0.036	(-1.03)	-0.064	(-1.20)		
<i>Performance Pricing</i>	-0.165 ***	(-4.35)	-0.121 **	(-2.38)		
<i>BS Covenant</i>	0.018	(0.55)	-0.046	(-0.99)		
<i>IS Covenant</i>	0.209 ***	(3.19)	0.202 ***	(2.66)		
<i>Syndicate Size</i>	-0.145 ***	(-3.61)	-0.042	(-0.98)		
<i>Capex Restrict</i>	0.039	(1.06)	0.160 **	(2.14)		
<i>Inst Tranche</i>	0.149 ***	(3.04)	0.245 ***	(3.47)		
<i>Sweep Covenant</i>	0.195 ***	(4.65)	0.180 ***	(3.62)		
<i>Dividend Restrict</i>	0.006	(0.14)	0.029	(0.66)		
<i>Collateral</i>	0.335 ***	(7.83)	0.263 ***	(5.43)		
<i>Log(Debt Size)</i>	0.073 *	(1.88)	0.012	(0.31)		
<i>Log(Maturity)</i>	0.048	(1.54)	0.051	(1.10)		
<i>Constant</i>	5.253 ***	(26.76)	3.869	(11.14)		
Year Fixed Effects	Yes		Yes			
Number Obs	1,402		1,230			
R-square	0.620		0.657			

\*\*\*, \*\*, \* Indicates statistical significance at the 1%, 5%, and 10% levels respectively.

**Variable Descriptions:** *Log(Spread)*: Natural log of the interest rate (*AllInDrawn*) of the debt facility on Dealscan. *Forecast Accuracy*: Average management forecast accuracy over the three-year period prior to contract inception, measured as the decile rank (divided by nine) of negative one multiplied by the absolute value of the difference between the management forecasted and IBES actual EPS, scaled by the absolute value of forecasted EPS. All control variables are defined in Table 1.

**Table 6: Management Forecast Accuracy and Interest Spreads Based on Maturity**

This table reports the results of a regression model testing the impact of management forecast accuracy on interest spreads of private debt contracts initiated over the period from 2003-2012. The dependent variable in this model is the natural log of interest spreads available on Dealscan. Column 1 estimates the model for observations with maturity lower than sample median. Column 2 estimates the model for observations with maturity greater than sample median. Standard errors are clustered by firm.

	[1]		[2]		Difference	p-value
	<i>Log(Spread)</i>		<i>Log(Spread)</i>			
	Coefficient	t-stat	Coefficient	t-stat		
<b>Forecast Accuracy</b>	<b>-0.195</b> ***	<b>(-2.82)</b>	<b>-0.065</b>	<b>(-1.29)</b>	<b>0.130</b> **	<b>0.041</b>
<i>Size</i>	-0.045	(-1.44)	-0.094	*** (-3.56)		
<i>Leverage</i>	0.417	*** (3.20)	0.310	*** (3.27)		
<i>MTB</i>	-0.011	*** (-4.40)	-0.0007	** (-2.13)		
<i>ROA</i>	-0.536	** (-2.05)	-1.470	*** (-5.06)		
<i>Sales Growth</i>	0.079	(1.44)	-0.016	(-0.30)		
<i>Firm Age</i>	-0.001	(-0.79)	-0.000	(-0.65)		
<i>Std(Earnings)</i>	-0.718	(-1.08)	0.646	*** (2.64)		
<i>Std(Stock Returns)</i>	1.572	*** (3.71)	2.108	*** (5.92)		
<i>ICW</i>	0.189	* (1.95)	0.145	* (1.98)		
<i>Consecutive Loss</i>	-0.002	(-0.03)	0.003	(0.04)		
<i>Relationship Lender</i>	0.022	(0.52)	-0.053	* (-1.87)		
<i>Analyst Following</i>	-0.005	(-1.56)	-0.008	*** (-2.96)		
<i>Institutional Ownership</i>	0.253	*** (2.55)	0.220	** (2.33)		
<i>Disc Accruals</i>	0.032	* (1.68)	-0.009	(-0.44)		
<i>Revolver</i>	0.061	(1.24)	-0.181	*** (-4.99)		
<i>Performance Pricing</i>	-0.127	*** (-2.76)	-0.138	*** (-3.50)		
<i>BS Covenant</i>	-0.085	** (-2.21)	0.001	(0.04)		
<i>IS Covenant</i>	0.208	*** (3.21)	0.223	*** (3.53)		
<i>Syndicate Size</i>	-0.060	(-1.55)	-0.110	*** (-2.57)		
<i>Capex Restrict</i>	0.061	(1.23)	0.067	* (1.75)		
<i>Inst Tranche</i>	0.319	*** (4.22)	0.0005	(0.01)		
<i>Sweep Covenant</i>	0.101	** (2.39)	0.229	*** (5.48)		
<i>Dividend Restrict</i>	0.020	(0.45)	-0.011	(-0.29)		
<i>Collateral</i>	0.226	*** (4.57)	0.312	*** (8.13)		
<i>Log(Debt Size)</i>	-0.005	(-0.18)	0.096	** (2.30)		
<i>Constant</i>	4.625	*** (18.99)	3.636	*** (7.67)		
Year Fixed Effects	Yes		Yes			
Number Obs	1,086		1,546			
R-square	0.598		0.716			

\*\*\*, \*\*, \* Indicates statistical significance at the 1%, 5%, and 10% levels respectively.

**Variable Descriptions:** *Interest Spread:* Interest rate (*AllInDrawn*) of the debt facility on Dealscan. *Forecast Accuracy:* Average management forecast accuracy over the three-year period prior to contract inception, measured as the decile rank (divided by nine) of negative one multiplied by the absolute value of the difference between the management forecasted and IBES actual EPS, scaled by the absolute value of forecasted EPS. All control variables defined in Table 1.



**Table 7: Management Forecast Accuracy and Interest Spreads Based on Relationship Banking**

This table reports the results of a regression model testing the impact of management forecast accuracy on interest spreads of private debt contracts initiated over the period from 2003-2012. The dependent variable in this model is the natural log of interest spreads available on Dealscan. Column 1 estimates the model for loans from non-relationship private lenders. Column 2 estimates the model for loans from relationship lenders. Standard errors are clustered by firm.

	[1]		[2]		Difference	p-value
	<i>Log(Spread)</i>		<i>Log(Spread)</i>			
	Coefficient	t-stat	Coefficient	t-stat		
<b>Forecast Accuracy</b>	<b>-0.130</b> **	<b>(-2.46)</b>	<b>-0.095</b>	<b>(-1.26)</b>	<b>0.035</b>	<b>0.34</b>
<i>Size</i>	-0.048 *	(-1.76)	-0.080 ***	(-2.70)		
<i>Leverage</i>	0.470 ***	(4.86)	0.241 *	(1.87)		
<i>MTB</i>	-0.007 ***	(-3.57)	-0.000 **	(-2.39)		
<i>ROA</i>	-0.453 *	(-1.85)	-1.972 ***	(-5.07)		
<i>Sales Growth</i>	0.003	(0.07)	0.028	(0.53)		
<i>Firm Age</i>	-0.001	(-1.15)	-0.001	(-1.50)		
<i>Std(Earnings)</i>	0.185	(0.48)	-0.405	(-0.55)		
<i>Std(Stock Returns)</i>	1.746 ***	(5.70)	1.710 ***	(3.50)		
<i>ICW</i>	0.167 **	(2.23)	0.146	(1.32)		
<i>Consecutive Loss</i>	0.072	(1.20)	-0.155	(-1.26)		
<i>Analyst Following</i>	-0.009 ***	(-3.02)	-0.008 **	(-2.19)		
<i>Institutional Ownership</i>	0.205 **	(2.20)	0.351 ***	(3.08)		
<i>Disc Accruals</i>	-0.006	(-0.31)	0.067 *	(1.94)		
<i>Revolver</i>	-0.079 *	(-2.00)	-0.053	(-1.16)		
<i>Performance Pricing</i>	-0.147 ***	(-3.22)	-0.109 **	(-2.40)		
<i>BS Covenant</i>	0.007	(0.23)	-0.055	(-1.14)		
<i>IS Covenant</i>	0.237 ***	(3.71)	0.188 **	(2.36)		
<i>Syndicate Size</i>	-0.097 **	(-2.37)	-0.094 **	(-2.47)		
<i>Capex Restrict</i>	0.052	(1.29)	0.144 ***	(2.66)		
<i>Inst Tranche</i>	0.240 ***	(4.15)	0.103 *	(1.84)		
<i>Sweep Covenant</i>	0.217 ***	(5.17)	0.097 *	(2.00)		
<i>Dividend Restrict</i>	0.026	(0.61)	-0.016	(-0.32)		
<i>Collateral</i>	0.311 ***	(7.86)	0.325 ***	(6.25)		
<i>Log(Debt Size)</i>	0.035	(0.86)	0.026	(0.85)		
<i>Log(Maturity)</i>	0.061 *	(1.81)	0.034	(0.76)		
<i>Constant</i>	4.679 *	(21.72)	5.751 ***	(19.02)		
Industry Fixed Effects	Yes		Yes			
Year Fixed Effects	Yes		Yes			
Number Obs	1,619		1,013			
R-square	0.632		0.697			

\*\*\*, \*\*, \* Indicates statistical significance at the 1%, 5%, and 10% levels respectively.

**Variable Descriptions:** *Interest Spread:* Interest rate (*AllInDrawn*) of the debt facility on Dealscan. *Forecast Accuracy:* Average management forecast accuracy over the three-year period prior to contract inception, measured as the decile rank (divided by nine) of negative one multiplied by the absolute value of the difference between the management forecasted and IBES actual EPS, scaled by the absolute value of forecasted EPS. All control variables defined in Table 1.

**Table 8: Instrumental Variable Test**

This table reports the results of an instrumental variable regression model. Column 1 presents the first stage regression, estimating the relation between the instrumental variable, *Bid-Ask Spread*, and *Forecast Accuracy*. Column 2 presents the second stage regression, estimating the impact of management forecast accuracy on interest spreads of private debt contracts. Standard errors are clustered by firm.

	[1]		[2]		
	<i>Forecast Accuracy</i>		<i>Log(Spread)</i>		
	<b>Coefficient</b>	<b>t-stat</b>	<b>Coefficient</b>	<b>t-stat</b>	
<b><i>Bid-Ask Spread</i></b>	<b>-0.015</b>	<b>***</b>	<b>(-3.81)</b>		
<b><i>Forecast Accuracy_IV</i></b>				<b>-1.327</b>	<b>**</b> <b>(-2.17)</b>
<i>Size</i>	-0.013		(-1.00)	-0.096	*** (-3.69)
<i>Leverage</i>	0.113	*	(1.86)	0.564	*** (4.38)
<i>MTB</i>	0.0001		(0.51)	-0.001	(-1.63)
<i>ROA</i>	0.399	***	(4.01)	-0.207	(-0.61)
<i>Sales Growth</i>	0.004		(0.19)	0.005	(0.10)
<i>Firm Age</i>	0.0005		(0.82)	-0.0005	(-0.48)
<i>Std(Earnings)</i>	-0.567	**	(-2.32)	-0.285	(-0.51)
<i>Std(Stock Returns)</i>	-0.940	***	(-4.59)	0.265	(0.39)
<i>ICW</i>	-0.032		(-0.87)	0.121	(1.56)
<i>Consecutive Loss</i>	-0.043		(-1.16)	-0.045	(-0.68)
<i>Relationship Lender</i>	0.020		(1.24)	0.009	(0.27)
<i>Analyst Following</i>	0.002		(1.42)	-0.005	(-1.41)
<i>Institutional Ownership</i>	0.043		(0.73)	0.371	*** (3.59)
<i>Disc Accruals</i>	0.0005		(0.04)	-0.001	(-0.06)
<i>Revolver</i>	-0.020		(-1.26)	-0.093	*** (-2.54)
<i>Performance Pricing</i>	0.008		(0.48)	-0.121	*** (-3.19)
<i>BS Covenant</i>	0.044	**	(2.12)	0.003	(0.07)
<i>IS Covenant</i>	0.002		(0.08)	0.199	*** (3.46)
<i>Syndicate Size</i>	-0.008		(-0.63)	-0.105	*** (-3.29)
<i>Capex Restrict</i>	0.0005		(0.03)	0.076	* (1.84)
<i>Inst Tranche</i>	0.006		(0.31)	0.177	*** (3.60)
<i>Sweep Covenant</i>	0.011		(0.58)	0.175	*** (4.43)
<i>Dividend Restrict</i>	-0.012		(-0.62)	-0.018	(-0.47)
<i>Collateral</i>	-0.044	**	(-2.06)	0.246	*** (4.90)
<i>Log(Debt Size)</i>	0.027	**	(2.16)	0.077	** (2.14)
<i>Log(Maturity)</i>	0.022		(1.52)	0.071	** (2.01)
<i>Constant</i>	0.688	***	(4.50)	5.596	*** (12.79)
Year Fixed Effects	Yes			Yes	
Industry Fixed Effects	Yes			Yes	
Number Obs	2,632			2,632	
R-square	0.269			0.495	
<b><i>Weak Instrument Test</i></b>	<b>F-stat</b>	<b>p-value</b>			
First-Stage statistic	9.127	0.003			

\*\*\*, \*\*, \* Indicates statistical significance at the 1%, 5%, and 10% levels respectively.

**Variable Descriptions:** *Interest Spread:* Interest rate (*AllInDrawn*) of the debt facility on Dealscan. *Forecast Accuracy:* Average management forecast accuracy over the three-year period prior to contract inception, measured as the decile rank (divided by nine) of negative one multiplied by the absolute value of the difference between the management forecasted and IBES actual EPS, scaled by the absolute value of forecasted EPS. *Bid-Ask Spread:* Decile rank of the average monthly bid-ask spread scaled price the firm's stock price, measured over the three-year period prior to contract inception. All control variables defined in Table 1.

**Table 9: Management Forecast Accuracy and Interest Spreads of Public Bonds**

This table reports the results of a regression model testing the impact of management forecast accuracy on interest spreads of public debt contracts initiated over the period from 2003-2012. The dependent variable in this model is the natural log of the initial interest rate on FISD above LIBOR available from the St. Louis Federal Reserve. Standard errors are clustered by firm.

	Prediction	<i>Log(Bond Spread)</i>	
		Coefficient	t-stat
<b><i>Forecast Accuracy</i></b>	<b>?</b>	<b>0.190</b>	<b>(1.44)</b>
<i>Size</i>		0.072 ***	(2.55)
<i>Leverage</i>		0.640 ***	(2.69)
<i>MTB</i>		-0.000	(-0.58)
<i>ROA</i>		-0.796 **	(-2.29)
<i>Sales Growth</i>		0.031	(0.36)
<i>Firm Age</i>		-0.003 **	(-2.23)
<i>Std(Earnings)</i>		1.565	(1.03)
<i>Std(Stock Returns)</i>		-0.188	(-0.22)
<i>ICW</i>		-0.072	(-0.61)
<i>Consecutive Loss</i>		0.049	(0.44)
<i>Analyst Following</i>		-0.021 ***	(-4.38)
<i>Institutional Ownership</i>		0.027	(0.20)
<i>Disc Accruals</i>		-0.072 *	(-1.89)
<i>Financial Covenant</i>		0.049	(0.64)
<i>Negative Pledge Covenant</i>		0.199 ***	(3.59)
<i>Debt Restriction</i>		0.375 ***	(4.11)
<i>Merger/Acquisition Restriction</i>		-0.140 **	(-2.14)
<i>Cross Default Provision</i>		-0.221 **	(-2.32)
<i>Collateral</i>		0.040	(0.43)
<i>Log(Debt Size)</i>		-0.006	(-0.41)
<i>Log (Maturity)</i>		0.337 ***	(4.09)
<i>Constant</i>		3.441 ***	(4.43)
Industry Fixed Effects		Yes	
Year Fixed Effects		Yes	
Number Obs		2,151	
R-square		0.517	

\*\*\*, \*\*, \* Indicates statistical significance at the 1%, 5%, and 10% levels respectively.

Variable Descriptions: *Bond Spread*: Initial interest rate of the bond on FISD above one-year LIBOR rate available on the St. Louis Federal Reserve. *Forecast Accuracy*: Average management forecast accuracy over the three-year period prior to contract inception, measured as the decile rank (divided by nine) of negative one multiplied by the absolute value of the difference between the management forecasted and IBES actual EPS, scaled by the absolute value of forecasted EPS. *Financial Covenant*: Indicator variable equal to one if the debt contract on FISD contains a financial covenant, and zero otherwise. *Negative Pledge*: Indicator variable equal to one if the debt contract on FISD contains a negative pledge restriction, and zero otherwise. *Debt Restriction*: Indicator variable equal to one if the debt contract on FISD contains a negative covenant restricting the borrower from taking on additional debt, and zero otherwise. *Merger/Acquisition Restriction*: Indicator variable equal to one if the contract on FISD contains a negative covenant restricting the borrower's M&A activity, and zero otherwise. *Cross Default Provision*: Indicator variable equal to one if the debt contract on FISD contains a cross-default provision, and zero otherwise. *Collateral*: Indicator variable equal to one for secured debt contracts available on FISD, and zero otherwise. *Debt Size*: Face value of the bond on FISD. *Maturity*: Maturity (in months) of the bond on FISD. All other control variables defined in Table 1.