# Financial Statement Comparability and Credit Risk

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**Abstract**

Investors, regulators and accounting academics emphasize the importance of financial statement comparability. However, an empirical construct that measures comparability of financial statements is difficult to specify. The measures in prior literature are so far removed from the accounting treatment that it is difficult to determine to what extent they are driven by comparability in economics or accounting. In addition, little evidence exists on the benefits of financial statement comparability for the debt market relative to the equity market. This study attempts to fill these gaps by developing a measure of financial statement comparability based on the magnitude of Moody's adjustments to reported accounting numbers. Empirically, this measure of comparability is negatively related to disagreement among credit rating agencies as well as CDS spreads. These results suggest that financial statement comparability lowers the cost of processing information and reduces uncertainty about firms' underlying credit risk.

## 1 Introduction

This study examines the relation between financial statement comparability and uncertainty about the reporting firms' credit risk from its debtholders' perspective. We predict that financial state-

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ment comparability is important to debtholders because it reduces their information processing costs and uncertainty about reporting firms' credit risk. We use credit rating divergence between the major credit rating agencies as a proxy for debtholders' uncertainty about amount and timing of borrowers' cash flows. If credit risk is harder to assess, then the rating agencies should disagree more often (Morgan (2002), Ederington (1986)). Disagreement among rating agencies is common: Split ratings occur for 65% of outstanding bonds rated by at least two of the top three rating agencies, and 53% of bonds rated by the top two.

The purpose of financial statements is to communicate information amount, timing, and uncertainty of cash flows. Such information should help investors to evaluate risk and return profiles of reporting firms' debt and equity. For this purpose of financial statements, it is apparent that one of the most important criteria for the presentation of financial information is that which allows for meaningful comparisons (e.g., of financial ratios both over time and across companies). However, unless accounting numbers are computed in a systematic and uniform manner, comparisons can be misleading. If firms account for like transactions consistently, their reported accounting numbers will be comparable.

Rating agencies use accounting data in ratio and other analyses to rate corporate bonds. This is stated explicitly in major bond rating agencies' rating manuals. Furthermore, prior studies show association between accounting ratios and bond ratings (e.g. Kaplan and Urwitz (1979), Blume et al. (2006)) or accounting ratios and default[1] (Beaver (1966), Altman (1968), Beaver et al. (2010)).

We construct an empirical measure of financial statement comparability on the idea that the financial reporting system is a mapping from economic events to financial statements. The better the mapping, the fewer adjustments users have to make to be able to compare financial ratios. Conversely, the worse the mapping, the more adjustments are necessary to compare leverage and profitability.

We then examine the relation between financial statement comparability and split ratings.

[1]Bond ratings issued by rating agencies are widely used by investors to assess corporate credit risk.

For a given industry, we hypothesize that the availability of comparable information lowers the cost of processing information and reduces uncertainty about the underlying economic situation. Lower uncertainty should facilitate credit rating analysts' ability to estimate issuers' credit risk, for example, by allowing credit analysts to better explain historical performance or use information from comparable firms as additional inputs in the rating process. Thus lower uncertainty about issuers' credit risk should lead to smaller disagreement among credit rating analysts. Hence, we predict that financial statement comparability will have a negative association with split ratings.

Consistent with the hypothesis, we find that industries that exhibit low financial statement comparability are more likely to receive split bond ratings from Moody's, Standard & Poor's and Fitch rating agencies. In terms of economic significance, a one-standard deviation decrease in our main comparability measure is associated with an 8% increase in probability of a split rating for the average bond in the sample. Similarly, the difference between the maximum and minimum ratings of the average bond increases by 10% for a one-standard deviation decrease in our main comparability measure. Furthermore, a one-standard deviation decrease in the main measure of comparability is associated with an increase of 43 basis points in the firm's CDS spread (which represents a 24% increase for the average CDS spread of 180 basis points), controlling for variation in peer characteristics and the firm's rating. These findings are consistent with the availability of comparable information reducing uncertainty about underlying credit risk.

Our study contributes to the literature in three ways. First, we develop an empirical measure of financial statement comparability from the perspective of users conducting ratio analysis to assess firms' performance and credit risk. Our measure of comparability decreases with the variation in actual adjustments made by financial statement users to render the accounting information more comparable within industries. This measure contrasts with qualitative input-based definitions of comparability, such as the firm's choice of typical or atypical accounting methods. Furthermore, our measure differs from measures that are derived from the strength of associations between accounting numbers and stock returns or other market-based metrics. These measures suffer from intermingling comparability of underlying economic events and comparability of mapping. They

also compress various dimensions of comparability into one metric. We argue that our measure better captures financial statement comparability. We use two adjustments: (1) the adjustment to coverage, which combines the effects of adjustments of profitability and leverage and (2) an adjustment for non-recurring items, which is related to earnings persistence.

Second, we examine the consequences of comparability for credit risk assessments in the debt market. Recent prior papers on comparability focus on consequences for equity analysts (De Franco et al. (2011)). Like equity analysts, credit rating analysts strive to generate information useful to financial markets. This study thus complements the growing body of research on financial statement comparability that focuses on equity markets and equity analysts.[2]

Third, we provide evidence that lack of financial statement comparability is a determinant of split ratings. Two related papers investigate the more general concept of financial reporting quality and rating dispersion. Akins (2012) measures asymmetric timely loss recognition and debt contracting value of accounting information and finds negative associations between these measures and the incidence of split rated debt. Cheng (2012) measures the timeliness and nature of banks' loan loss provisions and finds negative associations between these attributes and disagreement by Moody's and S&P. Both of these papers employ measures of financial reporting quality used elsewhere in the literature. A similar stream of papers finds that higher financial reporting quality is associated with lower cost of debt (for example, Bharath et al. (2008), Mansi et al. (2004)).

Some caveats are in order. We cannot rule out the possibility of reverse causality. As opposed to comparability generating less disagreement among credit analysts, it is also possible that analysts pressure firms to choose more comparable accounting methods. In addition, given that we conduct cross-sectional tests, correlated omitted variables may contribute to the reported associations.

The next section defines our measure of financial statement comparability. Section 3 develops the hypotheses that financial statement comparability reduces disagreement among credit rating agencies and thus credit risk spreads. We provide descriptive statistics and the results of our

[2]Ratings are used by investors. Rating downgrades are associated with decreases in stock prices, and upgrades are associated with increases in stock prices (Jorion et al. (2005), Holthausen and Leftwich (1986)). Bond prices react similarly to rating changes, but they exhibit a weaker association than stock prices because bonds are more illiquid (Hand et al. (1992), Dichev and Piotroski (2001)).

empirical tests in section 4. The last section concludes.

## 2 Empirical Measure of Comparability

Reported financial statement numbers are comparable if firms report similar amounts when faced with similar economic events. The accounting system generally is viewed as a mapping from the underlying economics to financial statements. Two firms have comparable accounting systems if their mappings from economic events to accounting numbers are similar (De Franco et al. (2011)).

Users of financial statements benefit from comparability across firms as it allows them to identify similarities and differences among firms' underlying economic events. However, differences in accounting methods obscure similarities or differences in profitability and risk. Companies are free to choose among different accounting methods allowed by GAAP, making comparisons of different firms more difficult. Even if the FASB and the IASB narrow these differences, new types of transactions, such as securitizations, create new sources of noncomparability. Analytical adjustments often are made, for example for certain types of off-balance sheet accounting, to increase comparability cross-sectionally or in time-series. For example, debt contracts contain adjustments (Leftwich (1983), Li (2010)). Equity analysts build forward-looking forecasts of cash flows and earnings. Rating agencies adjust numbers in financial statements before they calculate ratios (Standard and Poor's (2008), Moody's (2006)). In their financial statement analysis courses, accounting professors teach tools to adjust accounting numbers to make firms more comparable.

To measure comparability, we employ data from the credit rating agency Moody's Financial Metrics database. Moody's adjusts financial statements "to better reflect the underlying economics of transactions and events and to improve the comparability of financial statements" (Moody's (2006)). Rating agencies compute financial ratios using adjusted data and base their ratings on those adjusted, more comparable, ratios (Kraft (2010)). The standard adjustments relate to the capitalization of operating leases, expensing of capitalized interest, reclassification of hybrid securities, reversing of sale accounting for securitizations with recourse, recognition of underfunded

defined benefit pension plans, recognition of employee stock compensation, revaluation of inventories on a LIFO cost basis and segregation of any unusual and non-recurring items (Moody's (2006)).

Our measure of reporting comparability is based on these adjustments. We argue that low levels of variation of adjustments within an industry indicate high levels of comparability of financial statements. We focus on the adjustment to coverage and the adjustment for non-recurring items. For each industry, we compute a measure of variation of the adjustments. The adjustment to the coverage ratio for a given firm is the difference between its adjusted coverage and reported coverage. The reported coverage is the ratio of operating profit to interest expense, as these numbers are reported by the issuer. The adjusted coverage is the ratio of adjusted operating profit to adjusted interest expense, as these numbers are adjusted by Moody's. The difference between the adjusted coverage and reported coverage is called the adjustment to coverage in this study.

Moody's segregates the after-tax effect of unusual and non-recurring items to better estimate the results of ongoing, recurring and sustainable activities. The differences between the upper and lower quartiles (i.e., the interquartile range) of the adjustments to coverage and non-recurring items within an industry are our proxy measures of comparability.

A transparent industry exhibits low variation in its adjustments for two reasons: there is little need for any adjustments because firms reported financials capture the underlying economics in a straightforward mapping or, alternatively, the adjustments are very similar in their impact because firms engage in similar reporting behavior. For example, the firms in one industry have operating leases for a certain proportion of their assets, which results in similar increases in coverage and leverage. In contrast, an opaque industry exhibits high variation in its adjustments. One firm might have substantial amount of off-balance sheet debt which adversely impact the coverage ratio but its peer might not. The numbers as reported in financial statements would not be comparable but would require different values of adjustments before an evaluation of relative profitability and riskiness can be undertaken. To sum up, industries with low variation in adjustments have similar mappings from economic events to accounting numbers to those in their peer group, yielding

comparable financial statements. Industries with high variation of adjustments have different mappings, yielding less comparable financial statements.

Our measure of financial statement comparability is industry-specific, accounting-output-based and quantitative. One stream of prior papers has focused on outputs and has examined whether financial statements are comparable by measuring the extent of correlation between stock returns and accounting numbers. De Franco et al. (2011) estimate a reverse regression of earnings on stock returns, and use the coefficients of that mapping function to predict firm i's earnings using both firm i's stock returns and peer firm j's stock returns. The absolute value of the difference indicates the degree of comparability. Barth et al. (2012) investigate whether IFRS adoption by non-US firms increases comparability with respect to US GAAP. They expand on De Franco et al. (2011) and estimate a more elaborate mapping based on stock returns, cash flows, earnings and book values to estimate fitted values. In a similar vein, a number of papers use the contemporaneous relations between stock returns and accounting ratios or valuation multiples to assess comparability, for example to assess how different accounting measurement systems in various countries affect the association with stock returns (Joos and Lang (1994), Land and Lang (2002)), or to identify firms that should be peers (Bhojraj and Lee (2002)). Another stream of prior research has focused on inputs and has examined whether accounting methods are comparable (Bradshaw et al. (2009)).

In contrast to prior literature, we develop an empirical measure of financial statement comparability intended to capture the comparability from the perspective of users conducting ratio analysis to assess firms' performance and credit risk. Our measure of comparability is developed at the industry level. It is based on actual adjustments made by financial statement users to render the accounting information more comparable. This measure contrasts with qualitative input-based definitions of comparability, such as the firm's choice of typical or atypical accounting methods. Furthermore, our measure differs from measures that are derived from the strength of associations between accounting numbers and stock returns or other market-based metrics. These measures suffer from intermingling comparability of underlying economic events and comparability of mapping. We argue that our measure better captures financial statement comparability. We do not

rely on one single reporting metric but use adjustment to coverage, which combines measures of profitability and leverage as well as adjustment for non-recurring items, which is related to earnings persistence.

# 3 Hypotheses: Consequences of comparability

In this section, we develop hypotheses about the effect of financial statement comparability on credit ratings and CDS spreads. We expect industries with greater comparability to have higher-quality information sets and thus fewer split ratings and lower CDS spreads.

Consistent with this expectation, prior studies find greater financial statement comparability reduces differences in analysts' opinions about the firm. Bhojraj and Lee (2002) find valuation accuracy is higher when using a set of comparable peer firms. De Franco et al. (2011) find greater analyst forecast accuracy for more comparable firms. Higher comparability allows credit analysts to better evaluate a firm's performance relative to its peers and its historical performance. We expect that credit analysts better understand how economic events translate into accounting numbers for higher comparability firms. This enhanced knowledge facilitates the analyst's credit risk assessment and thus leads to lower uncertainty about the firm's underlying credit risk.

Our first hypothesis pertains to the relation between comparability and the properties of bond ratings. We use the disagreement among the major credit rating agencies as a proxy for uncertainty about the underlying credit risk. If a firm's or industry's risk is harder to observe and quantify, the credit rating analysts should disagree more often. Split ratings indicate significant disagreement among the major credit rating agencies about the issuer's creditworthiness. Because evaluating credit risk is a difficult, subjective task, we expect nonsystematic variation in credit analysts' judgments (Ederington (1986)). In any bond rating, there is an important random judgment element. With a slightly different set of analysts, the credit rating agency might assign a different rating, which implies that Moody's is just as likely as Standard & Poor's and Fitch to assign a particular rating to a given issuer. Split ratings are most likely to be observed when the issuer's true credit

risk is more uncertain. For example, Morgan (2002) finds that Moody's and Standard & Poor's are more likely disagree on ratings for firms in opaque industries, namely banking and insurance, than in other industries. Livingston et al. (2007) find that firms with asset opaqueness are more likely to receive split bond ratings. We test the following hypothesis, stated in alternative form:

*H1: Financial statement comparability is negatively associated with rating dispersion, ceteris paribus.*

Our second hypothesis pertains to whether financial statement comparability lowers the pricing of credit risk. Reducing uncertainty is important because split ratings have adverse economic consequences for issuers. Livingston and Zhou (2010) find that split rated bonds pay a 7 basis point yield premium over non-split rated bonds of comparable credit risk and that the premium becomes larger for greater rating disagreements. Hypothesis 2 (in alternative form) is:

*H2: Financial statement comparability is negatively associated with CDS spreads, ceteris paribus.*

# 4 Data

We investigate the disagreements between the major U.S. credit rating agencies, Moody's, Standard & Poor's and Fitch over a sample of 44,148 bonds issued by 711 issuers. Our sample period ranges from the first fiscal quarter of 2005 to the third fiscal quarter of 2010. We use the Fixed Income Securities Database (FISD) to collect bond issues and rating history. We exclude bonds with unusual features (bonds that are exchangeable, convertible, putable, asset-backed, enhanced or preferred) and retain senior bonds only. We match the bond sample with Moody's Financial Metrics. Furthermore, all bond issues are required to have ratings by at least two of the three rating agencies Moody's, Standard & Poor's and Fitch. The letter ratings are mapped to a single numeric scale, with better letter ratings corresponding to lower numbers: AAA = Aaa = 1, AA+ = Aa1 = 2, , and C = 21. Firms in default (i.e., those with D-rated bonds) are not included in

the sample.

As shown in Table 1, split ratings occur for 65% of outstanding bonds rated by at least two of the top three rating agencies, and 53% of bonds rated by the top two. Rating differences (rating range) between agencies are calculated by subtracting the associated numerical values from each other and taking the absolute value. The units of rating range are expressed as rating notches. The majority of bonds with split ratings differ by one or two notches. Split ratings are more common for lower rated bonds. Only 14% of AAA-rated bonds have split ratings but this proportion increases to 67% for bonds rated just below investment grade. The rating range generally is higher for lower ratings, albeit this increase is not as monotonic as for the proportion of split ratings. AAA-rated bonds have an average rating range of 0.14 notches, and BBBminus-rated bonds have an average rating range of 1.00 notch. These measures of disagreement suggest greater uncertainty about firms with higher credit risk. Moody's and S&P disagree more frequently as credit risk increases. High investment grade firms have the lowest rating dispersion, low investment grade firms have higher rating dispersion and speculative firms exhibit the highest dispersion.

Table 2 provides descriptive statistics for the sample. The average bond rating is 9.60 which corresponds to approximately a BBBminus rating. The average and median rating range, that is, the absolute difference between ratings for a given bond is one notch. The average bond has a face value of USD393,319 and 3,481 days till maturity. The subsample of bonds with ratings from both Moody's and S&P has similar characteristics and slightly smaller rating dispersion. On average, the difference between Moody's and S&P ratings is slightly smaller at 0.8 notches.

We retrieve credit default swap (CDS) spreads from the Markit database which covers a majority of CDS contracts written on U.S. based entities. Markit provides daily CDS spread quotes which are available for different contract maturities ranging from 6 months to 30 years. Typically Markit reports a composite daily CDS spread which is an average across the quotes provided by all market makers after removing outlying observations. We focus on 5-year maturity contracts as they represent the most liquid contracts across different maturities. To maintain uniformity in contracts, we only keep CDS quotations for senior debt with modified restructuring (MR) clause

and denominated in U.S. dollars. Out of 711 issuers in the sample, 468 can be identified in the Markit database. For those issuers with ratings by at least two of the top three rating agencies, information on the five-year CDS spread is available for 3,187 firm-quarters. The average CDS spread is 180 basis points.

Financial statement data on the bond issuers are collected from Moody's Financial Metrics. The issuers are classified according to Moody's industry classification and assigned to 28 different peers. For each peer group-quarter, the median and interquartile ranges of the bond issuers' characteristics are calculated. Bond issuers' characteristics include size (total revenues), interest coverage (operating profit divided by interest expense and winsorized at 0 and 100 following Blume et al. (2006)), leverage (long-term debt / total assets), return on assets (operating profit / total assets), and the ratio of intangibles and goodwill to total assets. The average median coverage ratio is 4.60, the average median leverage is 0.33 and on average, the median peer-quarter has 15% intangible assets. Peer groups exhibit variation in those firm characteristics. On average, the interquartile range for coverage is 7.10 and for leverage the range amounts to 0.21. The table shows that there is substantial variation in peer groups' underlying fundamentals.

The coverage ratio captures the degree of indebtedness and profitability of the firm. The adjustment to coverage is calculated as the difference between the adjusted coverage ratio and the reported coverage ratio. The adjustment is winsorized at the first and 99th percentile. For each peer group-quarter, the median and interquartile range of the winsorized adjustments are calculated. Variation of credit rating agencies' adjustments within peer-quarter is the empirical measure that captures the uncertainty about the bond issuer's leverage and profitability. The average median adjustment to the coverage ratio reduces coverage by 0.83. There is substantial variation in the extent to which coverage ratios are adjusted downward: from -0.89 for the 25th percentile to 0.22 for the 75th percentile. On average, the interquartile range for the adjustment to coverage is 2.80, ranging from 0.70 for the 25th percentile to 3.20 for the 75th percentile.

Moody's makes an adjustment for what its credit analysts consider to be non-recurring items. This adjustment is divided by total revenues and winsorized at the first and 99th percentile.

Again, median and interquartile range of this statistic are calculated for each peer group-quarter. Variation in the assessment of non-recurring items within peer-quarters is supposed to capture the uncertainty about the bond issuer's earnings persistence.

Table 3 reports descriptive statistics by peer group. Some peer groups, such as telecommunications, utility, environment services and gaming exhibit very little variation in adjustments, whereas other peer groups, such as aircraft & aerospace and pharmaceuticals, exhibit significant variation. Similarly, the proportion of split ratings differs as well as the average creditworthiness varies substantially across peer groups.

Table 4 reports the pairwise Pearson correlations. Rating dispersion measures are highly correlated with one another. Higher numerical ratings, that is, lower creditworthiness, are positively correlated with the measures of rating dispersion. The CDS spread is highly correlated with rating and measures of rating dispersion. Rating agencies disagree more often as credit risk deteriorates. Measures of within-peer variation of issuers' leverage, profitability, size and proportion of intangible assets are negatively correlated with rating dispersion. Within-peer variation of the adjustment to coverage is negatively correlated with rating dispersion, but within-peer variation of the adjustment for non-recurring items is positively correlated with rating dispersion.

To test formally whether the lack of comparability generates more disagreement among the credit rating agencies, we estimate these regressions:

$$\begin{aligned} Dispersion_{pti} &= F(comparability_{pt}, rating_{pti}, iqr(size)_{pt}, iqr(lever)_{pt}, \\ &\quad iqr(cover)_{pt}, iqr(roa)_{pt}, iqr(intanpro)_{pt}, \\ &\quad offamount_{pti}, maturity_{pti}) + e_{pti} \end{aligned} \tag{1}$$

Dispersion is measured by rating range (number of notches between highest rating and lowest rating for a given bond) or the split (indicator variable that equals one if a given bond has split rating) for a given bond i. Comparability is measured as the interquartile range of the adjustment to coverage within peer-quarters. Control variables include the bond rating for bond i (average of

Moody's, S&P or Fitch ratings) and measures of variation within peer-quarters for size, leverage, return on assets, coverage and the proportion of intangible assets of total assets. Uncertainty may be a function of credit risk itself, implying a positive sign on bond rating.

Table 5 Panel A reports the results of the regressions using the split indicator variable as the dependant variable. Given split is a binary variable, we estimate both OLS and probit specifications of the model. An increase in the numerical rating is associated with more split ratings. Variation in peer characteristics within a peer group is negatively associated with split ratings. Ceteris paribus, an industry with heterogeneous accounting ratios generates less disagreement among credit rating agencies than industries with homogenous accounting ratios. All else being equal, an industry where firms report very different magnitudes of ratios is associated with a higher degree of financial statement transparency. One interpretation is that firms are presumed to be economically similar as they are part of the same industry, but due to different circumstances firms report different accounting numbers. Rating analysts are more likely to disagree when firms report numbers that are cosmetically too similar and require adjustments.

Holding industry characteristics and credit risk constant, greater variation of adjustments to coverage is significantly positively associated with split ratings (models 1-2). A one-standard deviation change in comparability is associated with an increase in the probability of a split rating of 0.055 (=3.90*0.014). The average bond in our sample has a 65% probability of having a split rating, so the decrease in comparability translates into an increase in likelihood of a split rating of 8%. Uncertainty about issuers' earnings persistence is significantly associated with rating splits (models 3-4). Including both sets of comparability measures in the regression (models 5-6) does not change any inferences: lack of comparability as measured on two dimensions is associated with ratings splits. Overall, the regression results in table 5 Panel A are consistent with our hypothesis: As accounting numbers are perceived to be less reflective of the underlying economics, adjustments become necessary, and rating analysts increasingly disagree.

A more elaborate model specification (models 7-12) includes controls for bond characteristics such as the offering amount and maturity. The results remain unchanged: variation in reported

numbers generates less disagreement among rating analysts whereas greater variation in adjustments to reported numbers generates greater disagreement.

Table 5 Panel B reports the results for this model with rating range as the dependent variable. The rating difference in notches (rating range) is regressed on financial statement comparability and controls. We estimate both OLS and Poisson models for rating range because it is a count variable. Worse ratings are associated with greater rating range. Variation in peer characteristics within a peer group is negatively associated with rating range. Ceteris paribus, an industry with heterogeneous accounting ratios generates less disagreement among credit rating agencies than industries with homogenous accounting ratios.

Holding industry characteristics and credit risk constant, greater variation of adjustments to coverage is significantly positively associated with rating range (models 1-2). In terms of economic significance, a one-standard deviation change in the comparability measure based on the adjustment to coverage is associated with an increase in rating range of 0.094 (=3.90*0.024). Given that the average bond in our sample exhibits a rating range of 1.00 notch, this effect translates into an increase in split dispersion by one-tenth of a notch, suggesting that the effect is modestly significant on an economic basis.

In a second set of regressions, comparability measures variation of adjustments for non-recurring items. Models 3-4 report the estimates. Again, greater variation in adjustments for non-recurring items is significantly positively associated with rating range. As in the first set of regressions, worse credit ratings are associated with greater rating dispersion, and greater heterogeneity in reported accounting numbers is associated with smaller rating dispersion.

The third set of regressions includes both sets comparability measures, the variation of adjustments to coverage and the variation of adjustments for non-recurring items (models 5-6). As reported in models 1-4, lack of comparability in terms of coverage and earnings persistence is associated with greater disagreement between credit rating agencies. The adjustment to coverage remains statistically significant, and the estimate for the adjustment for earnings persistence remains positive and is statistically significant in one out of the four model specifications. These

results are consistent with findings in De Franco et al. (2011) in that equity analysts do not react to the non-recurring adjustments by Moody's. Credit analysts, like equity analysts, may discount the importance of non-recurring adjustments in the rating process. As before, worse bond ratings have a positive association with rating range, and heterogeneity in ratios based on reported financial statements have a negative association with rating range.

Including bond controls does not change any results (models 7-12).

Tables 6 reports the estimates of the regression analysis for the subsample of bonds with ratings by both Moody's and S&P. The results are robust to the specification using rating disagreements between the top two agencies only. Lack of financial statement comparability with respect to coverage is associated with greater likelihood of having split ratings (Panel A) and greater differences between Moody's and S&P ratings (Panel B).

A potential issue is whether Moody's adjustments appropriately capture credit risk or differ from credit risk assessments by other agencies. However, Kraft (2010) shows that financial ratios adjusted by Moody's better explain default risk than unadjusted numbers. Furthermore, De Franco et al. (2011) find that Moody's adjustments are partly reflected into analyst target price revisions and also partly reflected into stock prices. This result suggests that different parties may apply different adjustments, which does not conflict with our interpretation of more adjustments as greater uncertainty in credit analysis.

To test formally whether the lack of comparability is associated with higher CDS spreads, the following regressions are estimated. The tests in this study are based on cross-sectional analysis. Thus, it is crucial to control for factors other than comparability that are known to affect CDS spreads. We control for firms' credit ratings as a noisy measure of credit risk. We expect that lower ratings are associated with higher the CDS spreads.

$$\begin{aligned} Spread5y_{ptj} &= F(comparability_{pt}, averagerating_{ptj}, iqr(size)_{pt}, iqr(lever)_{pt}, \\ &\quad iqr(cover)_{pt}, iqr(roa)_{pt}, iqr(intanpro)_{pt} + e_{ptj} \end{aligned} \tag{2}$$

Spread5y is the CDS spread on a five-year CDS contract for firm j. Averagerating is the mean rating of all bond issues for a given issuer-quarter. No controls for CDS contracts are necessary because all CDS contracts have the same contractual features (same maturity, seniority, restructuring clause, and denomination).

Table 7 reports the results. Consistent with structural models of credit risk, the numerial rating is significantly positively associated with the CDS spread. Holding industry characteristics and credit risk constant, greater variation of adjustments to coverage is significantly positively associated with CDS spreads. In terms of economic significance, a one-standard deviation change in the comparability measure based on the adjustment to coverage is associated with a change in CDS spread of 42.9 basis points (=3.90*0.11*100). Given that the average CDS in our sample has a spread of 180 basis points, this effect translates into an increase of 24%, suggesting that the effect is significant on an economic basis. The effect of within-industry variation of the adjustment for non-recurring items is substantially larger. Both coefficients retain their size and statistical significance when they are combined into one model, which provides assurance that the adjustment to coverage and the adjustment for non-recurring items measure different dimensions of comparability. In contrast to the results in tables 5-6, variation in peer firm characteristics is not reliably associated with higher CDS spreads. The regression results in table 8 are consistent with our hypothesis: Within-industry variation of adjustments to reported accounting numbers is associated with greater CDS spreads.

# 5 Conclusion

The purpose of financial statements is to communicate information affecting the allocation of resources. Ideally, such information should make it possible for investors to evaluate risk and return profiles of investment opportunities. In theory, this process should result in the optimal allocation of resources within the economy. For this purpose of financial statements, it is apparent that one of the most important criteria for the presentation of financial information is that which

ensures an appropriate standard of comparison between different firms. Ratio analysis is used to assess and compare the financial performance of companies. However, unless ratios are computed in a systematic and uniform manner, comparisons can be misleading.

This paper develops a measure of financial statement comparability and then studies the effect of this measure on credit analysts. The first contribution is the innovation of an empirical, industry-specific, quantitative measure of financial statement comparability that explicitly exploits variation in users' adjustments to reported accounting information. It is based on the idea that, for a given set of economic events, firms with comparable accounting systems will produce similar accounting numbers. The less comparable these reported numbers are, the more adjustments are necessary to make them comparable. Furthermore, we do not restrict our focus to earnings but build the comparability measure on a combination of numbers used in balance sheet and income statement. This is particularly relevant as we study the consequences of comparability in the debt market. We then test whether financial statement comparability reduces disagreement among credit rating analysts. For a given bond that is rated by at least two rating agencies, the difference in the maximum and minimum rating awarded increases as our measure of comparability declines. Furthermore, our measure of comparability is negatively associated with the probability of a split rating. Firms in more comparable industries have lower CDS spreads than firms in less comparable industries. Some caveats are in order. We not study the determinants or costs of comparability and thus cannot speak to the optimal level of financial statement comparability. We also cannot rule out the possibility that rating analysts induce firms to increase comparability.

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Appendix A
Variable definitions

| Variable | Explanation |
|---|---|
| ***Firm characteristics*** | |
| cover | Operating profit / Interest expense |
| cover_BLM | Operating profit / Interest expense (winsorized at 0 and 100) |
| roa | Operating profit / Total assets |
| intanpro | Goodwill and other intangibles / Total assets |
| lever | Long-term debt / Total assets |
| size | Revenues in USD thousands |
| [Firm characteristic]_rep | As reported |
| | |
| ***Bond characteristics*** | |
| average_rating_bond | Average of Moody's, S&P and Fitch rating on filing day for a given bond |
| averagerating | Average of Moody's, S&P and Fitch rating on filing day for all bonds by the same issuer |
| split | Indicator equals one if any of Moody's, S&P or Fitch rating differ |
| ms_split | Indicator equals one if Moody's not equal to S&P rating |
| rating_range | Difference between maximum and mininum rating by Moody's, S&P and Fitch (notches) |
| rating_ms_range | Difference between maximum and mininum rating by Moody's and S&P (notches) |
| | |
| OFFERING_AMT | Par value of debt issued |
| TREASURY_SPREAD | Difference between issue's offering yield and yield on benchmarked treasury (basispoints) |
| timetillmat | Time from filing date to maturity (days) |
| LN_timetillmat | Ln(Time from filing date to maturity) |
| | |
| ***Credit default swap*** | |
| Spread5y | Five-year CDS spread in basis points on filing day |
| | |
| ***Financial statement comparability*** | |
| cover_delta_BLM | adjusted BLM coverage - reported BLM coverage |
| roa_delta | adjusted roa - reported roa |
| intan_delta_sTA | (adjusted intangibles - reported intangibles) / reported total assets |
| nonrecurr_delta_sRev | adjustment for non-recurring items / reported revenues |
| lever_delta | adjusted leverage - reported leverage |
| […delta]_win | adjustment is winsorized at 1st and 99th percentile |
| | |
| ***Peer-quarter variables*** | |
| median_[x] | median of [x] by peer-quarter |
| iqr_[x] | interquartile range of [x] by peer-quarter |
| iqr_cover_delta_BLM_win | interquartile range of cover_delta_BLM_win by peer-quarter |
| iqr_nonrecurr_delta_sRev_win | interquartile range of nonrecurr_delta_sRev by peer-quarter |

Table 1

## Summary statistics - Rating dispersion

This table provides the breakdown in notches of differences between ratings (rating range) and differences between Moody's and S&P ratings (rating_ms_range). Rating differences and the proportion of split ratings are reported for each average bond rating.

| | rating_range | | rating_ms_range | |
|---|---|---|---|---|
| No. of notches | Freq. | Percent | Freq. | Percent |
| 0 | 15,268 | 34.6% | 19,785 | 46.9% |
| split rating | 28,880 | 65.4% | 22,435 | 53.1% |
| 1 | 18,848 | 42.7% | 16,108 | 38.2% |
| 2 | 6,574 | 14.9% | 4,624 | 11.0% |
| 3 | 1,997 | 4.5% | 963 | 2.3% |
| 4 | 698 | 1.6% | 299 | 0.7% |
| 5 or more | 763 | 1.7% | 441 | 1.0% |
| Total | 44,148 | 100.0% | 42,220 | 100.0% |

| Average bond rating | rating_range | split | rating_ms_range | ms_split |
|---|---|---|---|---|
| AAA | 0.14 | 0.14 | 0.10 | 0.10 |
| AA+ | 0.54 | 0.38 | 0.49 | 0.38 |
| AA | 0.54 | 0.38 | 0.35 | 0.35 |
| AA- | 1.02 | 0.66 | 0.65 | 0.47 |
| A+ | 0.81 | 0.72 | 0.39 | 0.31 |
| A | 0.83 | 0.53 | 0.67 | 0.48 |
| A- | 1.03 | 0.73 | 0.81 | 0.63 |
| BBB+ | 0.92 | 0.70 | 0.74 | 0.59 |
| BBB | 0.70 | 0.56 | 0.56 | 0.47 |
| BBB- | 1.00 | 0.59 | 0.80 | 0.50 |
| BB+ | 1.47 | 0.67 | 1.02 | 0.56 |
| BB | 1.69 | 0.73 | 0.99 | 0.57 |
| BB- | 1.79 | 0.78 | 1.43 | 0.73 |
| B+ | 1.60 | 0.80 | 1.22 | 0.76 |
| B | 1.59 | 0.75 | 1.05 | 0.61 |
| B- | 1.30 | 0.71 | 0.94 | 0.56 |
| CCC+ | 1.58 | 0.80 | 1.15 | 0.70 |
| CCC | 2.05 | 0.73 | 1.00 | 0.63 |
| CCC- | 2.02 | 0.85 | 1.84 | 0.76 |
| CC | 0.79 | 0.79 | 0.79 | 0.79 |
| C | 0.00 | 0.00 | - | - |

Table 2

Summary statistics

This table provides descriptive statistics.

| variable | mean | p25 | p50 | p75 | sd | N |
|---|---|---|---|---|---|---|
| *Bond properties* | | | | | | |
| *Rating by at least two CRAs out of Moody's, S&P or Fitch* | | | | | | |
| average_rating_bond | 9.4 | 7.0 | 9.0 | 11.0 | 3.5 | 44,148 |
| rating_range | 1.0 | 0.0 | 1.0 | 1.0 | 1.2 | 44,148 |
| split | 65.0% | 0.0% | 100.0% | 100.0% | 48.0% | 44,148 |
| OFFERING_AMT | 393,319 | 200,000 | 300,000 | 500,000 | 356,440 | 44,148 |
| timetillmat | 3,481 | 1,157 | 2,283 | 3,673 | 3,930 | 44,148 |
| *Rating by atl least Moody's and S&P* | | | | | | |
| average_rating_bond | 9.4 | 7.0 | 9.0 | 11.0 | 3.5 | 42,220 |
| rating_ms_range | 0.8 | 0.0 | 1.0 | 1.0 | 1.0 | 42,220 |
| ms_split | 53.0% | 0.0% | 100.0% | 100.0% | 50.0% | 42,220 |
| OFFERING_AMT | 395,786 | 200,000 | 300,000 | 500,000 | 359,314 | 42,220 |
| timetillmat | 3,493 | 1,168 | 2,279 | 3,642 | 3,956 | 42,220 |
| *CDS spread* | | | | | | |
| Spread5y | 180.00 | 41.00 | 78.00 | 190.00 | 310.00 | 3,187 |
| *Peer-quarter characteristics* | | | | | | |
| iqr_size_rep | 3,194,102 | 1,512,008 | 2,295,811 | 3,420,927 | 3,039,282 | 44,148 |
| iqr_lever_rep | 0.21 | 0.13 | 0.18 | 0.27 | 0.12 | 44,148 |
| iqr_cover_BLM_rep | 7.10 | 3.00 | 5.90 | 8.90 | 7.50 | 44,148 |
| iqr_roa_rep | 0.02 | 0.01 | 0.02 | 0.03 | 0.01 | 44,148 |
| iqr_intanpro_rep | 0.20 | 0.10 | 0.19 | 0.28 | 0.11 | 44,148 |
| median_size_rep | 1,507,901 | 613,562 | 1,112,958 | 1,530,043 | 1,563,582 | 44,148 |
| median_lever_rep | 0.33 | 0.27 | 0.32 | 0.35 | 0.10 | 44,148 |
| median_cover_BLM_rep | 4.60 | 2.70 | 3.90 | 5.40 | 3.60 | 44,148 |
| median_roa_rep | 0.02 | 0.02 | 0.02 | 0.03 | 0.01 | 44,148 |
| median_intanpro_rep | 0.15 | 0.02 | 0.08 | 0.29 | 0.15 | 44,148 |
| *Comparability measures* | | | | | | |
| iqr_cover_BLM_delta_win | 2.80 | 0.70 | 1.70 | 3.20 | 3.90 | 44,148 |
| iqr_nonrecurr_delta_sRev_win | 0.02 | 0.00 | 0.01 | 0.01 | 0.06 | 44,148 |
| median_cover_BLM_delta_win | -0.83 | -0.89 | -0.47 | -0.22 | 1.50 | 44,148 |
| median_nonrecurr_delta_sRev_win | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 44,148 |

Table 3

## Summary statistics by peer group

This table provides descriptive statistics by peer group.

| peer | N | split | range | iqr_cover_BLM_delta_win | iqr_nonrecurr_delta_sRev_win | iqr_size_rep | iqr_leverp | iqr_cover_BLM_rep | iqr_roa_rep | iqr_intanpro_rep | bond rating |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AIRCRAFT & AEROSPACE | 395 | 0.71 | 0.91 | 16.52 | 0.03 | 650,742 | 0.15 | 36.96 | 0.02 | 0.24 | 9.4 |
| AUTOMOTIVE | 1,098 | 0.83 | 1.80 | 2.67 | 0.02 | 4,383,635 | 0.25 | 6.02 | 0.02 | 0.23 | 13.0 |
| CHEMICALS | 1,534 | 0.39 | 0.66 | 3.82 | 0.02 | 1,394,179 | 0.13 | 7.92 | 0.02 | 0.25 | 9.0 |
| CONSTR & ENGINEERING SERV | 610 | 0.64 | 1.29 | 3.76 | 0.03 | 354,381 | 0.12 | 13.98 | 0.03 | 0.02 | 12.0 |
| CONSUMER PRODUCTS | 4,217 | 0.53 | 0.72 | 2.27 | 0.01 | 3,009,076 | 0.25 | 8.16 | 0.03 | 0.29 | 7.7 |
| DEFENSE | 1,601 | 0.77 | 0.89 | 6.00 | 0.03 | 10,900,000 | 0.29 | 9.88 | 0.01 | 0.41 | 7.0 |
| ENERGY | 7,137 | 0.65 | 1.04 | 1.74 | 0.03 | 1,985,229 | 0.18 | 6.15 | 0.02 | 0.08 | 10.3 |
| ENVIRONMENT | 236 | 0.89 | 1.40 | 0.72 | 0.05 | 2,405,365 | 0.14 | 3.35 | 0.02 | 0.26 | 10.5 |
| FOREST PRODUCTS | 1,265 | 0.69 | 0.88 | 1.65 | 0.01 | 885,458 | 0.20 | 3.94 | 0.02 | 0.15 | 10.3 |
| GAMING | 305 | 0.65 | 2.38 | 0.86 | 0.09 | 700,255 | 0.23 | 1.72 | 0.03 | 0.25 | 13.1 |
| HEALTHCARE | 972 | 0.87 | 1.38 | 1.82 | 0.06 | 690,253 | 0.28 | 4.31 | 0.02 | 0.31 | 11.3 |
| LEISURE & ENTERTAINMENT | 202 | 0.23 | 0.27 | 6.47 | 0.03 | 2,767,287 | 0.37 | 13.37 | 0.03 | 0.04 | 11.0 |
| LODGING | 277 | 0.44 | 0.49 | 2.05 | 0.09 | 823,497 | 0.30 | 7.74 | 0.08 | 0.28 | 11.1 |
| MANUFACTURING | 2420 | 0.55 | 0.93 | 2.33 | 0.02 | 1,109,508 | 0.19 | 7.10 | 0.03 | 0.28 | 9.8 |
| MEDIA PUBLISHING | 170 | 0.69 | 1.32 | 1.34 | 0.01 | 393,545 | 0.46 | 4.13 | 0.02 | 0.28 | 11.6 |
| METALS & MINING | 717 | 0.59 | 0.92 | 4.62 | 0.01 | 2,455,762 | 0.07 | 15.44 | 0.04 | 0.12 | 9.5 |
| NATURAL PRODUCTS PROCESSOR | 835 | 0.67 | 0.93 | 1.16 | 0.00 | 5,013,058 | 0.12 | 4.14 | 0.02 | 0.19 | 9.7 |
| PACKAGING | 306 | 0.68 | 1.16 | 0.91 | 0.06 | 1,035,148 | 0.35 | 3.20 | 0.02 | 0.21 | 13.0 |
| PHARMACEUTICALS | 875 | 0.73 | 1.02 | 12.07 | 0.06 | 7,280,909 | 0.15 | 23.08 | 0.04 | 0.21 | 4.4 |
| RESTAURANTS | 521 | 0.66 | 1.27 | 3.98 | 0.01 | 2,715,250 | 0.29 | 8.02 | 0.04 | 0.40 | 8.6 |
| RETAIL | 3710 | 0.61 | 0.97 | 6.10 | 0.00 | 8,311,335 | 0.29 | 11.44 | 0.03 | 0.20 | 8.7 |
| SERVICES | 986 | 0.83 | 1.24 | 0.99 | 0.02 | 602,916 | 0.45 | 2.86 | 0.02 | 0.40 | 13.0 |
| TECHN SERVICES | 801 | 0.61 | 1.66 | 1.78 | 0.02 | 1,223,370 | 0.19 | 5.72 | 0.03 | 0.25 | 9.6 |
| TECHNOLOGY | 1796 | 0.63 | 0.84 | 5.63 | 0.05 | 3,373,494 | 0.33 | 12.11 | 0.02 | 0.30 | 8.8 |
| TELECOMMUNICATIONS | 1,795 | 0.66 | 1.20 | 0.32 | 0.02 | 2,480,414 | 0.44 | 2.95 | 0.02 | 0.29 | 11.6 |
| TRANSPORTATION SERVICES | 1,607 | 0.42 | 1.09 | 1.78 | 0.02 | 3,626,985 | 0.19 | 4.80 | 0.02 | 0.03 | 10.4 |
| UTILITY | 7,401 | 0.80 | 1.19 | 0.60 | 0.02 | 2,293,326 | 0.10 | 1.94 | 0.01 | 0.12 | 8.1 |
| WHLSL DSTRBTN | 359 | 0.55 | 0.95 | 2.23 | 0.00 | 9,533,541 | 0.19 | 8.90 | 0.02 | 0.23 | 9.8 |

Table 4

Pairwise Pearson correlations

This table provides pairwise Pearson correlations between the variables used in the multivariate analysis. * denotes significance at the 5% level.

| | rating_range | rating_ms_range | split | ms_split | average_rating_bond | Spread5y | OFFERING_AMT | timetillmat | iqr_cover_BLM_delta_win | iqr_nonrecurr_delta_sRev_win | iqr_size_rep | iqr_lever_rep | iqr_cover_BLM_rep | iqr_roa_rep | iqr_intanpro_rep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| rating_range | 1.0000 | | | | | | | | | | | | | | |
| rating_ms_range | 0.7363* | 1.0000 | | | | | | | | | | | | | |
| split | 0.6066* | 0.5326* | 1.0000 | | | | | | | | | | | | |
| ms_split | 0.4825* | 0.7188* | 0.7403* | 1.0000 | | | | | | | | | | | |
| average_rating_bond | 0.2501* | 0.2105* | 0.1598* | 0.1750* | 1.0000 | | | | | | | | | | |
| Spread5y | 0.3093* | 0.2074* | 0.1103* | 0.1033* | 0.5450* | 1.0000 | | | | | | | | | |
| OFFERING_AMT | -0.0322* | -0.0481* | -0.0217* | -0.0241* | -0.1267* | -0.0264* | 1.0000 | | | | | | | | |
| timetillmat | -0.0260* | -0.0363* | -0.0055* | -0.0296* | -0.1843* | -0.0943* | 0.0053* | 1.0000 | | | | | | | |
| iqr_cover_BLM_delta_win | -0.0560* | -0.0235* | -0.0285* | -0.0110* | -0.1415* | -0.0552* | 0.0697* | 0.0246* | 1.0000 | | | | | | |
| iqr_nonrecurr_delta_sRev_win | 0.0175* | 0.0116* | 0.0106* | 0.0169* | 0.0108* | 0.1544* | 0.0370* | -0.0086* | 0.0545* | 1.0000 | | | | | |
| iqr_size_rep | -0.0360* | -0.0475* | -0.0153* | -0.0571* | -0.2051* | -0.0327* | 0.1606* | 0.0814* | 0.3272* | -0.0144* | 1.0000 | | | | |
| iqr_lever_rep | -0.0041* | 0.0026 | -0.0269* | 0.0030 | 0.1272* | 0.0806* | 0.1793* | -0.0534* | 0.1791* | 0.0709* | 0.2070* | 1.0000 | | | |
| iqr_cover_BLM_rep | -0.0678* | -0.0311* | -0.0523* | -0.0207* | -0.1133* | -0.0633* | 0.0580* | 0.0051* | 0.8957* | 0.0379* | 0.2385* | 0.1273* | 1.0000 | | |
| iqr_roa_rep | -0.0239* | -0.0046* | -0.0719* | -0.0096* | 0.0248* | 0.0853* | 0.0815* | -0.0431* | 0.1984* | 0.4065* | 0.0297* | 0.2495* | 0.2868* | 1.0000 | |
| iqr_intanpro_rep | -0.0232* | -0.0198* | 0.0050* | -0.0030 | -0.0279* | -0.0337* | 0.1262* | -0.0390* | 0.1775* | 0.0274* | 0.2027* | 0.5141* | 0.1403* | 0.1801* | 1.0000 |

Table 5

Regressions of bond dispersion on comparability and peer-quarter characteristics

This table reports an analysis of the relation between financial statement comparability and rating dispersion for the sample of bonds with ratings by at least two of the top three rating agencies. Standard errors are clustered at the peer level. Robust t-statistics are in brackets. **, *, + denote significance at the 1%, 5% and 10% levels, respectively.

**Panel A**

| | -1 | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 | -10 | -11 | -12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model | OLS | Probit | OLS | Probit | OLS | Probit | OLS | Probit | OLS | Probit | OLS | Probit |
| Cluster | Peer split | Peer split | Peer split | Peer split | Peer split | Peer split | Peer split | Peer split | Peer split | Peer split | Peer split | Peer split |
| iqr_cover_BLM_delta_win | **0.014*** | **0.037*** | | | **0.012*** | **0.033*** | **0.014*** | **0.037*** | | | **0.012*** | **0.033*** |
| | **[2.32]** | **[2.23]** | | | **[2.20]** | **[2.11]** | **[2.33]** | **[2.24]** | | | **[2.21]** | **[2.13]** |
| iqr_nonrecurr_delta_sRev_win | | | **0.359*** | **0.992*** | **0.315*** | **0.870*** | | | **0.358*** | **0.988*** | **0.314*** | **0.866*** |
| | | | **[2.33]** | **[2.17]** | **[2.15]** | **[2.00]** | | | **[2.33]** | **[2.16]** | **[2.15]** | **[1.99]** |
| average_rating_bond | 0.024** | 0.069** | 0.024** | 0.068** | 0.024** | 0.069** | 0.024** | 0.070** | 0.024** | 0.068** | 0.024** | 0.070** |
| | [4.24] | [4.33] | [4.16] | [4.25] | [4.29] | [4.36] | [4.13] | [4.21] | [4.05] | [4.13] | [4.17] | [4.25] |
| iqr_size_rep | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | [0.47] | [0.54] | [0.78] | [0.85] | [0.52] | [0.60] | [0.47] | [0.54] | [0.80] | [0.87] | [0.53] | [0.60] |
| iqr_lever_rep | -0.266 | -0.732 | -0.239 | -0.655 | -0.262 | -0.719 | -0.271 | -0.751 | -0.242 | -0.671 | -0.267 | -0.737 |
| | [1.55] | [1.51] | [1.49] | [1.44] | [1.57] | [1.51] | [1.64] | [1.61] | [1.56] | [1.52] | [1.65] | [1.60] |
| iqr_cover_BLM_rep | -0.007* | -0.020* | -0.001 | -0.003 | -0.007* | -0.018* | -0.007* | -0.020* | -0.001 | -0.003 | -0.007* | -0.018* |
| | [2.43] | [2.36] | [0.47] | [0.49] | [2.33] | [2.28] | [2.44] | [2.37] | [0.47] | [0.49] | [2.34] | [2.30] |
| iqr_roa_rep | -1.951 | -5.158 | -2.956* | -7.960* | -2.611* | -7.033* | -1.959+ | -5.191+ | -2.961* | -7.982* | -2.617* | -7.055* |
| | [1.67] | [1.61] | [2.30] | [2.17] | [2.14] | [2.02] | [1.71] | [1.65] | [2.33] | [2.20] | [2.17] | [2.05] |
| iqr_intanpro_rep | 0.204 | 0.578 | 0.218 | 0.621 | 0.211 | 0.600 | 0.204 | 0.581 | 0.219 | 0.624 | 0.211 | 0.602 |
| | [0.93] | [0.96] | [1.00] | [1.03] | [0.98] | [1.00] | [0.93] | [0.96] | [1.00] | [1.03] | [0.98] | [1.01] |
| OFFERING_AMT | | | | | | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | [0.22] | [0.30] | [0.18] | [0.26] | [0.21] | [0.28] |
| LN_timetillmat | | | | | | | 0.002 | 0.005 | 0.002 | 0.005 | 0.001 | 0.004 |
| | | | | | | | [0.31] | [0.35] | [0.32] | [0.35] | [0.28] | [0.32] |
| Constant | 0.489** | -0.077 | 0.485** | -0.086 | 0.492** | -0.069 | 0.473** | -0.130 | 0.469** | -0.138 | 0.477** | -0.118 |
| | [3.64] | [0.21] | [3.64] | [0.23] | [3.72] | [0.19] | [3.48] | [0.35] | [3.48] | [0.37] | [3.57] | [0.32] |
| Observations | 44,148 | 44,148 | 44,148 | 44,148 | 44,148 | 44,148 | 44,148 | 44,148 | 44,148 | 44,148 | 44,148 | 44,148 |
| R-squared | 0.040 | | 0.040 | | 0.040 | | 0.040 | | 0.040 | | 0.040 | |
| Pseudo R2 | | 0.030 | | 0.030 | | 0.030 | | 0.030 | | 0.030 | | 0.030 |

Table 5

Regressions of bond dispersion on comparability and peer-quarter characteristics

This table reports an analysis of the relation between financial statement comparability and rating dispersion for the sample of bonds with ratings by at least two of the top three rating agencies. Standard errors are clustered at the peer level. Robust t-statistics are in brackets. **, *, + denote significance at the 1%, 5% and 10% levels, respectively.

**Panel B**

| | -1 | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 | -10 | -11 | -12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model | OLS | Poisson | OLS | Poisson | OLS | Poisson | OLS | Poisson | OLS | Poisson | OLS | Poisson |
| Cluster | Peer | Peer | Peer | Peer | Peer | Peer | Peer | Peer | Peer | Peer | Peer | Peer |
| | rating_range | rating_range | rating_range | rating_range | rating_range | rating_range | rating_range | rating_range | rating_range | rating_range | rating_range | rating_range |
| iqr_cover_BLM_delta_win | **0.024*** | **0.025*** | | | **0.021*** | **0.023*** | **0.024*** | **0.025*** | | | **0.021*** | **0.023*** |
| | **[2.22]** | **[2.05]** | | | **[2.11]** | **[1.97]** | **[2.23]** | **[2.06]** | | | **[2.13]** | **[1.97]** |
| iqr_nonrecurr_delta_sRev_win | | | 0.573 | **0.546+** | 0.496 | 0.473 | | | 0.573 | **0.548+** | 0.496 | 0.474 |
| | | | [1.55] | **[1.70]** | [1.39] | [1.52] | | | [1.54] | **[1.70]** | [1.38] | [1.52] |
| average_rating_bond | 0.093** | 0.083** | 0.092** | 0.082** | 0.093** | 0.083** | 0.093** | 0.083** | 0.092** | 0.082** | 0.093** | 0.083** |
| | [5.88] | [6.02] | [5.83] | [5.97] | [5.89] | [6.05] | [5.70] | [5.85] | [5.66] | [5.80] | [5.71] | [5.88] |
| iqr_size_rep | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | [1.15] | [0.91] | [1.53] | [1.31] | [1.22] | [0.99] | [1.22] | [0.98] | [1.64] | [1.42] | [1.30] | [1.07] |
| iqr_lever_rep | -0.430 | -0.437+ | -0.383 | -0.397+ | -0.424 | -0.434+ | -0.439+ | -0.440+ | -0.391 | -0.398+ | -0.433+ | -0.436+ |
| | [1.67] | [1.83] | [1.56] | [1.77] | [1.68] | [1.88] | [1.77] | [1.92] | [1.64] | [1.85] | [1.77] | [1.96] |
| iqr_cover_BLM_rep | -0.017** | -0.020** | -0.006 | -0.008 | -0.016** | -0.018** | -0.017** | -0.020** | -0.006 | -0.008 | -0.016** | -0.018** |
| | [3.29] | [2.91] | [1.50] | [1.55] | [3.31] | [2.96] | [3.32] | [2.93] | [1.49] | [1.54] | [3.35] | [2.98] |
| iqr_roa_rep | -0.531 | -0.647 | -2.169 | -2.318 | -1.571 | -1.745 | -0.563 | -0.669 | -2.200 | -2.343 | -1.601 | -1.770 |
| | [0.25] | [0.32] | [1.02] | [1.06] | [0.75] | [0.83] | [0.28] | [0.34] | [1.06] | [1.10] | [0.78] | [0.86] |
| iqr_intanpro_rep | 0.035 | -0.009 | 0.059 | 0.012 | 0.046 | 0.002 | 0.032 | -0.014 | 0.056 | 0.008 | 0.043 | -0.003 |
| | [0.11] | [0.03] | [0.18] | [0.04] | [0.15] | [0.01] | [0.10] | [0.05] | [0.17] | [0.03] | [0.14] | [0.01] |
| OFFERING_AMT | | | | | | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | [0.21] | [0.06] | [0.18] | [0.03] | [0.20] | [0.04] |
| LN_timetillmat | | | | | | | -0.005 | -0.008 | -0.005 | -0.008 | -0.006 | -0.008 |
| | | | | | | | [0.33] | [0.46] | [0.32] | [0.45] | [0.34] | [0.48] |
| Constant | 0.290 | -0.624** | 0.282 | -0.634** | 0.294 | -0.622** | 0.327 | -0.564** | 0.319 | -0.574** | 0.333 | -0.559** |
| | [1.18] | [2.65] | [1.15] | [2.71] | [1.21] | [2.68] | [1.35] | [2.59] | [1.33] | [2.64] | [1.39] | [2.60] |
| Observations | 44,148 | 44,148 | 44,148 | 44,148 | 44,148 | 44,148 | 44,148 | 44,148 | 44,148 | 44,148 | 44,148 | 44,148 |
| R-squared | 0.070 | | 0.070 | | 0.070 | | 0.070 | | 0.070 | | 0.070 | |

Table 6

Regressions of bond dispersion on comparability and peer-quarter characteristics

This table reports an analysis of the relation between financial statement comparability and rating dispersion for the sample of bonds with ratings by at least Moody's and S&P. Standard errors are clustered at the peer level. Robust t-statistics are in brackets. **, *, + denote significance at the 1%, 5% and 10% levels, respectively.

**Panel A**

| | -1 | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 | -10 | -11 | -12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model | OLS | Probit | OLS | Probit | OLS | Probit | OLS | Probit | OLS | Probit | OLS | Probit |
| Cluster | Peer | Peer | Peer | Peer | Peer | Peer | Peer | Peer | Peer | Peer | Peer | Peer |
| | ms_split | ms_split | ms_split | ms_split | ms_split | ms_split | ms_split | ms_split | ms_split | ms_split | ms_split | ms_split |
| iqr_cover_BLM_delta_win | **0.012+** | **0.031+** | | | **0.011+** | **0.029+** | **0.012+** | **0.031+** | | | **0.011+** | **0.029+** |
| | **[1.79]** | **[1.77]** | | | **[1.74]** | **[1.73]** | **[1.77]** | **[1.76]** | | | **[1.72]** | **[1.71]** |
| iqr_nonrecurr_delta_sRev_win | | | 0.219 | 0.568 | 0.178 | 0.461 | | | 0.218 | 0.567 | 0.177 | 0.459 |
| | | | [1.37] | [1.37] | [1.22] | [1.22] | | | [1.38] | [1.39] | [1.23] | [1.23] |
| average_rating_bond | 0.027** | 0.070** | 0.027** | 0.069** | 0.027** | 0.070** | 0.027** | 0.070** | 0.027** | 0.069** | 0.027** | 0.070** |
| | [6.11] | [5.93] | [5.91] | [5.74] | [6.14] | [5.96] | [5.92] | [5.76] | [5.73] | [5.58] | [5.95] | [5.80] |
| iqr_size_rep | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | [1.12] | [1.10] | [0.85] | [0.84] | [1.09] | [1.08] | [1.16] | [1.15] | [0.89] | [0.87] | [1.13] | [1.12] |
| iqr_lever_rep | -0.087 | -0.220 | -0.063 | -0.155 | -0.085 | -0.212 | -0.087 | -0.219 | -0.062 | -0.153 | -0.085 | -0.211 |
| | [0.48] | [0.47] | [0.36] | [0.34] | [0.48] | [0.46] | [0.48] | [0.47] | [0.36] | [0.34] | [0.47] | [0.46] |
| iqr_cover_BLM_rep | -0.005+ | -0.013+ | 0.001 | 0.001 | -0.005+ | -0.012+ | -0.005+ | -0.013+ | 0.001 | 0.001 | -0.005+ | -0.012+ |
| | [1.84] | [1.84] | [0.22] | [0.21] | [1.73] | [1.73] | [1.85] | [1.84] | [0.22] | [0.21] | [1.74] | [1.73] |
| iqr_roa_rep | -0.288 | -0.714 | -0.983 | -2.524 | -0.657 | -1.681 | -0.283 | -0.703 | -0.975 | -2.504 | -0.652 | -1.667 |
| | [0.27] | [0.26] | [0.88] | [0.88] | [0.59] | [0.59] | [0.28] | [0.27] | [0.89] | [0.88] | [0.59] | [0.59] |
| iqr_intanpro_rep | 0.075 | 0.195 | 0.084 | 0.219 | 0.079 | 0.204 | 0.076 | 0.197 | 0.085 | 0.221 | 0.079 | 0.206 |
| | [0.37] | [0.38] | [0.41] | [0.42] | [0.39] | [0.39] | [0.38] | [0.38] | [0.42] | [0.42] | [0.39] | [0.40] |
| OFFERING_AMT | | | | | | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | [0.00] | [0.00] | [0.02] | [0.03] | [0.01] | [0.00] |
| LN_timetillmat | | | | | | | 0.002 | 0.005 | 0.002 | 0.005 | 0.002 | 0.005 |
| | | | | | | | [0.26] | [0.26] | [0.27] | [0.26] | [0.25] | [0.24] |
| Constant | 0.311** | -0.493+ | 0.306** | -0.505* | 0.313** | -0.490* | 0.295** | -0.533* | 0.291** | -0.545* | 0.298** | -0.526* |
| | [3.18] | [1.96] | [3.15] | [2.02] | [3.23] | [1.96] | [3.29] | [2.29] | [3.28] | [2.37] | [3.35] | [2.28] |
| Observations | 42,220 | 42,220 | 42,220 | 42,220 | 42,220 | 42,220 | 42,220 | 42,220 | 42,220 | 42,220 | 42,220 | 42,220 |
| R-squared | 0.040 | | 0.040 | | 0.040 | | 0.040 | | 0.040 | | 0.040 | |
| Pseudo R2 | | 0.030 | | 0.030 | | 0.030 | | 0.030 | | 0.030 | | 0.030 |

Table 6

Regressions of bond dispersion on comparability and peer-quarter characteristics

This table reports an analysis of the relation between financial statement comparability and rating dispersion for the sample of bonds with ratings by at least Moody's and S&P. Standard errors are clustered at the peer level. Robust t-statistics are in brackets. **, *, + denote significance at the 1%, 5% and 10% levels, respectively.

**Panel B**

| | -1 | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 | -10 | -11 | -12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model | OLS | Poisson | OLS | Poisson | OLS | Poisson | OLS | Poisson | OLS | Poisson | OLS | Poisson |
| Cluster | Peer rating_ms_range | Peer rating_ms_range | Peer rating_ms_range | Peer rating_ms_range | Peer rating_ms_range | Peer rating_ms_range | Peer rating_ms_range | Peer rating_ms_range | Peer rating_ms_range | Peer rating_ms_range | Peer rating_ms_range | Peer rating_ms_range |
| iqr_cover_BLM_delta_win | **0.020+** | **0.027+** | | | **0.019+** | **0.026+** | **0.020+** | **0.027+** | | | **0.019+** | **0.026+** |
| | **[1.91]** | **[1.94]** | | | **[1.88]** | **[1.91]** | **[1.87]** | **[1.90]** | | | **[1.83]** | **[1.86]** |
| iqr_nonrecurr_delta_sRev_win | | | 0.261 | 0.341 | 0.191 | 0.251 | | | 0.268 | 0.353 | 0.198 | 0.265 |
| | | | [1.07] | [1.15] | [0.85] | [0.92] | | | [1.11] | [1.22] | [0.89] | [0.99] |
| average_rating_bond | 0.065** | 0.079** | 0.064** | 0.079** | 0.065** | 0.079** | 0.064** | 0.078** | 0.063** | 0.077** | 0.064** | 0.078** |
| | [6.62] | [6.05] | [6.50] | [5.95] | [6.63] | [6.07] | [6.51] | [5.94] | [6.39] | [5.84] | [6.53] | [5.97] |
| iqr_size_rep | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | [0.31] | [0.58] | [0.04] | [0.31] | [0.30] | [0.56] | [0.24] | [0.51] | [0.05] | [0.23] | [0.22] | [0.48] |
| iqr_lever_rep | -0.186 | -0.271 | -0.146 | -0.223 | -0.184 | -0.269 | -0.161 | -0.238 | -0.121 | -0.188 | -0.158 | -0.235 |
| | [0.84] | [0.93] | [0.67] | [0.79] | [0.83] | [0.94] | [0.73] | [0.83] | [0.56] | [0.68] | [0.72] | [0.83] |
| iqr_cover_BLM_rep | -0.010* | -0.014* | -0.001 | -0.001 | -0.009* | -0.013* | -0.010* | -0.014* | -0.001 | -0.001 | -0.009* | -0.013* |
| | [2.28] | [2.08] | [0.14] | [0.19] | [2.21] | [2.02] | [2.29] | [2.11] | [0.15] | [0.21] | [2.21] | [2.04] |
| iqr_roa_rep | 0.137 | -0.006 | -0.820 | -1.250 | -0.261 | -0.557 | 0.188 | 0.057 | -0.775 | -1.202 | -0.224 | -0.520 |
| | [0.09] | [0.00] | [0.49] | [0.59] | [0.15] | [0.26] | [0.12] | [0.03] | [0.48] | [0.58] | [0.13] | [0.25] |
| iqr_intanpro_rep | -0.036 | -0.094 | -0.023 | -0.076 | -0.033 | -0.088 | -0.036 | -0.082 | -0.022 | -0.063 | -0.032 | -0.076 |
| | [0.14] | [0.29] | [0.09] | [0.23] | [0.13] | [0.27] | [0.14] | [0.25] | [0.08] | [0.19] | [0.12] | [0.23] |
| OFFERING_AMT | | | | | | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | [0.68] | [0.75] | [0.70] | [0.77] | [0.68] | [0.76] |
| LN_timetillmat | | | | | | | -0.005 | -0.009 | -0.005 | -0.008 | -0.005 | -0.009 |
| | | | | | | | [0.36] | [0.41] | [0.36] | [0.40] | [0.37] | [0.42] |
| Constant | 0.222 | -0.932** | 0.212 | -0.945** | 0.223 | -0.931** | 0.285* | -0.828** | 0.276* | -0.843** | 0.288* | -0.825** |
| | [1.35] | [4.14] | [1.29] | [4.19] | [1.37] | [4.16] | [2.14] | [4.51] | [2.09] | [4.64] | [2.18] | [4.53] |
| Observations | 42,220 | 42,220 | 42,220 | 42,220 | 42,220 | 42,220 | 42,220 | 42,220 | 42,220 | 42,220 | 42,220 | 42,220 |
| R-squared | 0.050 | | 0.050 | | 0.050 | | 0.050 | | 0.050 | | 0.050 | |

Table 7

## Regressions of CDS spreads on comparability and peer-quarter characteristics

This table reports an analysis of the relation between financial statement comparability and CDS spreads. CDS spread is the five-year CDS spread expressed in percent. Standard errors are clustered at the peer level. Robust t-statistics are in brackets. **, *, + denote significance at the 1%, 5% and 10% levels, respectively.

| | -1 | -2 | -3 |
|---|---|---|---|
| Model | OLS | OLS | OLS |
| Cluster | Peer | Peer | Peer |
| | Spread5y | Spread5y | Spread5y |
| iqr_cover_BLM_delta_win | 0.110** | | 0.085** |
| | [3.47] | | [3.83] |
| iqr_nonrecurr_delta_sRev_win | | 6.486** | 6.123** |
| | | [2.85] | [2.78] |
| averagerating | 0.554** | 0.549** | 0.553** |
| | [8.17] | [8.21] | [8.23] |
| iqr_size_rep | 0.000** | 0.000** | 0.000** |
| | [3.45] | [3.60] | [3.47] |
| iqr_lever_rep | -0.688 | -0.52 | -0.698 |
| | [0.84] | [0.59] | [0.81] |
| iqr_cover_BLM_rep | -0.065** | -0.012 | -0.051** |
| | [3.09] | [1.50] | [3.41] |
| iqr_roa_rep | 23.999* | 6.514 | 9.286 |
| | [2.22] | [0.66] | [0.93] |
| iqr_intanpro_rep | -0.049 | 0.301 | 0.177 |
| | [0.05] | [0.27] | [0.17] |
| Constant | -3.931** | -3.858** | -3.818** |
| | [6.88] | [6.75] | [6.67] |
| Observations | 3,187 | 3,187 | 3,187 |
| R-squared | 0.32 | 0.33 | 0.33 |