Comparability and Cost of Equity Capital

Michael J. Imhof
School of Accountancy
Frank W. Barton College of Business
Wichita State University
Clinton Hall, 332
+1 316 978 6021
michael.imhof@wichita.edu

Scott E. Seavey
School of Accountancy
University of Nebraska - Lincoln
375 College of Business Administration
+1 402 472 7541
sseavey2@unl.edu

David B. Smith
School of Accountancy
University of Nebraska - Lincoln
387 College of Business Administration
+1 402 472 2927
dsmith19@unl.edu

Comparability and Cost of Equity Capital

ABSTRACT: We investigate how the comparability of a company's financial statements is related to its cost of equity capital. Financial Accounting Standards Board's (FASB) Concept Statement No. 8 proposes that comparability is a key tenet of accounting because it allows users of financial statements to benchmark a firm against similar firms when distinguishing between alternative investment opportunities. We provide evidence that greater financial statement comparability is associated with lower cost of equity capital, and show that comparability's effect on cost of equity remains after controlling for within-firm accounting quality. Additionally, we find that investors derive greater benefits from financial statement comparability in firms whose information environments are less transparent (high information asymmetry) and whose equity shares trade in markets that are less competitive (imperfect markets). Our findings contribute to accounting research by providing evidence justifying comparability as a separate element of the FASB's conceptual framework.

Keywords: Financial statement comparability, cost of equity capital, information risk, information asymmetry, market imperfection.

ACKNOWLEDGEMENTS

This paper has benefited from presentation at the 2013 AAA Southeast Regional Meeting, the 2013 AAA Western Regional Meeting, the 2013 European Accounting Association Meeting, the 2013 AAA Annual Meeting, and at William and Mary University. We gratefully acknowledge Christian Leuz, Sundaresh Ramnath, William R. Scott, Phil Shane, Michael Stein, Robert Verrecchia and 2 anonymous reviewers for their helpful comments and suggestions.

INTRODUCTION

We investigate the association between comparability and cost of equity capital. Our study is motivated by the Financial Accounting Standards Board's (FASB's) Concept Statement No. 8 *Qualitative Characteristics of Useful Financial Information*, which defines comparability as, "the qualitative characteristic that enables users to identify and understand similarities in, and differences among, financial statement items. Unlike the other qualitative characteristics, comparability does not relate to a single item. A comparison requires at least two items" (FASB 2010, Con. 8: QC21). The FASB's position complements past academic research suggesting that improvements in accounting quality, such as comparability, decrease investor information risk by improving estimates of future firm cash flows, leading to a lower cost of capital (e.g., Feltham and Xie 1994; Holmstrom 1979).

The FASB in Concept Statement 8 considers comparability distinct from attributes of accounting information involving data from only one firm, such as relevance and faithful representation. We label such attributes 'within-firm' accounting quality and argue that comparability is distinct from within-firm accounting quality because it requires 'between-firm' comparisons of financial statement items.[1] Past research provides evidence of a significant negative association between within-firm accounting quality and cost of equity (e.g., Francis, LaFond, Olsson and Schipper 2004). For this reason, we control for within-firm accounting quality when assessing the relation between comparability and cost of equity capital. To our knowledge, our study is the first to provide evidence of the cost of capital benefits of comparability as being separate from within-firm accounting quality, thus providing support for

[1] By 'within-firm' accounting quality we mean common measures of *relevance*, which accounting research generally captures using metrics based on the earnings of a single firm (see FASB 2010, Con 8: BC3.30).

the FASB's position justifying comparability as a separate element of the its conceptual framework.

Our work complements past research investigating the accounting benefits of the convergence of accounting standards, specifically IFRS (e.g., Hail, Leuz and Wysocki 2011; Barth, Landsman, Lang, and Williams 2012; Cascino and Gassen 2015). These studies imply that the convergence of accounting standards increases cross-county comparability, leading to lower external capital costs. For example, Li (2010) speculates that increases in comparability may be a contributing factor to the decrease in cost of equity of mandatory adopters of IFRS. While she does not directly examine the relation between comparability and cost of equity, her supposition adds justification for our study. Other research investigates how comparability impacts differences in bid/ask spreads and trading volume for firms that apply US GAAP relative to those that apply IFRS but find little evidence of a significant relation (e.g., Leuz and Verrecchia 2000; Leuz, Nanda and Wysocki 2003).

More closely related to our work are studies by Fang, Baohua and Zhang (2012) and Kim, Kraft and Ryan (2013) that suggest that comparability can reduce creditors' information risks, leading to lower credit spreads and lower cost of debt. We complement this research, arguing that comparability can increase the decision-usefulness of accounting information by helping equity investors more precisely estimate a firm's future cash flows. Consequently, investors' estimation risks should be decreasing in comparability, which theory predicts will result in a lower cost of capital (e.g., Easley and O'Hara 2004; Lambert, Leuz and Verrecchia 2007).

To investigate the relation between comparability and cost of equity we use a comparability measure proposed by De Franco, Kothari and Verdi (2011), which considers the accounting system to be a "mapping" of information from economic events into financial statements, and thus captures commonalities in how two firms account for similar events. We model the cost of equity capital, approximated using the average of four proxies of implied cost of equity, as a function of the De Franco et al. (2011) measure and control variables. Importantly, our control set includes controls for within-firm accounting quality, which we capture using measures of accrual quality and earnings persistence, as in prior accounting research. In investigating the relation between comparability and cost of equity capital, we also consider whether the cost of equity benefits of comparability are related to the transparency of a firm's information environment and whether the firm's equity securities trade in a competitive market. Specifically, we build on recent research suggesting that improvements in accounting information are likely to decrease cost of capital more so in situations where a firm's securities trade in the presence of high information asymmetry and in imperfect markets (e.g., Armstrong, Core, Taylor and Verrecchia 2011; Lambert, Leuz and Verrecchia 2012).[2]

To assess the comparability-cost of equity relation, we estimate pooled cross-sectional regressions for a sample of 27,438 firm-year observations during the sample period 1990-2014. We document a significant negative association between comparability and cost of equity even in the presence of controls for within-firm accounting quality. We conclude that comparability reduces investors' information risks and thus their required rates of return, and that comparability captures a dynamic of the corporate information environment that is incremental to within-firm measures of accounting quality. In additional tests, we find that comparability is more strongly negatively associated with cost of equity in firms with high information asymmetry and whose

[2] While Armstrong et al. (2011) and Lambert et al. (2012) do not formally model the relation between comparability and cost of equity capital, we infer from their propositions that because comparability improves accounting information, it will be more strongly negatively associated with cost of equity capital when information asymmetry and market imperfection are high.

equity securities trade in imperfect markets. Both test results are economically and statistically significant. For example, moving from the 25th to the 75th percentile of financial statement comparability results in a reduction in the cost of equity of 16 basis points, holding all other variables at the mean. For firms that have high information asymmetry and whose equities trade in an imperfect market, moving from the 25th to the 75th percentile of financial statement comparability results in a reduction in the cost of equity of 21 basis points.

In the next section, we summarize past theoretical and empirical research and develop testable hypotheses regarding the relation between comparability and cost of equity capital.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

The Decision-Usefulness of Comparability

Accounting information can be considered relevant to users' decisions only in the context of a specific decision model (Dechow, Ge and Schrand 2010). The FASB's Concept Statement No. 8 considers comparability useful to investors because it aids in choosing between alternative investments (FASB 2010, Con. 8: QC20). Stickney and Weil (2006) shed additional light on the implications of comparability. They state that, "ratios, by themselves out of context, provide little information" (Stickney and Weil 2006, p. 189) implying that it is important to have something to compare to, such as another firm's financial statements, when using ratios to gain insight into a firm's worth.

Our investigation is tangentially related to research analyzing the information consequences of Securities and Exchange Commission mandates, such as the requirement that financial statements be filed using eXtensible Business Reporting Language or XBRL (e.g., Blankespoor, Miller and White 2014; Cong, Hao and Zhou 2014). In its final rules for the application of XBRL, the SEC (2009) states that XBRL may increase comparability of financial statement information across similar firms, since each company's management has the opportunity to choose the XBRL standardized tag that best maps economic events into the company's accounting numbers. However, the XBRL mandate is costly for firms to implement and to date, little accounting research exists that can aid the SEC in its investigations of the benefits of increased comparability. Our findings suggest that the benefits of increased comparability may include significantly lower cost of equity capital. Therefore, our results support activities by the SEC, such as XBRL, that bolster financial statement comparability and so lead to better functioning capital markets.

Comparability as a Distinct Measure of Accounting Quality

Comparability is defined as an enhancing characteristic of accounting information that is distinct from fundamental characteristics of accounting information such as representational faithfulness and relevance (FASB 2010, Con 8). While there is no well-accepted approach to measuring representational faithfulness (FASB 2010, Con. 8: QC 30.3), it is normally viewed as being the "faithful representation" of a firm-level financial statement element. Academic accounting research commonly measures relevance using earnings-based proxies that are estimated at the firm-level (i.e., using data from a single firm) (e.g., Francis et al. 2004). We refer to these measures as 'within-firm' accounting quality. We suggest that because comparability concerns comparisons of financial data between two or more firms, i.e., it is a 'between-firm' measure of accounting quality, its potential impact on cost of equity will be distinct from the impact of within-firm accounting quality. The SEC also recognizes this distinction. In its final rules on XBRL the SEC points to a potential trade-off between comparability and within-firm accounting quality. For instance, in its section titled "Interpretability of Standardized Tagging," the SEC states that a "standard set of tags helps facilitate easier comparability between companies, but this benefit might come at a cost of less precise information about a company if the selected tag is different from what the company would have labeled the information without interactive data reporting" (SEC 2009: pg. 142). The SEC's concern stems from comments in letters from the business community that emphasize a strong belief that the quality of accounting information as it relates to managers making decisions within the firm, is different from the comparability of accounting information as it relates to investors making decisions between firms. [3]

Because comparability's potential benefits should be separate from the benefits of within-firm accounting quality, it is important to control for within-firm accounting quality when examining the relation between comparability and cost of equity capital. This leads to our first hypothesis, stated in alternative form:

H1. Controlling for within-firm accounting quality, cost of equity capital is an inverse function of the comparability of a firm's financial information.

Information Asymmetry, Market Imperfection and Comparability

In additional tests, we consider the relation between comparability and cost of equity capital conditional on a firm's information environment. We motivate these tests from recent theoretical and empirical research investigating how information asymmetry and the market setting affect the association between accounting information and a firm's cost of capital (e.g., Lambert et al. 2012; Armstrong et al. 2011). This research shows theoretically that it makes no

[3] See, for example, letters from European Issuers and the CFA Society in File No. S7-11-08 at www.SEC.gov.

difference whether some investors have more information than other investors do if a firm's shares trade in a perfectly competitive market.[4] In this case, finance theory predicts that less informed investors will infer information possessed by informed investors through fluctuations in the firm's stock price. For firms whose equity securities trade in uncompetitive (imperfect) markets however, Armstrong et al. (2011) provide empirical evidence that information asymmetries between informed and uninformed investors are an important determinant of cost of capital. In such a setting, information asymmetry affects less informed investors' willingness to provide liquidity through the buying and selling of stocks because they face higher adverse selection risks when trading with more informed investors. For this reason, information asymmetry may be associated with a higher cost of equity in an imperfect market setting.

Based on the theory in Armstrong et al. (2011) and Lambert et al. (2012) we expect that the association between comparability and cost of equity will be strongest for firms with high information asymmetry and whose equity securities trade in imperfect markets. To test this proposition, we examine the relation between comparability and cost of equity capital, conditional on firms having both high asymmetry and high imperfection. Our second hypothesis follows, stated in alternative form.

H2. Controlling for within-firm accounting quality, cost of equity capital is more strongly an inverse function of the comparability of a firm's financial information for firms whose information environment is characterized as highly asymmetric and whose equity securities trade in an imperfect market.

[4] Perfect competition refers to the scenario wherein demand curves are flat and assumes that the number of trades in a firm's shares is infinite (Hellwig 1980; Shleifer 1986).

RESEARCH DESIGN

To test our first hypothesis, we estimate the relation between comparability and cost of equity capital, controlling for within-firm accounting quality. For our second hypothesis, we examine the same relation conditional on a firm's information environment (information asymmetry and market imperfection).

Measures of Cost of Equity Capital and Comparability

Similar to prior research (e.g., Ogneva, Subramanyam and Raghunandan 2007; Hail and Leuz 2006; Daske, Hail, Leuz and Verdi 2008) we use measures of the implied cost of equity to proxy for cost of equity capital. We calculate four different accounting-based valuation models to obtain estimates of the implied cost of equity: Claus and Thomas (2001, *CT*), Gebhardt, Lee and Swaminathan (2001, *GLS*), Gode and Mohanram (2003, *GM*), and Easton (2004, *PEG*), and then use the average of these four estimates as our final measure of firm-year cost of equity (*Cost_of_equity)*.[5] All four methods imply cost of equity using mean I/B/E/S analyst consensus forecasts and stock prices.

We follow De Franco et al. (2011) and conceptualize comparability as how similarly two firms' financial statements reflect similar economic events. In De Franco et al. (2011), economic events are represented by stock returns and reflection of those events in financial statements are proxied by firm earnings. Operationalizing De Franco et al.'s measure is a three-step process. In

[5] Pearson correlations between the four measures (not shown) are all positive, ranging from 0.4 to 0.9, suggesting that using an average in our empirical tests is appropriate. In addition, averaging multiple methods for imputing cost of equity is a common practice in academic research. Examples include Ogneva et al. (2007), Hail and Leuz (2006), and Daske et al. (2008).

step one, we estimate the following equation for each firm-year using the current four, and prior twelve, quarters (16 quarters total):

$$Earnings_{jt} = \alpha_{jt} + \beta_j Return_{jt} + \varepsilon_{jt} \qquad (1)$$

Earnings is quarterly net income before extraordinary items (Compustat Quarterly variable IBQ) deflated by beginning-of-period market value of equity (CRSP variables PRC*SHROUT) and *Return* is the stock return for the quarter from CRSP. As De Franco et al. (2011) note, $\hat{\alpha}_j$ and $\hat{\beta}_j$ from Equation 1 proxy for the accounting function of firm *j* (i.e., the manner in which economic events are reflected in firm *j*'s financial statements). Similarly, $\hat{\alpha}_k$ and $\hat{\beta}_k$ proxy for the accounting function of firm *k*, and so forth for all other firms.

If two firms have more comparable accounting functions, then for the same economic events their respective financial statements should be similar. Thus in step two we estimate the expected earnings of each firm, *j* and *k*, assuming each firm had the same economic event (i.e., both firms experienced the same return, $Return_{jt}$) and using respective accounting functions from Equation 1:

$$\text{E}\,(Earnings)_{jjt} = \hat{\alpha}_j + \hat{\beta}_j\ Return_{jt} \qquad (2)$$

$$\text{E}(Earnings)_{kjt} = \hat{\alpha}_k + \hat{\beta}_k\ Return_{jt} \qquad (3)$$

$\text{E}(Earnings)_{jjt}$ is the predicted earnings of firm *j* given firm *j*'s stock returns in period *t* and $\text{E}(Earnings)_{kjt}$ is the predicted earnings of firm *k* given firm *j*'s stock returns in period *t*. By using firm *j*'s stock return in both predictions, we measure the comparability of mappings between firm *j* and firm *k* for the same event (discussed below).

In step three, we calculate comparability between firm *j* and firm *k* during the 16-quarter estimation period from Equations 2 and 3 as the negative value of the average absolute difference between the predicted earnings using firm *j*'s and firm *k*'s earnings functions:

$$Comparability_{jkt} = -\frac{1}{16} \times \sum_{t-15}^{t} \left| E\left(Earnings_{jjt}\right) - E\left(Earnings_{jkt}\right) \right| \quad (4)$$

The measure is upper-bound at zero and greater values indicate higher comparability.[6] We calculate four different permutations of the measure for use in our empirical tests. For our first permutation, we estimate Equations 2 and 3 for every firm *j* – firm *k* combination within the same two-digit Standard Industry Classification (SIC) industry, and calculate the *median* value for all firms *k* in the same industry as firm *j*, during period *t* (*Comp_med*). The second permutation is estimated the same as the first, but we calculate the *mean* value for all firms *k* in the same industry as firm *j* during period *t* instead of the mean value (*Comp_mean*). For our third and fourth permutations, again following De Franco et al. (2011), we rank all values of *Comp_mean* for each firm *j* in period *t* from highest to lowest, and take the average of either the four (*Comp_four*) or ten (*Comp_ten*) firms *k* with the highest comparability to firm *j* during period *t*.[7] The four permutations are all highly correlated; Pearson correlations range from 0.85 to 0.98 (not shown). For this reason, we select only one measure for presentation in our multivariate results – *Comp_med* (renamed *Comparability*) – but results are qualitatively the same regardless of which permutation is used.

Measures of Within-Firm Accounting Quality

We use three common proxies to control for within-firm accounting quality. Our first measure is the absolute value of performance adjusted discretionary accruals (Jones 1991;

[6] For a detailed discussion of the comparability measure, see Sections 2.2 and 2.3 of De Franco et al. (2011). We independently coded the comparability estimations to better understand the mechanics of the measure, but both SAS code and comparability datasets for the measures used in De Franco et al. (2011) are available on Rodrigo Verdi's web-site at: http://www.mit.edu/~rverdi/.

[7] The proper functional form of Equations 2 and 3 may be one without an intercept. Conceptually, in that scenario, a coefficient of one for $\hat{\beta}_k$ in Equation 3 would indicate that the predicted earnings of firm *k* given firm *j*'s stock returns equals the actual earnings for firm *k* or, firm *j* and firm *k* are wholly comparable. In a series of untabulated tests we calculate comparability by estimating Equations 2 and 3 without an intercept term. The Pearson (Spearman) correlation between the four permutations of the metric computed with and without an intercept ranges from 0.71 to 0.76 (0.71 to 0.78). While in some settings the statistical significance is slightly reduced with the modified measure, overall the results are not qualitatively different than what is presented in the accompanying tables.

Kothari, Leone and Wasley 2005; Dechow et al. 2010). Discretionary accruals are captured as the residuals from the following estimation of total accruals on predictors of "expected" accruals:

$$TA_t = \alpha + \beta_1\, \Delta REV_t + \beta_2\, PPE_t + \beta_3\, ROA_t + \varepsilon \tag{5}$$

where (Compustat variable names are in parentheses, all variables are for year *t* unless otherwise noted):

TA	=	total accruals (net income from continuing operations [*IB*] minus operating cash flows [*OANCF*], scaled by beginning of year total assets [AT_{t-1}]).
Δ*REV*	=	change in revenue from prior year (*SALE*), scaled by beginning of year total assets.
PPE	=	gross property, plant, and equipment (*PPEGT*), scaled by beginning of year total assets.
ROA	=	operating income after depreciation (*OIADP*), scaled by beginning of year total assets.

We estimate Equation 5 by year and two-digit SIC code for all available firm-year observations, subject to a minimum of ten observations for each industry-year. For our primary tests we are not concerned with the direction of abnormal accruals, but rather the magnitude, so we use the absolute value of the residuals from Equation 5 as a measure of accounting quality (*AQ_Jones*). As constructed, larger values of discretionary accruals indicate a greater ability of management to manage earnings. For our empirical tests we multiply *AQ_Jones* by -1 so that higher values of *AQ_Jones* correspond to higher accounting quality.

For our second measure of within-firm accounting quality we use the standard deviation of the residuals from a regression of total current accruals on lagged, current, and lead cash flows from operations plus the change in revenue and property, plant, and equipment (Dechow and Dichev 2002; Ogneva 2012), as follows:

$$TCA_t = \alpha_t + \beta_1\, CFO_{t-1} + \beta_2\, CFO_t + \beta_3\, CFO_{t+1} + \beta_4\, \Delta REV_t + \beta_5\, PPE_t + \varepsilon_t \tag{6}$$

where:

TCA	=	total current accruals (equal to one-year change in current assets [*ACT*] minus one-year change in current liabilities [*LCT*] minus one-year change in cash [*CHE*] plus one-year change in short term debt [*DLC*]),
CFO	=	cash flows from operations in year *t-1*, *t*, or *t+1* from the statement of cash flows (Compustat *OANCF*), scaled by beginning of year total assets.
ΔREV	=	change in revenue from prior year [*SALE*], scaled by beginning of year total assets.
PPE	=	gross property, plant, and equipment [*PPEGT*], scaled by beginning of year total assets.

Equation 6 is estimated by firm and *AQ_DD* is then calculated for each firm-year as the standard deviation of the residual over the previous five years. Larger residuals denote lower earnings (accounting) quality, so as with *AQ_Jones* we multiply *AQ_DD* by -1 for use in our empirical tests such that higher values of *AQ_DD* correspond to higher accounting quality.

Our third measure of accounting quality is earnings persistence (*AQ_persistence*). Earnings that are more persistent from one year to the next are valued more by market participants and so considered to be of higher quality (Dechow et al. 2010). We capture persistence as the beta coefficient from a firm-level OLS regression of earnings in year *t+1* on earnings in year *t* (Sloan 1996; Dechow et al. 2010), and measure earnings as income before extraordinary items (Compustat IB) deflated by lagged total assets (Compustat AT). We require a minimum of five observations per firm and higher values of *AQ_persistence* correspond to higher accounting quality, by construction.

Measures of Market Imperfection and Information Asymmetry

Following Armstrong et al. (2011) we use the bid-ask spread to measure information asymmetry (*Spread*), where a greater bid-ask spread indicates larger differences in information content between buyers and sellers (Brennan and Subramanyam 1996; Verdi 2005; Armstrong et al. 2011). We calculate *Spread* as the annual average of the daily difference between the closing ask and the closing bid, scaled by the daily closing price, as reported in CRSP. We use trading activity in a firm's shares as a measure of market imperfection (*Share_turnover*). *Share_turnover* is calculated as the total annual share volume during the year (from CRSP) divided by the average shares outstanding over the same period. To the extent that greater turnover is associated with a more competitive market, we expect greater comparability to matter more for cost of equity in firms with lower trading activity (i.e., greater market imperfection).[8]

Our second hypothesis predicts that comparability will be negatively related to cost of equity more strongly for firms whose information environment is highly asymmetric and whose equity securities trade in imperfect markets. We operationalize this conditional prediction by estimating regression models containing a series of interactions between comparability, information asymmetry, and market imperfection, (described below). For ease of interpretation, we dichotomize our measures of information asymmetry and market imperfection into high and low values for use in our regressions. We characterize observations as having high information asymmetry if *Spread* is above the annual sample median (i.e., higher bid-ask spreads): in this case *Hi_Asym* equals one (zero otherwise). For market imperfection, if *share_turnover* for a firm is below the sample median (i.e., lower trading activity), determined on an annual basis, *Hi_Imperf* equals one (zero otherwise).

[8] In additional tests (not reported) we use analyst coverage as a measure of information asymmetry and the number of shareholders as a measure of market imperfection (see Armstrong et al. 2011). Analyst coverage is the number of individual sell-side analysts issuing one-year-ahead earnings per share forecasts during the 60 days prior to the end of the fiscal year, as reported in the I/B/E/S detail file. Mean (median) analyst coverage is 8.6 (6) in our final sample. When the number of shareholders is small (large) an individual investor's demand is predicted to have (not have) an effect on stock price. Thus the fewer the number of shareholders a firm has, the more imperfect the market for that firm's shares. Firms report the number of shareholders of record as of the fiscal-year end in their annual 10-K filings, and we obtain the information from Compustat (*CSHR*). Mean (Median) shareholders in our final sample is 26,177 (2,550). Regression results are qualitatively similar with all possible combinations of these alternative proxies plus our original measures of information asymmetry and market imperfection.

Empirical models

Our primary model for examining the relation between comparability and cost of equity is represented in Equation 7. Recall that H1 predicts an inverse relation between accounting comparability and cost of equity, even after controlling for within-firm accounting quality, so we expect a negative coefficient for β_1.

$$Cost\_of\_equity = \alpha_0 + \beta_1\ Comparability + \delta_0\ Controls + \delta_1\ Accounting\_quality + Industry\_FE + Year\_FE + \varepsilon \quad (7)$$

Accounting_quality is a vector of our three measures of within-firm accounting quality, and we estimate Equation 7 with and without *Accounting_quality* to provide evidence that the impact of comparability on cost of equity is incremental to the impact of within-firm accounting quality. Following prior studies (e.g., Ogneva et al. 2007; Duarte et al. 2008; Daske et al. 2008), we include a set of control variables that may affect the association between comparability and cost of equity, including controls for firm size, performance, and stock returns. We also include dichotomous variables for industry fixed-effects based on two-digit SIC codes and year fixed-effects. Appendix A provides detailed descriptions, calculations, and data sources for all variables. Continuous variables are winsorized at the 1st and 99th percentiles, including our measures of comparability, cost of equity, measures of within-firm accounting quality, and controls. To reduce the effects of serial dependence in the error term, which may arise from having multiple observations of the same firm over the sample period, we use robust standard errors clustered by firm (see Petersen 2009).

For our tests of H2 we extend Equation 7 and include measures of information asymmetry and market imperfection, as well as relevant interactions.

$$Cost\_of\_equity = \alpha_0 + \beta_1\ Comparability + \beta_2\ Hi\_Asym + \beta_3\ Hi\_Imperf + \beta_4\ Hi\_Asym{*}\ Hi\_Imperf + \beta_5\ Comparability{*}Hi\_Asym + \beta_6\ Comparability{*}Hi\_Imperf + \beta_7\ Comparability{*}Hi\_Asym{*}\ High\_Imperf +$$

$$\delta_0\ Controls + \delta_1\ Accounting\_quality + Industry\_FE + Year\_FE + \varepsilon_t \quad (8)$$

The dependent variable, measure of comparability, controls, measures of within-firm accounting quality, and fixed-effects are the same in Equation 8 as in Equation 7. H2 examines whether comparability is more strongly associated with lower cost of equity for firms whose information environments are characterized as highly asymmetric and whose equity securities trade in an imperfect market. Thus, we expect a negative coefficient on the three-way interaction between comparability, high information asymmetry, and high market imperfection (β_7).

SAMPLE SELECTION AND DESCRIPTIVE STATISTICS

Our sample period spans 25 years: from 1990 through 2014. We begin with all firm-years with available Compustat and CRSP data necessary to calculate our measures of comparability. For imputing the cost of equity, we additionally require analyst forecast data from I/B/E/S. After data restrictions from the calculation of measures of within-firm accounting quality and control variables, our final sample consists of 27,438 firm-year observations from 4,025 unique firms. Table 1 shows the distribution of our sample across major industry groups. We note that the industry distribution of our sample is similar to the Compustat population.[9]

[INSERT TABLE 1]

Table 2, Panel A presents descriptive statistics for our sample. Similar to prior studies (e.g., Ogneva et al. 2007) there is considerable variability across the four individual measures of implied cost of equity, ranging from a mean (median) annual cost of equity of 7.1 percent (6.7

[9] The primary exception is Financial Firms (two digit SIC codes 60-69), comprising 18.3 percent of the Compustat population but only 3.5 percent of our final sample. The difference is explained as follows. One of the data requirements for the construction of our control variables is that firms must have operating cash flows, and as the Compustat Fundamentals File generally does not capture operating cash flows for banks and savings institutions (two digit SIC Code 60), our final sample is under-represented for these firms, and accordingly over-represented in other industries.

percent) with the *GLS* method to a mean (median) of 13.3 percent (12.1 percent) with the *GM* method. The mean (median) of our final test measure, *Cost_of_equity*, is 9.8 percent (9.1 percent), with an intra-quartile range of 7.5 percent (Q1) to 11.4 percent (Q3).

[INSERT TABLE 2]

To be consistent with prior literature (e.g., Armstrong et al. 2011) we present descriptive statistics for all four permutations of our comparability measure, despite reporting test results only using *Comp_med* (renamed *Comparability* in our tables). Each permutation is negative by construction and a value closer to zero denotes more comparability. *Comp_median* and *Comp_mean* have mean values of -1.97 and -2.86, respectively. When restricted to only those firms that are the four (*Comp_four*) or ten (*Comp_ten*) closest in terms of comparability the mean values are closer to zero at -0.54 and -0.77, respectively. All values are similar to prior comparability research (e.g., Cambell and Yeung 2011).

Mean (median) values of our measures of within-firm accounting quality are *AQ_Jones*, 0.054 (0.038); *AQ_DD*, 0.052 (0.036); and *AQ_persistence*, 0.474 (0.504). The descriptive statistics for all three measures of within-firm accounting quality are similar to those reported in past research. The mean of *Spread* is 0.010, signifying an average annual bid-ask spread of one percent of share price (median equals 0.005). The mean value of *Share_turnover* is 1.82, meaning that firms in our final sample turn their shares over an average of 1.8 times per year (median equals 1.29). Descriptive statistics for both measures are consistent with prior studies (e.g., Armstrong et al. 2011). Overall, our sample companies are generally large (mean total assets equals $5.9 billion, median equals $767 million) and profitable (mean *ROA* is 12.1 percent, median is 10.4 percent), and are descriptively similar to samples reported in prior accounting research.

Table 2, Panel B presents the Pearson correlation matrix for our sample. Consistent with H1, *Comparability* is negatively correlated with *Cost_of_equity* (correlation of -0.06, $p<0.05$), and positively correlated with each of our three measures of within-firm accounting quality. In addition, our dichotomous measures of high information asymmetry and high market imperfection are positively correlated (0.26, $p<0.05$). High information asymmetry and high market imperfection are also positively correlated with cost of equity, confirming results from prior studies that firms with poorer information environments are subject to higher cost of capital. Correlations between control variables in our multivariate models are generally as expected, and consistent with prior literature. For example, larger firms tend to have lower return-on-assets, carry more debt, have lower variance of cash flows, lower stock returns (and also lower variability of stock returns), have lower analyst forecast errors, and higher within-firm accounting quality. Our three measures of within-firm accounting quality are all positively correlated at $p<0.05$. Finally, all correlations between control variables are less than (the absolute value of) 0.40, suggesting that multi-collinearity is not an issue when estimating our multivariate models.

RESULTS

Tables 3 and 4 present the main results of our study. Table 3 presents evidence supporting H1, based on the estimation of Equation 7, with and without controls for within-firm accounting quality.

[INSERT TABLE 3]

The first column of regression coefficients in Table 3 suggests that greater comparability is associated with lower cost of equity capital in the absence of controls for within-firm accounting quality (the coefficient on *Comparability* is -0.0015, $p<0.01$). This result is economically significant; moving from the 25th to the 75th percentile of *Comparability* results in a decrease in the cost of equity from 9.84 percent to 9.68 percent (a reduction of 16 basis points), holding all other variables at their means.[10] The second column of regression coefficients in Table 3 includes controls for within-firm accounting quality. The coefficient on *Comparability* remains negative and significant (-0.0013, $p<0.01$) and suggests that, consistent with H1, the effect of comparability on cost of equity is incremental to the effect of within-firm accounting quality.[11] Of note and as expected, the coefficients for two of the three controls for within-firm accounting quality are negative and significant (*AQ_Jones* and *AQ_DD*) while the third, *AQ_persistence*, is negative but not significant at traditional levels. Adjusted R-squares are 33.3 percent for both columns and other controls, where significant, are generally in the direction expected (e.g., we document a significantly negative relation between cost of equity and *Size*, *ROA*, and *Stock_return* and a significantly positive relation between cost of equity and *Debt*, *Std_return*, *AFE*, and the variance of *AFE*).

Table 4 presents evidence supporting H2 from the estimation of Equation 8. In the first column of regression coefficients in Table 4 we establish the joint effect of information asymmetry and market imperfection for cost of equity through a two-way interaction between *Hi_Asym* and *Hi_Imperf*. In the second column of coefficients in Table 4, we add additional interactions, including a three-way interaction between *Comparability, Hi_Asym* and *Hi_Imperf* to assess the impact of greater comparability for firms with high information asymmetry and high market imperfection.

[10] We determined economic effects using the STATA command (syntax):
margins, at (*variable_of_interest*=(*Q1_value Q3_value*)) atmeans vsquish.

[11] A chi-squared test on *Comparability* between the estimations with and without controls for within firm accounting quality is marginally significant (X^2=2.81, p=0.094), though the economic effect of comparability for cost of capital is reduced only slightly, from 16 to 14 basis points (moving from the 25th to the 75th percentile of comparability) across the two estimations.

[INSERT TABLE 4]

The regression results reported in Table 4 suggest that firms that have high information asymmetry and whose equity securities trade in imperfect markets generally have higher cost of equity than other firms (coefficient on *Hi_Asym*Hi_Imperf* equals 0.0030; $p<0.01$). As expected, the effect of comparability is negative, and similar to the results reported in Table 3. The coefficient on the three-way interaction in the second column of coefficients in Table 4 is negative and significant (*Comparability*Hi_Asym*Hi_Imperf* equals -0.0020; $p<0.05$) and suggests that increasing comparability reduces cost of equity more for firms that have high information asymmetry and whose equities trade in imperfect markets. The coefficient corresponds to a decrease of 21 basis points (from 10.55 percent to 10.34 percent) when moving from the 25^{th} to the 75^{th} percentile of *Comparability*, holding all other variables at their means. As expected, the coefficient on the main effect of comparability (*Comparability*) is negative and significant, indicating that even when information asymmetry and market imperfection are not both relatively high, comparability is associated with a lower cost of equity. Similar to Table 3, adjusted R-squares are 33.3 percent for both columns and coefficients of the control variables, including those for within-firm accounting quality, are generally in the direction expected where significant.[12]

CONCLUSION

We investigate the association between comparability and a firm's cost of equity capital. Our goal is to explore implications of the FASB's Concept Statement No. 8 *Qualitative*

[12] In additional (untabulated) tests we implement a second measure of comparability based on the closeness of accruals between firms (see Francis, Pinnuck and Watanabe 2014). Our results are similar to those presented in Tables 3 and 4, and our interpretations are the same. We also estimate Equation 7 separately on partitions of low and high information asymmetry and market imperfection (a 2X2 design, no interactions, untabulated) and find that the effect of comparability is strongest for firms in the high information asymmetry and high market imperfection partition.

Characteristics of Useful Financial Information view of comparability as "the qualitative characteristic that enables users to identify and understand similarities in, and differences among, financial statement items." Our empirical tests are divided into two parts. First, we provide evidence of a negative association between comparability and cost of equity and find that the relation holds when controlling for common measures of *within-firm* accounting quality. Second, we show that the association between comparability and cost of equity is strongest when information asymmetry is high and equity markets are imperfect. This finding suggests that comparability may matter more when investors are informationally disadvantaged and face potentially significant adverse selection risks.

Our study contributes to research on the decision usefulness of financial information, and specifically to research on financial information comparability (e.g., Bradshaw, Miller and Serafiem 2009; De Franco et al. 2011; Lang, Maffet and Owens 2010). The FASB's Concept Statement No. 8 *Qualitative Characteristics of Useful Financial Information* proposes that greater comparability of financial information should be a key tenet of accounting insomuch as it allows users of financial information to benchmark a firm against similar entities (FASB 2010). We provide evidence of the cost of equity benefits of comparability as being separate from within-firm accounting quality, and so support the FASB's position justifying comparability as a separate element of its conceptual framework. Thus, our study helps regulators and managers recognize the benefits of comparable information in investor decision-making.

APPENDIX A

Variable	Description*	Source(s)
Cost_of_equity	Average cost of equity capital from four different accounting-based valuation models; *CT*, *GLS*, *GM*, and *PEG*	N/A
CT	Implied cost of equity capital, from the accounting-based valuation model in Claus and Thomas (2001).	I/B/E/S and Compustat
GLS	Implied cost of equity capital, from the accounting-based valuation model in Gebhardt et al. (2001).	I/B/E/S and Compustat
GM	Implied cost of equity capital, from the accounting-based valuation model in Gode and Mohanram (2003).	I/B/E/S and Compustat
PEG	Implied cost of equity capital, from the accounting-based valuation model in Easton (2004).	I/B/E/S and Compustat
Comparability, [Comp_med (mean)]	A measure of financial statement comparability estimated from equations (1) – (4) and based on the *median* (*mean*) value of how closely economic events, represented by stock prices, are represented in earnings across firms within an industry. We report our empirical tests using *Comp_med* and rename the variable *Comparability*.	CRSP and Compustat
Comp_four (Comp_ten)	A measure of financial statement comparability estimated from equations (1) – (4) and based on how closely economic events, represented by stock prices, are represented in earnings across firms within an industry. *Comp_mean* is ranked by industry and then *Comp_four* (*Comp_ten*) is the average of four (ten) firms with the highest comparability.	CRSP and Compustat
Spread	A measure of information asymmetry, the bid-ask spread, calculated as the annual average of the daily difference between closing ask and closing bid, scaled by daily closing price.	CRSP
Hi_Asym	A dichotomous variable that equals one if *Spread* is greater than the sample median, and zero otherwise. Calculated annually.	N/A
Share_turnover	A measure of market imperfection, defined as the total number of common shares traded during the year based on monthly totals, divided by the average of the beginning and the end of the year number of common shares outstanding.	CRSP and Compustat
Hi_Imperf	A dichotomous variable that equals one if *Share_turnover* is greater than the sample median, and zero otherwise. Calculated annually.	N/A
Size	Total assets, in millions, for a firm at the beginning of the year. [AT_{t-1}] In our empirical models we use the natural log of *Size*.	Compustat
BTM	Book value of equity divided by the market value of equity. [$CEQ_t / CSHO_t * PRCC\_F_t$]	Compustat
ROA	Operating income after depreciation divided by lagged total assets. [$OIADP_t / AT_{t-1}$]	Compustat
Std_OCF	Standard deviation of the current four and prior eight quarters of operating cash flows [*OANCF*], divided by total assets in year *t* [*AT*].	Compustat – Quarterly
Debt	Long term debt divided by lagged total assets. [DL_{it} / AT_{t-1}]	Compustat
R&D	Research and development expenditures divided by lagged total assets. [XRD_t / AT_{t-1}]	Compustat
Depreciation	Depreciation divided by lagged total assets. [DPC_t / AT_{t-1}]	Compustat

Stock_return	Twelve month buy and hold stock return for year *t*.	CRSP
Std_return	Annual standard deviation of daily stock returns for year *t-1*.	CRSP
AFE	Analyst forecast error; actual annual earnings per share minus the mean of the last forecast made by each analyst in the 60 days prior to fiscal year-end, divided by the stock price at the end of the third quarter.	I/B/E/S and CRSP
Std_AFE	The standard deviation of last forecast made by each analyst in the 60 days prior to the fiscal year-end, divided by the stock price at the end of the third quarter.	I/B/E/S and CRSP
AQ_Jones	A measure of accounting quality, calculated as the absolute value of abnormal accruals from the performance adjusted Jones model (Jones 1991; Kothari et al. 2005, equation (5)). Multiplied by -1 for use in our empirical tests.	Compustat
AQ_DD	A measure of accounting quality, calculated as the standard deviation of the residuals from a regression of current accruals on lag, current, and lead cash flows from operations plus the change in revenue and property, plant, and equipment (Dechow and Dichev 2002; Ogneva 2012, Equation (6)). Multiplied by -1 for use in our empirical tests.	Compustat
AQ_persistence	A measure of accounting quality, earnings persistence, which is the beta coefficient of a regression of earnings in *t+1* on earnings in *t*. Earnings [*IB*] is deflated by the average of the beginning and the end of year total assets [*AT*].	Compustat

* Compustat variable names are in square brackets where applicable. All continuous variables are winsorized at the 1st and 99th percentiles.

REFERENCES

Armstrong, C., J. Core, D. Taylor, and R. Verrecchia. 2011. When does information asymmetry affect the cost of capital? *Journal of Accounting Research* (49): 1-40.

Barth, M., W. Landsman, M. Lang, and C. Williams. 2012. Are IFRS-based and US GAAP-based accounting amounts comparable? *Journal of Accounting & Economics* (54): 68-93.

Blankespoor, E., B. Miller, and H. D. White. 2014. Initial evidence on the market impact of the XBRL mandate. *Review of Accounting Studies* (19): 1468-1503.

Bradshaw, M., G. Miller, and G. Serafeim. 2009. Accounting method heterogeneity and analysts' forecasts. Working paper, University of Chicago, University of Michigan, and Harvard Business School.

Brennan, M., and A. Subramanyam. 1996. Market microstructure and asset pricing: On the compensation for illiquidity in stock returns. *Journal of Financial Economics* (41): 441-464.

Cambell, J., and P. Yeung. 2011. The economic consequences of accounting comparability in security pricing and compensation contracting. Working paper, University of Georgia. Available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1966715.

Cascino, S. and J. Gassen. 2015. What drives the comparability effects of mandatory IFRS adoption? *Review of Accounting Studies* (20): 242-282.

Claus, J., and J. Thomas. 2001. Equity premia as low as three percent? Evidence from analysts' earnings forecasts for domestic and international stock markets. *Journal of Finance* (56): 1629–1666.

Cong, Y., J. Hao, and L. Zou. 2014. The impact of XBRL reporting on market efficiency. *Journal of Information Systems* (28): 181-207.

Daske, H., L. Hail, C. Leuz, and R. Verdi. 2008. Mandatory IFRS reporting around the world: Early evidence on the economic consequences. *Journal of Accounting Research* 46: 1085-1142.

_______, and I. Dichev. 2002. The quality of accruals and earnings: The role of accrual estimation errors. *The Accounting Review* (77): 35-59.

_______, W. Ge, and K. Schrand. 2010. Understanding earnings quality: A Review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics* (50): 344-401.

De Franco, G., S.P. Kothari, and R. Verdi. 2011. The benefits of financial statement comparability. *Journal of Accounting Research* (49): 895-931.

Duarte, J., Han, X., Harford, J., and L. Young. 2008. Information asymmetry, information dissemination and the effect of regulation FD on the cost of capital. *Journal of Financial Economics* (87): 24-44.

Easley, D., and M. O'Hara. 2004. Information and the cost of capital. *Journal of Finance* (59): 1553-1583.

Easton, P., 2004. PE ratios, PEG ratios, and estimating the implied expected rate of return on equity capital. *The Accounting Review* (79): 73–95.

Fang, X., Li, Y., Baohua, X. and W. Zhang. 2012. Accounting comparability and loan contracting. Working paper, Georgia State University, University of Lethbridge, University of Toronto and Dalhouise University.

Feltham, G., and J. Xie. 1994. Performance measure congruity and diversity in multi-task principal/agent relations. *The Accounting Review* 69 (3): 429-453.

Financial Accounting Standards Board (FASB). 2010. *Statement of Financial Accounting Concepts No. 8: Conceptual Framework for Financial Reporting*. Norwalk, CT.

Francis, J., LaFond, R., Olsson, P., and K. Schipper. 2004. Cost of equity and earnings attributes. *The Accounting Review* (79): 967-1010.

Francis, J., Pinnuck, M., and O. Watanabe. 2014. Auditor style and financial statement comparability. *The Accounting Review* 89 (2): 605-633.

Gebhardt, W., Lee, C., and B. Swaminathan, B. 2001. Toward an ex ante cost-of-capital. *Journal of Accounting Research* (39): 135–176.

Gode, D., and P. Mohanram. 2003. Inferring cost of capital using the Ohlson-Juettner model. *Review of Accounting Studies* (8): 399–431.

Hail, L., and C. Leuz. 2006. International differences in the cost of equity capital: Do legal institutions and securities regulation matter? *Journal of Accounting Research* (44): 485-531.

_______, _______, and P. Wysocki. 2011. Global accounting convergence and the potential adoption of IFRS by the U.S. (Part I): Conceptual underpinnings and economic analysis. *Accounting Horizons* (24): 355–394.

Hellwig, M. 1980. On the aggregation of information in competitive markets. *Journal of Economic Theory* (22): 477-498.

Holmstrom, B. 1979. Moral hazard and observability. *Bell Journal of Economics* (10): 74-91.

Jones, J. 1991. Earnings management during import relief investigations. *Journal of Accounting Research* (29): 193-228.

Kim, S., P. Kraft, and S. Ryan. 2013. Financial statement comparability and credit risk. *Review of Accounting Studies* (18): 783-823.

Kothari, S. P., A. Leone, and C. Wasley 2005. Performance Matched Discretionary accruals measures. *Journal of Accounting and Economics* (39): 163–197.

Lambert, R., C. Leuz, and R.E. Verrecchia. 2007. Accounting information, disclosure, and the cost of capital. *Journal of Accounting Research* (45): 385–420.

_______, _______, and _______. 2012. Information asymmetry, information precision, and the cost of capital. *Review of Finance* (16): 1-29.

Lang, L., Maffett, M., and E. Owens. 2010. Earnings comovement and accounting comparability: The effects of mandatory IFRS adoption, Working paper, University of Rochester. Available at http://ssrn.com/abstract=1676937.

Leuz, C., and R. Verrecchia. 2000. The economic consequences of increased disclosure. *Journal of Accounting Research* (38): 91-124.

_______, D. Nanda, and P. Wysocki. 2003. Earnings management and investor protection: An international comparison. *Journal of Financial Economics* (69): 505–527.

Li, S. 2010. Does mandatory adoption of International Financial Reporting Standards in the European Union reduce the cost of equity capital? *The Accounting Review*, *85*(2), 607-636.

Ogneva, M., K.R. Subramanyam, and K. Raghunandan. 2007. Internal control weakness and cost of equity: Evidence from SOX section 404 disclosures. *The Accounting Review* (82): 1255-1297.

_______. 2012. Accrual quality, realized returns, and expected returns: The importance of controlling for cash flow shocks. *The Accounting Review* 87 (4): 1415-1444.

Petersen, M. 2009. Estimating standard errors in finance panel data sets: Comparing approaches. *Review of Financial Studies* (22): 435-480.

Securities and Exchange Commission. 2009. *Interactive Data to Improve Financial Reporting*. Retrieved August 16, 2015 from the SEC's website: *http://www.sec.gov/rules/final/2009/33-9002.pdf*

Shleifer, A. 1986. Do demand curves for stocks slope down? *Journal of Finance* (41): 579-590.

Sloan, R. 1996. Do stock prices fully reflect information in accruals and cash flows about future earnings? *The Accounting Review* (71): 289-315.

Stickney, C. P., and R. L. Weil. 2006. Financial Accounting: An Introduction to Concepts, Methods, and Uses. 11th ed. Mason, OH: Thomson/South-Western.

Verdi, R. 2005. Information environment and the cost of equity capital. Working paper, University of Pennsylvania.

TABLE 1

Industry Composition Descriptive Statistics

Two Digit SIC Code	**Number of Firm-Years**	**% of Sample**	**% of Compustat**
Agriculture and Forestry (01 - 09)	6	0.02	0.36
Mining (10 - 14)	1,581	5.76	7.70
Construction (15 - 17)	180	0.66	0.97
Manufacturing (20 - 39)	16,646	52.87	35.99
Transportation (40 - 47)	644	2.85	2.12
Communication and Utilities (48 - 49)	2,752	10.03	7.96
Wholesale (50 - 51)	1,045	3.81	3.25
Retail (52 - 59)	945	3.44	5.39
Financial Firms (60 - 69)	959	3.50	18.30
Services (70 - 88)	4,622	16.85	16.21
Other	58	0.21	1.75
Total	27,438	100.0	100.0

This table shows the distribution of firms in our sample and in the entire Compustat population over the same time period, across broad SIC industry groups. Sample years are 1990-2014.

TABLE 2

Descriptive Statistics and Correlations
(n=27,438)

Panel A. Descriptive Statistics

	Mean	Median	Std Dev	Q1	Q3
Cost_of_equity	0.098	0.091	0.038	0.075	0.114
CT	0.074	0.071	0.029	0.057	0.088
GLS	0.071	0.067	0.028	0.053	0.084
GM	0.133	0.121	0.054	0.099	0.155
PEG	0.114	0.102	0.053	0.081	0.135
Comp_med (Comparability)	-1.973	-1.360	2.336	-2.020	-0.970
Comp_mean	-2.858	-2.400	2.283	-3.250	-1.790
Comp_four	-0.537	-0.190	1.398	-0.420	-0.100
Comp_ten	-0.771	-0.300	1.760	-0.660	-0.160
Spread	0.010	0.005	0.014	0.001	0.014
Share_turnover	1.817	1.290	1.840	0.656	2.353
Size	5,941.8	767.3	14,495.6	225.3	2,916.0
BTM	0.530	0.455	0.402	0.285	0.682
ROA	0.121	0.104	0.096	0.063	0.162
Std_OCF	0.033	0.025	0.040	0.016	0.039
Debt	0.212	0.171	0.246	0.015	0.318
R&D	0.039	0.004	0.069	0.000	0.053
Depreciation	0.053	0.045	0.043	0.031	0.064
Stock_return	0.216	0.121	0.674	-0.115	0.384
Std_return	0.123	0.111	0.061	0.081	0.151
AFE	0.008	0.002	0.033	0.001	0.007
Std_AFE	0.003	0.002	0.008	0.001	0.003
AQ_Jones	0.054	0.038	0.059	0.017	0.071
AQ_DD	0.052	0.036	0.062	0.022	0.060
AQ_persistence	0.474	0.504	0.333	0.276	0.676

TABLE 2 (continued)

Panel B. Pearson Correlations

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.
1. *Cost_of_equity*	1	**-0.06**	**0.20**	**0.09**	**-0.21**	**0.35**	**-0.19**	**0.09**	**0.12**	**-0.05**	**0.04**	**-0.13**	**0.18**	**0.16**	**0.19**	**-0.04**	**-0.02**	**-0.03**
2. *Comparability*		1	**-0.11**	**0.03**	**-0.09**	**-0.02**	**0.02**	**-0.03**	-0.01	**-0.07**	**-0.02**	**-0.06**	**-0.26**	**-0.09**	**-0.13**	**0.08**	**0.12**	**0.07**
3. *Hi_Asym*			1	**0.26**	**-0.53**	**0.21**	**-0.14**	**0.12**	**-0.06**	0.01	0.01	**0.02**	**0.27**	**0.09**	**0.09**	**-0.05**	**-0.13**	**-0.08**
4. *Hi_Imperf*				1	**-0.45**	**0.08**	0.01	**0.12**	**-0.05**	**0.11**	**0.05**	**0.04**	**0.26**	**0.04**	0.00	**-0.11**	**-0.09**	**-0.07**
5. *Size*					1	**-0.07**	**-0.05**	**-0.26**	**0.22**	**-0.19**	**-0.07**	**-0.09**	**-0.40**	**-0.08**	**-0.04**	**0.19**	**0.16**	**0.07**
6. *BTM*						1	**-0.38**	**-0.03**	**-0.04**	**-0.17**	**-0.06**	**-0.27**	**0.04**	**0.12**	**0.13**	**0.11**	**0.07**	-0.01
7. *ROA*							1	**0.10**	-0.01	**0.06**	**-0.04**	**0.17**	**-0.04**	**-0.11**	**-0.09**	**-0.19**	**-0.04**	**0.12**
8. *Std_OCF*								1	**-0.09**	**0.13**	**0.02**	**0.05**	**0.25**	**0.04**	**0.03**	**-0.25**	**-0.16**	-0.01
9. *Debt*									1	**-0.19**	**0.13**	**-0.01**	**-0.06**	**0.02**	**0.05**	**0.01**	**0.10**	**-0.03**
10. *R&D*										1	**0.06**	**0.09**	**0.27**	**-0.01**	**-0.04**	**-0.29**	**-0.14**	**-0.11**
11. *Depreciation*											1	**0.05**	**0.09**	**0.03**	**0.05**	**-0.23**	**-0.02**	**-0.08**
12. *Stock_return*												1	**0.17**	**0.03**	**0.07**	**-0.11**	**-0.06**	**-0.04**
13. *Std_return*													1	**0.08**	**0.09**	**-0.22**	**-0.23**	**-0.19**
14. *AFE*														1	**0.28**	**-0.05**	**-0.03**	**-0.03**
15. *Std_AFE*															1	**-0.02**	-0.01	**-0.03**
16. *AQ_Jones*																1	**0.15**	**0.06**
17. *AQ_DD*																	1	**0.11**
18. *AQ_persistence*																		1

Panel A presents descriptive statistics for a sample of 27,438 observations from 4,025 unique firms during 1990-2014. Panel B reports Pearson correlations between variables in the multivariate models. Bold indicates significance at a p-value < 0.05. All variables are defined in Appendix A.

TABLE 3

The Association between Financial Statement Comparability and Cost of Equity Capital, Controlling for Within-Firm Accounting Quality

Parameter	Prediction	Estimate	t-stat		Estimate	t-stat	
Intercept	?	0.0888	9.88	***	0.0716	5.60	***
Comparability	–	-0.0015	-6.80	***	-0.0013	-6.29	***
Size	–	-0.0027	-10.69	***	-0.0024	-9.64	***
BTM	?	0.0206	10.66	***	0.0204	8.48	***
ROA	–	-0.0417	-8.38	***	-0.0487	-8.35	***
Std_OCF	+	0.0235	1.39		0.0215	1.23	
Debt	+	0.0248	13.38	***	0.0266	11.69	***
R&D	?	-0.0127	-2.40	**	-0.0136	-2.30	**
Depreciation	?	-0.0049	-0.42		0.0034	0.20	
Stock_return	?	-0.0049	-8.80	***	-0.0043	-7.24	***
Std_return	+	0.0770	7.55	***	0.0805	9.30	***
AFE	+	0.0624	2.10	**	0.0558	1.60	
Std_AFE	+	0.3672	3.81	***	0.3303	3.38	***
AQ_Jones	–				-0.0171	-2.54	***
AQ_DD	–				-0.0287	-4.24	***
AQ_persistence	–				-0.0010	-1.16	
N		27,438			27,438		
Adj. R^2		0.327			0.332		
Model F-test		84.2 ***			78.5 ***		

This table reports the results from estimating Equation 7, where the dependent variable is *Cost_of_equity*. All variables are defined in Appendix A.***, **, and * denote two-tail significance at the 1%, 5%, and 10% level, respectively, and are derived from t-statistics based on robust standard errors clustered at the firm-level.

TABLE 4
The Association between Financial Statement Comparability and Cost of Equity Capital, Conditional on High Information Asymmetry and High Market Imperfection

Parameter	Prediction	Estimate	t-stat		Estimate	t-stat	
Intercept	?	0.0672	5.33	***	0.0703	5.64	***
Comparability	–	-0.0012	-6.01	***	-0.0011	-5.00	***
Hi_Asym	?	0.0016	1.86	*	0.0024	2.29	**
Hi_Imperf	?	0.0016	2.25	**	0.0005	0.39	
*Hi_Asym*Hi_Imperf*	+/?[1]	0.0030	2.95	***	-0.0023	-1.43	
*Comparability*Hi_Asym*	?				0.0001	0.28	
*Comparability*Hi_Imperf*	?				0.0009	1.41	
*Comparability*Hi_Asym*Hi_Imperf*	–				-0.0020	-2.48	**
Size	–	-0.0019	-6.92	***	-0.0021	-7.21	***
BTM	?	0.0199	8.23	***	0.0200	8.28	***
ROA	–	-0.0472	-8.11	***	-0.0465	-7.95	***
Std_OCF	+	0.0216	1.22		0.0214	1.22	
Debt	+	0.0262	11.62	***	0.0253	11.65	***
R&D	?	-0.0124	-2.12	**	-0.0114	-1.97	**
Depreciation	?	0.0039	0.24		0.0043	0.26	
Stock_return	?	-0.0044	-7.27	***	-0.0044	-7.36	***
Std_return	+	0.0797	8.83	***	0.0802	8.76	***
AFE	+	0.0558	1.60		0.0543	1.59	
Std_AFE	+	0.3259	3.42	***	0.3265	3.49	***
AQ_Jones	–	-0.0173	-2.58	***	-0.0175	-2.60	***
AQ_DD	–	-0.0282	-4.16	***	-0.0276	-4.08	***
AQ_persistence	–	-0.0011	-0.87		-0.0013	-1.01	
N		27,438			27,438		
Adj. R^2		0.333			0.333		
Model F-test		50.6 ***			49.9 ***		

This table reports the results from estimating Equation 8, where the dependent variable is *Cost_of_equity*. All variables are defined in Appendix A.***, **, and * denote two-tail significance at the 1%, 5%, and 10% level, respectively, and are derived from t-statistics based on robust standard errors clustered at the firm-level.

[1] We predict a positive relation between *Hi_Asym*Hi_Imperf* in the first column of results, but make no prediction for the second column of results when including additional interaction terms.