The Effect of Conservative Accounting on the Bondholder-Shareholder Conflict and Cost of Debt

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Abstract
Prior research on conservative accounting and the bondholder-shareholder conflict show that firms with higher degree of conservatism experience less austere conflict and lower cost of debt. However, since the implementation of IFRS in 2005, conservatism has been widely reduced in favor of fair value principles. This study sets out to examine if accounting conservatism still mitigates the conflict and reduces cost of debt. We regress two measures of conservatism on three conflict proxies and debt cost, respectively, for firms on the Norwegian market. Our results support the conclusion that conservative accounting mitigates the bondholder-shareholder conflict even after the introduction of IFRS, but we find no significant evidence that bondholders reward higher level of conservatism with lower cost of debt.

Keywords: Conservative Accounting; Bondholder-Shareholder Conflict; Corporate Debt; Bond Spread; IFRS; Dividend Policy; Norway
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# Table of Contents

I. INTRODUCTION  
II. THEORY  
  CORPORATE DEBT AND BOND SPREAD  
  THE BONDHOLDER-SHAREHOLDER CONFLICT OVER DIVIDEND POLICY  
  CONSERVATIVE ACCOUNTING  
  IMPLEMENTATION OF INTERNATIONAL FINANCIAL REPORTING STANDARDS  
  CONSERVATISM AND BONDHOLDER-SHAREHOLDER CONFLICT  
III. HYPOTHESES  
  DEVELOPMENT OF H1  
  DEVELOPMENT OF H2  
IV. DATA SELECTION  
  BOND INFORMATION  
  ACCOUNTING INFORMATION  
  RESEARCH APPROACH  
V. RESEARCH DESIGN  
  FIRST MEASURE OF CONSERVATISM – CONMKT  
  SECOND MEASURE OF CONSERVATISM – CONACC  
  MEASURE OF BONDHOLDER-SHAREHOLDER CONFLICT  
  CONTROL VARIABLES  
  MEASURE OF COST OF DEBT  
  REGRESSION EQUATIONS  
VI. RESULTS  
  CONSERVATISM AS MITIGATION FOR BONDHOLDER-SHAREHOLDER CONFLICT  
  CONSERVATISM AND ITS EFFECT ON COST OF DEBT  
VII. INTERPRETATION OF RESULTS  
VIII. CONCLUDING REMARKS  
IX. LITERATURE  
X. APPENDICES  
  APPENDIX A  
  APPENDIX B
I. Introduction

The recent financial turmoil has brought about a series of regulations\(^1\) that impact the ability to access capital through traditional bank loans (Slovik and Cournède, 2011). As a result, bonds have become an increasingly imperative means in corporate financing.\(^2\) When purchasing bonds, the financial state of the borrowing firm becomes a crucial determinant for the prospective bondholder. This financial state is mirrored through financial accounting and hence strongly affected by the accounting principles employed by the particular firm. Historically, the prevailing principle has been conservatism\(^3\) (Kam, 1990). It strongly emphasizes increased quality and reduced uncertainty in financial reporting (Watts, 2003a). In the light of the increase in bond financing, it becomes relevant to study if and how conservatism, as an important accounting principle, affects the relationship between the firm owners and bondholders.

Introduced by Jensen and Meckling (1976), agency theory predicts a natural conflict between bondholders and shareholders as two opposing claimants of a fixed pool of assets. To reduce the risk of uneven distribution of resources to shareholders, bondholders often require formal dividend constraints in debt contracts (Kalay, 1982). Watts (2003a) suggests that such regulations are enhanced by conservatism: in adopting conservative accounting, managers directly restrain dividend payments and thus mitigate the conflict between the two stakeholders. These mediating measures, stemming from conservative accounting, have been shown to reduce firm cost of debt (e.g., Ahmed et al., 2002; Zhang, 2008).

In 2005, however, the International Financial Reporting Standard (IFRS) was implemented in the European Economic Area, marking a paradigm shift in accounting praxis from earnings quality to value relevance (Beisland and Knivsflå, 2012). As a consequence, the ability for firms to adopt conservatism in their financial accounting has been reduced (Hellman, 2008; Poit et al., 2010; Beisland and Knivsflå, 2012). Research carried out on the effect of conservative accounting on the bondholder-shareholder conflict prior to IFRS has found that higher degree of conservatism can mitigate the conflict (see Ahmed et al. 2002; Watts, 2003a). However, does conservatism possess similar mediating effect after the constraints from IFRS?\(^4\)

The purpose of this study is to contribute to the understanding of whether conservative accounting can mitigate bondholder-shareholder conflict over dividend policy, and how it affects

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\(^1\) Basel III was implemented in 2009 and comprises firms operating within the Eurozone. Among the regulations are liquidity coverage constraints for banks and other financial institutes, which forces them to undertake larger reserves for outstanding loans (Slovik and Cournède, 2011). This likely has negative implications on loan activity as indirect lending cost increase.

\(^2\) For example, the Norwegian bond market currently amount to above 1 250 million Norwegian Crowns and has experience an average annual growth of 10% from 2002 through 2011.

\(^3\) We employ the terms conservatism, conservative accounting, and accounting conservatism interchangeably.

\(^4\)
the cost of debt when firms issue bonds. By examining the effects of conservatism on the interaction between bondholders and shareholders, we aspire to add insight on the subject of conservative accounting and corporate debt. To address the outlined purpose, we study Norwegian firms listed on the Oslo Stock Exchange (OSX) by applying two regression models centered on previous research by Beaver and Ryan (2000), Givoly and Hayn (2000), Ahmed et al. (2002), and Zhang (2008). We hypothesize that (1) firms that experience more austere bondholder-shareholder conflict adopt a greater degree of conservative accounting, \textit{ceteris paribus}, and (2) firms that adopt more conservative accounting experience lower cost of debt, \textit{ceteris paribus}.

The remaining part of the study is structured as follows. The next section reviews previous research on corporate debt, conservative accounting, and bondholder-shareholder conflict, along with the implications of IFRS on the field accounting conservatism and the relationship between conservatism and the bondholder-shareholder conflict. In section III, we develop our hypotheses. The data selection and the method employed to test our hypotheses are introduced and discussed in section IV and V. Our results are exhibited in section VI and then analyzed in section VII. Lastly, in section VIII, we summarize our findings in relation to our outlined purpose and present suggestions for future research.

\textbf{II. Theory}

\textbf{Corporate Debt and Bond Spread}

Along with traditional bank loans and equity issues, bonds constitute the most frequent means for firms to attract external capital (Hillier et al., 2010). In short, bonds are loans with unique characteristics set up between a borrower and a lender. When emitting bonds, a debt contract is indicted that stipulates the agreed interest and principal payments from the debtor to the creditor as compensation for extending capital (Begley and Feltham, 1999). More than often, the contracts also involve debt covenants intended to formalize conditional constraints by the lender on the borrower (Kalay, 1982). These covenant have a significant impact on the return required by the bondholder, i.e. the bond spread. The bond spread represents both the cost of debt for the borrower and the yield reaped by the lender. Formally, it is the difference between the bond rate and the rate on the underlying market rate.\(^4\) The spread between the bond rate and

\(^4\) This study exclusively inhibits floating rate bonds with adjustable spreads tied to a predetermined reference rate and discuss only valuation methods pertaining to such securities. For fixed rate debt, where the spread is set to a fixed percentage of the bond par value, different pricing mechanisms are in force.
the market rate represent the compensation demanded by creditors for lending capital to the particular firm; the greater (smaller) the spread, the higher (lower) return required by lenders, and the higher (lower) cost of debt experienced by the firm (Hillier et al., 2010).

Determining the adequate spread with reference to expected market returns is complicated and bond spread estimations have been widely investigated in academic literature (see e.g., Black and Sholes, 1973; Merton, 1974; Longstaff and Schwartz, 1995; Duffee, 1999; Driessen, 2005; Ericsson and Renault, 2006; Davydenko and Strebulaev, 2007). In traditional models, drawn from the insights of Black and Scholes (1973) and Merton (1974), the spread is broadly explained by two factors: (1) the default risk of the borrowing firm and (2) the expected negative economic consequences for the lender (Elton et al., 2001; Lin et al., 2009). In particular, these structure models postulate a process to value the observed firm, and then assume that default is prompted when this value falls below a predetermined threshold (Collin-Dufresne et al., 2001). This threshold, in turn, is a function of the current level of outstanding debt. The rationale is based on the competition between fixed and residual claimants over the same pool of assets. Intuitively, more external claimants, given the amount of assets, intensify the competition and increase the risk of the firm to default on its external claims. Firms that restrict equity distributions, by for example adopting more conservative accounting, should thus alleviate competition and reduce risk. In compensation for lower risk, these firms are presumably rewarded with lower spread from bondholders (Ahmed et al., 2002). Aggregated claims owed to debt holders thus comprise an important risk indicator when setting the spread.

Although Duffie and Singleton (1997, 1999), find that the default risk component accounts for the majority of the bond spread, later developed models (e.g., Longstaff and Schwartz, 1995; Duffee, 1999; Driessen, 2005; Ericsson and Renault, 2006; Davydenko and Strebulaev, 2007) extend the original estimations by incorporating other explanatory elements such as tax premiums on interest payments, liquidity, market risk from variations in the risk-free interest rate, and the macroeconomic environment.

The Bondholder-Shareholder Conflict over Dividend Policy

Central to this study is the relationship between shareholders, bondholders, and managers. The nature of their relation can be explained by agency theory (Ahmed et al., 2002), formalized by Jensen and Meckling (1976). According to them, the theory describes the relationship as “a contract under which one or more persons (the principal(s)) [bondholders and shareholders] engage another person (the agent) [managers] to perform some service on their behalf which involves delegating some decision making authority to the agent /…/ there is good reason that the principal will not always act in the best interest of the principal” (Jensen and Meckling, 1976, p. 5). In order to mitigate the emerging conflict, the
principal imposes constraints on the agent. These constraints incur costs referred to as agency costs, and can be divided into three groups (Jensen and Meckling, 1976). First, there are monitoring expenditures that ensue from imposed obligations from shareholders and bondholders on management. Second, bonding expenditures arise from the resources managers have to exhaust to meet the obligations. Lastly, the residual loss refers to defaulted profits stemming from infringements on management decision-making.

In the specific case of bondholder-shareholder conflict, Smith and Warner (1979) identify four areas where the conflict becomes apparent: dividend payments, underinvestment, asset substitution, and claim dilution. The first one refers to overpayment of dividends and result in a conflict as dividends transfers wealth from bondholders to shareholders by reducing firm assets available to meet fixed claims, and consequently increase the default risk for bondholders (Ahmed et al. 2002). To restrict such actions, bondholders include covenants in debt contracts. These covenants restrict dividends in two ways, direct and indirect (Kalay, 1982). Direct restrictions specify an upper bound on dividends that constrain managers’ leeway to distribute equity to shareholders (Smith and Warner, 1979). Indirect restrictions also limit dividends indirectly by requiring the firm to maintain certain balance sheet ratios (Ahmed et al., 2002).

**Conservative Accounting**

The broad nature of conservatism and conservative accounting has complicated attempts to create a universal definition (Devine, 1963; Watts, 2003a). Applications and effects of conservative accounting are therefore arbitrarily contingent on how one would define conservatism. The oldest and most basic definition is “anticipate no profit, but anticipate all losses” (Bliss, 1924). Devine (1963) reprobated the definition as obsolete and argued it is quite useless since it provides no specific guidelines. Watts (2003a) brings clarification by arguing instead that firms should not recognize profits before the underlying revenues are verifiable and there is legal claim to them. Specifically Watts (2003a) states, “conservatism does not imply that all revenue cash flows should be received before profits are recognizable – credit sales are recognized – but rather that those cash flows should be verifiable” (Watts, 2003a, p. 208). Verifiability becomes imperative to this definition. The verification component represents the difference in the higher level of verification required to recognize positive news as gains than to recognize negative news as losses (Watts, 2003a). This definition allows for degrees of conservatism: the higher the verification differences between gains and losses, the greater the level of conservatism. Therefore, Watts (2003a) conclude, conservatism constitutes the asymmetrical requirement in verification for gains and losses.

As for the practical application of conservative accounting, Kam (1990) argues that
conservatism is needed in order to protect certain users from the risk of making financial statements appear overly positive, i.e. protect a firm and its accountant from over-optimism. Assets and liabilities are often valued in a context of considerable uncertainties. When faced with uncertainty accountants prefer understatement of positive items and overstatement of negative items, thus taking a conservative stance. The essence of conservative accounting is the practice of anticipating losses but never anticipating unverifiable gains. An accountant always faces the possibility of making one of two errors: (1) rejecting information that turns out to be true, and (2) accepting information that turns out to be false. This bear resemblance to the type I and type II errors in statistics where making type II error is worse (Kam, 1990).

**Implementation of International Financial Reporting Standards**

In broad terms, conservative accounting principles emphasize earnings quality whereas fair value accounting focus on value relevance (Beisland and Knivsfå, 2012). Through the mandatory implementation of IFRS for all public firms in the European Economic Area in 2005, IASB has restricted the use of conservatism in external financial reporting by imposing principles promoting fair value methods (Beisland and Knivsfå, 2012). The criticism of conservatism lifted by IASB centers on its incompatibility with neutrality. Conservatism attempts to enhance quality by allowing for leeway in understatement of net assets and profits. Conversely, it can create bias financial accounting that is affected by discretionary management actions (IASB, 2006). Specifically, IASB (2006) argue that biased financial reporting, as oppose to neutral, cannot objectively present the financial state of a firm.

Prior to 2005, firms listed on OSX were exclusively regulated by the Norwegian Generally Accepted Accounting Principle (NGAAP). Compared with the more conservative NGAAP focused on an earnings orientation, the IFRS framework is more balance sheet-oriented (Beisland and Knivsfå, 2012). Specifically, Beisland and Knivsfå (2012) find two main differences between the regimes. Firstly, IFRS advocates increased fair value accounting. Secondly, it recognizes more assets and liabilities in balance sheet, particularly with respect to intangible assets. For instance, instead of traditional goodwill amortization, as under NGAAP, IFRS stipulates incremental impairments when the reported book value falls below the true economic value (IASB, 2006). Beisland and Knivsfå (2012) argue that the differences in reporting standards between the regimes will, on average, produce deviating key accounting figures. Notably, Christensen and Nikolaev (2012) point out that book-to-market ratios in firms adopting fair value accounting will become less conservative as a consequence of the increased asset recognition.

Intuitively, these findings point to a reduction in management ability to adopt conservatism in specific accounting measures. However, Poit et al. (2010) show the adoption of the IFRS is
positively associated with the regulatory distance between the IFRS and the pre-existing national GAAP. Consequently, the reduction in discretionary conservatism under NGAAP is directly related to the disparity between IFRS and NGAAP; and although IFRS has arguably impacted the leeway for conservatism, it is difficult to assess with precision the degree of abatement following its implementation. Consistent with this argument, Hellman (2008) find that instead of a definite reduction in conservatism, as suggested by (Poit, 2010), a more accurate assessment is that consistent conservative accounting has been replaced by opportunities for more temporal conservatism (defined by Hellman (2008) as temporary understatements of net assets and income through hidden reserves that are later reverted).

**Conservatism and Bondholder-Shareholder Conflict**

As argued above, the inclusion of debt covenants in bond agreements is commonly practiced to mitigate bondholder-shareholder conflicts over dividend policy. These covenants inhibit, inter alia, financial restrictions pertaining to dividend distributions. Such dividend restrictions appear both in direct and indirect form (Ahmed et al., 2002). The former restrict equity distributions directly by stipulating an explicit upper limit on dividends. The indirect restrictions are concerned with ratios in the balance sheet, which are, in turn, affected by dividends (e.g., debt to asset ratio increases with dividends, given the level of debt). Thus, the employed accounting method, and the resulting reported figures, has an imperative role in the formulation of these covenants.

In practice, conservative accounting affect reported net income and retained earnings incorporated in covenants (Watts, 2003a). Moreover, it reduces several asset measures reported in the balance sheet and included in the covenants, which increase the restriction on dividend payments (Ahmed et al., 2002). The effect of IFRS on the discretionary leeway in conservative accounting has been put to debate (Hellman, 2008; Poit et al., 2010; Beisland and Knivsfjå, 2012; Christensen and Nikolaev, 2012). For instance, the findings of Christensen and Nikolaev (2012) imply that discretionary conservatism is reduced in firms that pertain to more fair value regulations. Nevertheless, empirical evidence point to the fact that discretionary conservatism is still significant (Hellman, 2008). Consequently, when covenants in debt contracts include dividends restrictions, it is likely that conservatism will reduce the risk of excessive equity distributions to shareholders and mitigate the bondholder-shareholder conflict.⁵

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⁵ We cannot predict whether external or internal accounting is employed. However, Reisel (2010) confirms a connection between bond valuation and accounting information in that bondholders consider public accounting data when pricing bonds.
III. Hypotheses

Development of H1

As argued above, bondholders and shareholders stand in conflict over dividend policy. Excessive equity distributions can transfer wealth from debt claimants to shareholders as it decreases the assets available for debt payments and thus increasing the risk of default for bondholders. To mitigate the effects of this conflict, bondholders apply dividend policy constraints in their covenants (see, e.g., Black, 1976; Pratt and Livingston, 1993; Begley and Feltham, 1999). Black (1976) argues specifically that dividend constraints constitute an effective method for reducing conflict over underinvestment.\(^6\)

As argued by Watts (2003a), the essential functionality of conservatism is illustrated by the use of dividend covenants in debt contracts. Conservative accounting strongly affects reported earnings upon which the dividend covenants are calculated. In this, these dividend restrictions force management to maintain assets within the firm, hence protecting the fixed claims to debt holders and reducing their concern over default risk.

In summary, we anticipate that firms facing more austere conflict between bondholders and shareholders to adopt more conservative accounting. This inference leads to our first hypothesis:

\[ \text{H1: Firms that experience more austere bondholder-shareholder conflict adopt a greater degree of conservative accounting, } \textit{ceteris paribus}. \]

Development of H2

As managers adopt more conservatism, they directly and indirectly impose stricter policy for equity distributions, which reduces the risk of excessive wealth transfers from fixed to residual claimants. As compensation for lower risk, bondholders are likely to reduce their return requirements from such firms (Ahmed et al., 2002). Thus, conservatism is anticipated to reduce firm cost of debt, which leads to our second hypothesis:

\[ \text{H2: Firms that adopt more conservative accounting experience lower cost of debt, } \textit{ceteris paribus}. \]

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\(^6\) Underinvestment refers to when managers reject positive net present value investments because residual earnings are so marginal that after debt payments to bondholders only little remain to be distributed to shareholders. This problem is part of the bondholder-shareholder conflict.
IV. Data Selection

The study exclusively comprises firms listed on the OSX. The Norwegian bond market has several features that make it an interesting case for research. Firstly, it is the largest market for corporate bonds in Scandinavia. The market has experienced a annual average growth of about 11 per cent over the last decade and currently amount to over 1 250 million NOK in issued bonds. Secondly, as a result of the hitherto relative underdevelopment compared with other bonds markets in Europe and elsewhere, it has received relatively limited academic attention. As the Norwegian bond market continues to grow, however, it becomes increasingly interesting to study the relationship between its bondholders and shareholders.

We also recognize the difficulty of generalizing the results from a study of a single market (Yin, 2009). The industry structure on the Norwegian market may complicate extrapolation of our results onto other markets. Most evidently is the relative high density of firms in the oil, gas, and shipping industry. Wright and Gallun (2008) recognize that firms in these industries have higher volatility in reporting of depreciation and depletion. Below follows a presentation of the sources and data extracted.

Bond information

All bond data has been extracted from the Stamdata database, provided by Norwegian Trustee (Norsk Tillitsman). The extraction generated 81 205 observations over the time period January 1st 2006 through December 31st 2011. Due to the focus of the study, we limit the data sample using some of the filtrations provided by the Stamdata software. Firstly, since the study only considers bonds, all other securities such as convertibles and certificate of deposits have been excluded. Secondly, only floating rate issues – bonds with rates pegged to any market rate – have been considered and all fixed rate issues excluded. The reason is that market rates fluctuate and investors will adjust their demanded bond rates according to the variations. In the case of fixed rate bonds other pricing mechanisms are employed, which stretch beyond the purpose of this study. A majority of the sample floating rate bonds had the Norwegian Interbank Offered Rate (NIBOR) three-month rate as a reference rate. To increase comparability – and avoid currency risks by comparing domestic and foreign reference rates – we exclude all bonds with reference rates such as NIBOR six month, EURIBOR, US-LIBOR, and STIBOR. Thirdly, a few

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7 As of December 2012, the total amount of issued bonds amounted to 1 155 000 MNOK. In comparison, the Swedish bond market in 2012 amounted to 41 636 MNOK. Data have been calculated from the Stamdata database.
8 In section V, we present our regression proxies in detail and discuss their advantages and delimitations. A large share of oil and gas firms in the sample may have repercussions on our CONACC measure: great variation in the size of depreciation will affect the total accruals and may indirectly inflict on the assumption of mean reverting accruals (see Sloan, 1996). For further detail, see section V.
9 Norwegian Trustee is an independent agency that monitors data related to bond issues on the Norwegian market. As an impartial organization, we hold the data they provide credible.
industry filtrations were made. Banks and other financial firms were excluded from the sample. These firms are subject to special governance from the Norwegian FSA and regulations regarding liquidity that follows from the acceptance of the Basel accords (Finanstilsynet, 2011). Presumably, such regulations reduce managers’ discretionary leeway in adopting more or less conservative accounting. This may positively bias our results as well as complicate the distinction between discretionary and legally enforced conservatism.

It should be noted that our observations feature bonds issued both on OSX and ABM (Oslo Alternative Bond Market). The latter follows disclosure requirements and trading rules similar to OSX (OSLO ABM, 2011) and we have no reason to assume beforehand that it will affect our findings.

Ball and Brown (1968) and Beaver (1968) find that accounting data capture about half of the information-effect on valuation for a limited number of months following the announcement (the other half is explained by other information sources). Although the reliability of similar studies has been debated (see Lev, 1989), later modifications (e.g., Ali and Zarowin, 1992) have managed to increase the significance in the research methodology, which underpin Ball and Brown’s (1968) work. In the light of this research, to increase the link between accounting data and valuation, we include only bonds issued in the first quarter of each observation’s year. This selection of our data pertains mainly to our H2 where bond spread derives from lending firm accounting data.

Lastly, less than 1% of the sampled bonds were ranked below seniority. For simplification, we assume that all bonds represent senior debt, prioritized over other subordinate claims. The final sample amounted to 4851 bond issues, distributed over 266 firms.

**Accounting information**

All data utilized in our models can be retrieved or calculated from public accounting data available at the Thomas Reuters Datasstream database. Based on the sample from Stamdata, we extracted information only from firms for which we already had obtained bond information. Due to insufficient financial information for a few or more years, the 266 firms were narrowed down to 84. For these observations, the following data was extracted: (1) common equity, (2) market capitalization, (3) net income before extraordinary items, (4) total assets, (5) depletion and depreciation, (6) operating cash flow, (7) total cash dividends, (8) total dividends, (9) long-term

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10 Since 1968, a considerable amount of studies have focused on the relation between accounting data and valuation. Cheng et al. (1992) suggests, however, that most subsequent research constitute methodological refinements of the pioneering work laid forward by Ball and Brown (1968) and Beaver (1968).

11 We include only observations that show valid data for four or more years.

12 Defined as the total equity available to the common.

13 Defined as the year-end common stock times year-end share price.
debt, (10) revenue, (11) research and development expenditures, (12) return on equity, and (13) intangible assets.

**Research Approach**

The models we utilize for both hypotheses contain several independent variables attained to explain one dependent variable. As a result, a model capable of processing multiple variables is required. A fundamental assumption behind the Ordinary Least Squares (OLS) method for linear regression is that all variables do not similarly affect distribution. Instead, each parameter is weighted in accordance to its impact. Since this is likely the case for our variables, we follow Ahmed et al. (2002) in utilizing the OLS method to test our hypotheses. All data is tested using established statistical software and significance is verified by t-test available through the software.

A few criteria must be met when a multiple regressive method is applied. Firstly, there should be no strong correlation among the independent variables. Secondly, linearity shall be proven and no major or systematic deviances should be detected. Thirdly, the residuals in the dependent variable must be normally distributed (Gujarati and Porter, 2009).

When employing multiple regression analysis it is also necessary to test for three statistical issues: multicollinearity, autocorrelation, and heteroscedasticity (Gujarati and Porter, 2009). Multicollinearity implies correlation between the independent variables. It has two major effects on the statistical inference: (1) if the independent variables have perfect collinearity, standard errors become infinite, and (2) if linearity is determined but less than perfect, the regression coefficients will obtain large standard errors. These effects imply that coefficients cannot be estimated with great precision (Gujarati and Porter, 2009). To control for collinearity we observe the Variance Inflation Factor (VIF) and the Tolerance value. As suggested by Gujarati and Porter (2009), values exceeding 10.0 or 1.0 in the respective control measure indicate collinearity.

Although autocorrelation is common in larger samples, it is important to test for it. Positive or negative autocorrelation in the residuals indicate autocorrelation in the statistical model. We employ Durbin-Watson’s d-test, where a test score above three or below one denote autocorrelation and a score relatively close to 2.0 is desirable (Andersson and Ågren, 2007).

Lastly, we need to control for heteroscedasticity using a non-random distribution in the error terms. Under homoscedasticity – i.e. no heteroscedasticity – covariance in the error terms should equal zero. Several methods can be utilized for such test. We employ a covariance matrix over variance in the dependent variables and independent variables.

To mitigate the effect of outliers, all observations classified extremes as defined by the Cook’s and Mahalanobis Distance have been winsorized. For our sample size, this pertains to

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14 We employ the same data classifications as DataStream.
observations with a Cook’s value exceeding three or Mahalanobis value over 22.46\(^1\) (Tabachnick and Fidell, 2007, p.75). This amounted to less than two per cent of the sample for H1 and H2, respectively.

Primarily, regressions will be conducted with all estimated variables. Secondly, we will perform cross-test and exclude all statistically insignificant control variables.

V. Research Design

**First Measure of Conservatism – CONMKT**

Previous research has focused on measuring conservative accounting using various statistical models (e.g. Beaver and Ryan 2000; Givoly and Hayn 2000; Zhang, 2000; Penman and Zhang, 2002; Zhang, 2008; Callen et al., 2010). Conservatism broadly affects accounting values of equity and net income, and based on accounting values, such models develop proxies to capture and measure the effect of discretionary management choices. Based on the notion that conservative accounting leads to relatively low equity book value compared to market value, and income relative to operating cash flows, we employ two measures of conservatism. The first proxy leans on a model developed by Beaver and Ryan (2000). They create a regression model to unveil different components of the book-to-market ratio. Similarly to Felthman and Ohlson (1995) and Ohlsen (1995), they argue that variation in book-to-market quotes depends on two elements: biased accounting recognition and lagged accounting recognition. The bias component refers to persistent differences between book-to-market ratios partly explained by conservatism. On the other hand, the lag component captures the effect from unexpected economic gains and expenses being recognized in book value over time rather than immediately resulting in a book-to-market valuation temporarily lower than its mean.

Hence, following Beaver and Ryan (2000) we measure accounting based on the firm-specific bias component \(a_i\) using this model:

\[
BTM = \alpha_i + \alpha_t + \sum_{j=0}^{6} \beta_j \, RET_{ij} + \epsilon_i
\]

Where:
- \(BTM_i\) = the book-to-market ratio for firm \(i\) at year-end \(t\);
- \(a_i\) = the persistent firm-specific bias component of book-to-market ratio over sample period;
- \(\alpha_t\) = the year-specific component of book-to-market ratio across all firms

\(^1\) For six independent variables, an observation with a Mahalanobis value over 22.46 indicates extreme outlier.
\[ \text{RET}_{it} = \text{the stock return (with dividends) for firm } i \text{ in year } t. \]

Statistically, the bias component represents the BTM intercept of each firm when stock return, \( \text{RET}_{i} \), equals zero. We perform this regression separately on panel data and include the results in our regressions below. For ease of presentation and intuition, we multiply \( \alpha_i \) by -1. As a result, higher value of \( \alpha_i \) – increased level of conservatism – is positively associated with our proxies of the bondholder-shareholder conflict. We refer to this measure as CONMKT.

**Second Measure of Conservatism—CONACC**

In order to increase robustness, we employ a second measure for conservative accounting based on Givoly and Hayn (2000). In contrast to our previous measure, Givoly and Hayn (2000) focus on firms’ income statements, and how managerial conservative decisions can be explained in relation to revenue. By asserting that conservatism in financial reporting results in persistently negative accruals, they imply that mean accruals over a *sufficiently* long time period provides a firm-level measurement for conservatism. The underlying notion is that over time accounting-based performance measures should return to the true economic value represented by the firm’s operating cash flow (Givoly and Hayn, 2000). In particular, as presented by Sloan (1996), accruals show mean reverting tendencies: periods of income accruals exceeding operating cash flow tend to be followed by periods with accruals below cash flow from operations. Hence, we would expect that cumulative accruals, over time, converge into operating cash flow. Thus, a persistent negative trend is an indication of accounting conservatism. The definition of persistent, however, remains somewhat arbitrary; to increase comparability with CONMKT, we adopt a time period extending over six years. A shorter interval would probably suffice, but reducing observations below three years may produce too narrow results.

Hence, following from Givoly and Hayn (2000), accruals adjusted for depreciation can be employed as a measurement for conservative accounting. In detail, this proxy equals net income plus depreciation less operating cash flow, scaled by assets, and averaged over six years. Such measurement incorporate, inter alia, variations in asset write-downs, profits or losses on asset divestments, and current assets and liabilities. Many of these values represent figures over which management exert influence, and it is reasonable to believe that conservatism would affect the outcome. Givoly and Hayn (2000) recognize, however, that other factors, without resemblance to conservatism, can influence these values. Conversely, Callen et al. (2010), find that firm with more conservative accounting tend to be more leveraged, which would bias against our first hypothesis. Further below we present a detailed account of our control variables and the notion behind them. We refer to this proxy as CONACC.
Discussion of Conservatism Proxies

The conservatism measures employed capture the level of conservative accounting in two different ways. The first proxy, CONACC, is a flow variable that measures the effects of the firm’s conservatism over the selected time period. CONMKT, on the other hand, is a stock variable that reflects the accumulated effect of conservatism in the firm’s balance sheet.

As evident from our purpose, this paper sets out to study how the level of conservative accounting adopted by the firm’s management affects the conflict between its bondholders and shareholders. The degree of conservatism depends on both firm policy and accounting standards (Kam, 1990). The existence of the second element, constituted by legal regulations that stipulate restrictions on the level of conservatism, entails that the degree of conservatism is attributed to a discretionary and non-discretionary component (Ahmed et al., 2002). Our conservatism proxies, however, do not directly measure the effects of manager’s accounting choices, and therefore, do not distinguish between the discretionary and non-discretionary component. There are several reasons why the non-discretionary component is unlikely to bias our inferences.

Firstly, although IFRS has reduced management leeway in adopting conservatism, Hellman (2008) recognizes that instead of confining conservatism altogether, it has replaced consistent conservative accounting with temporal. This implies that managers still exercise discretion over the firm’s level of conservatism. For example, IFRS require market valuations over book values and recognize the reporting of certain assets (particularly intangible assets) neglected by NGAAP, but management nonetheless exerts influence over the estimation of adequate “market” values.

Secondly, we have no a priori reason to suspect that IFRS fair value regulations would be higher for firms with more austere bondholder-shareholder conflict, which would bias against our hypothesized relationship between conservatism and managers’ discretionary accounting choices. Moreover, as recognized by Ahmed et al. (2002), it is unlikely that accounting standard-setters such as IASB strive to amend the conflict among different corporate stakeholders.

Thirdly, the effects of IFRS-mandated fair value principles likely vary systematically across industries. For example, R&D expenses are higher in certain industries (e.g., health-care) than others. Similarly, inventory write-downs tend also to cluster over industry (Ahmed et al., 2002). This would fixate the non-discretionary component on industry-level and thus reduces the potential bias effect of arbitrary regulatory effects on our sample. No inter-industry analysis is carried out to control for industry-specific variations.

An alternative empirical approach would adopt management accounting choices as conservatism proxies: e.g., FIFO versus LIFO, goodwill impairments, or straight-line versus accelerated depreciation. Such proxies of accounting method choices are not employed in this
paper for three reasons. Firstly, they are difficult to aggregate over time. Secondly, the magnitude of the effects of conservatism is not mirrored in these proxies; they provide merely a static classification of conservatism or non-conservatism. Thirdly, these measures neglects the effects of many other discretionary accounting choices captured in our proxies, such as warranty expense and bad debt expense (Ahmed et al., 2002).

Measure of Bondholder-Shareholder Conflict

As mentioned, previous research has used several measurements to assess the bondholder-shareholder conflict. This study focuses on bondholder-shareholder conflict over dividend policy by adopting three proxies to measure the severity of the conflict: (1) operating uncertainty, (2) firm leverage, and (3) dividends paid to shareholders. The first proxy centers on the notion that firms with a greater uncertainty in operations face greater risk of experiencing positive or negative shocks in income and earnings valuation. Among the most obvious examples are fluctuations in demand or price of input goods. Temporary positive shocks will increase net income, and subsequently retained earnings, and can result in an overpayment of dividends. As Watts (1993) argues, an increased uncertainty implies increased risk that firms transfer an exaggerated share of resources to shareholders. This, in turn, implies that higher operating uncertainty aggravates bondholder-shareholder conflict. As a measure for uncertainty we use the standard deviation of the firm’s return on assets.

The second proxy is leverage. Firms significantly financed by debt relative to equity will experience intensified claims from creditors. Such claims stand in direct opposition to demands from shareholders. Hence, increased debt financing – i.e. leverage – escalates the conflict between bondholders and shareholders. Consistent with this argument, Kistabunnarat-Chatjuthamard et al. (2010) find empirical evidence suggesting that leverage-reducing efforts undertaken by lending firms help to mitigate the conflict. We calculate leverage as long-term debt over total assets.

The last proxy captures the effect of dividends payments. Black (1976) argues that dividends are by far the simplest means for firms to avoid debt payments. Reducing firm assets through such equity distributions, ceteris paribus, generate negative implications for credit claimants. Accordingly, firms with a higher ratio of dividends over assets are more likely to make exaggerated payments to shareholders, and thus exacerbate concern among creditors. We measure the level of dividend as the ratio of cash dividends over total assets.16

---

16 Although dividends as percentage of net income may more directly mirror the conflict, such measurement would generate problematic results when net income is negative.
Control Variables

With reference to previous research (e.g., Ahmed et al. 2002; Penman and Zhang, 2002; Ramalingegowda and Yu, 2012), we include four control variables in the model to account for effects other than our proxies for conservatism.

The first control variable – return on assets (ROA) – is intended to account for firm profitability. Ahmed et al. (2002) argue that less profitable firms have less room for conservative accounting, i.e. face higher costs for conservatism. Thus, intuitively, we would expect more profitable firms to adopt a greater extent of conservatism. Contrastingly, Ahmed et al. (2002) also recognize that ROA has an offsetting effect on conservatism, affecting our measure of CONACC. Lower ROA implicitly infers more negative accruals resulting in a higher value of CONACC.\(^{17}\) Hence, the actual relation between profitability and conservatism is dependent on strength of these offsetting forces.

Our second control variable is sales growth. Penman and Zhang (2002) argue that under a reduction in operations – e.g. negative sales growth – accruals may not be a valid measure for conservatism. Adopting more conservative accounting, reported earnings becomes lower than they would have been had managers been less conservative. As such firms reduce operating assets, hidden reserves will unfold which increases net income. This would bias against our first hypothesis as we hold that conservatism reduces net income.

We also include the natural logarithm of total assets as a control for firm size.\(^{18}\) Similarly to profitability, there is evidence that larger firms have greater leeway for conservatism than firms with relatively limited resources (Zmijewski and Hagerman, 1981). Consistent with such argument, Bushman and Piotrski (2006) find that firms facing higher political and juridical costs also tend to adopt more conservatism. This also appears to hold for firms with higher degree of institutional ownership (Ramalingegowda and Yu, 2012). Thus, by incorporating size we control for the effects of larger firms ability to assume more conservative accounting.

Additionally, Ahmed et al. (2002) control for growth opportunities by including research and development (R&D) expenses. We exclude this variable because a significant amount of the sampled firms lack data of R&D expenses. However, our sample consists of relatively mature firms with potentially limited options to high growth, which would considerably reduce this effect.

\(^{17}\) Since we multiply CONACC with -1, higher values represent increased conservatism.

\(^{18}\) There are several advantages with employing the natural logarithm of total assets. Firstly, it is reasonable to assume that assets do not grow linearly. By adopting the natural log, and thereby fixating the growth, we are able to linearize this parameter. Secondly, log transformation reduces the heteroskedasticity – the statistical problem of non-random distribution of the estimation errors $\varepsilon$ in a model.
In H2, we include three control variables to control for different effects. For the same reason as explained above, we include LEV – long-term debt deflated by total assets – to control for increased indebtedness among firms. Secondly, we account for ROA – net income over total assets – centered on the notion that profitable firms may be rewarded with lower cost of debt (Ahmed et al., 2002). Lastly, SIZE – natural logarithm of total assets – is included to control for the effect of firm size on debt cost; we expect larger firms to receive lower spread on their issued bonds.

Measure of Cost of Debt

As argued in section II, spread is a direct measure of firm cost of debt. In this study, emission bond spread is employed as the proxy for debt cost. This deviates somewhat from Ahmed et al. (2002) who use Standard & Poor’s credit ratings. One reason for the disparity in proxies is the significant number of firms in our sample that are not investment graded, i.e. lack rating provided by rating institutes. Thus, by employing credit rating as a proxy, we would significantly reduce our sample. However, we consider bond spread a valid and reliable measure. In determining firm-specific credit ratings, various financial factors are considered (Altman, 2000). Congruent analyses are conducted when deciding on appropriate spreads in corporate debt, resulting in similar factors being inherited in bond spreads.

Regression Equations

The recitation above develops into two regression equations for our hypotheses presented below.

Equation for H1:

$$\text{CON}_i = \alpha_0 + \beta_1 \text{DIV} + \beta_2 \text{LEV} + \beta_3 \text{STDROA} + \beta_4 \text{SIZE} + \beta_5 \text{ROA} + \beta_6 \text{GRO} + \epsilon_i$$  \(2\)

Where:

- \(\text{CON}_i\) = one of our two measures of conservatism. (1) CONMKT: equals the term - \(\alpha\) in equation (1) explained above for firm \(i\). It measure the firm-specific effect of conservatism based on Beaver and Ryan (2000). (2) CONACC: equals the average accruals for firm \(i\) over the time frame. It is based on the model provided by Givoly and Hayn (2000). This variable is also multiplied by -1 to generate positive values for all conservative firms.
- \(\text{DIV}_i\) = equals the percentage of dividends for firm \(i\) and is calculated as cash dividends over total assets;
- \(\text{LEV}_i\) = the level of leverage adopted by firm \(i\) measured as long-term debt over total assets;
\( \text{STDROA}_i \) = the measure of operating uncertainty for firm \( i \), calculated as the standard deviation of return on assets. A higher value implies increased uncertainty;

\( \text{SIZE}_i \) = firm size measured as the natural logarithm of total assets for firm \( i \);

\( \text{ROA}_i \) = return on assets for firm \( i \). It constitutes a control variable for profitability under the notion that more profitable firms can afford a higher degree of conservatism.

\( \text{GRO}_i \) = firm’s sales growth as a control variable for growth as an explanation for more conservative accounting.

Equation for H2:

\[
\text{SPREAD}_i = \alpha_0 + \beta_1\text{CON}_i + \beta_2\text{LEV}_i + \beta_3\text{DIV}_i + \beta_4\text{STDROA}_i + \beta_5\text{SIZE}_i + \epsilon_i \quad (3)
\]

Where:

\( \text{SPREAD}_i \) = cost of debt for firm \( i \) measured as the emission spread on its issued bonds between 2006 and 2011;

\( \text{CON}_i \) = the previously explained measures of conservatism for firm \( i \);

\( \text{LEV}_i \) = leverage for firm \( i \);

\( \text{DIV}_i \) = percentage dividends for firm \( i \);

\( \text{STDROA}_i \) = operating uncertainty for firm \( i \) defined as the standard deviation of its return on assets;

\( \text{SIZE}_i \) = natural log of total assets for firm \( i \). Included as a control variable under the notion that larger firms may experience lower cost of debt.
VI. Results

Upon performing our regression analyses for H1 and H2, we excluded statistically insignificant control variables. The results presented contain only the regressions where these variables have been removed.

In the regressions for our H1 and H2, we detect no sign of autocorrelation, multicollinearity, or heteroscedasticity. Furthermore, as shown in Diagram 1 and 2 in the Appendices, the residuals from our tests exhibit a normal distribution with a mean insignificantly different from zero and a standard deviation of approximately one.

Table 1a presents descriptive statistics over CONACC for H1 for the years 2006-2011. CONACC is an increasing measurement of conservatism. This means that a higher value of CONACC exhibits increased negative accruals. Here, CONACC show a mean of 0.01 implying that our observed firms, on average, have persistent negative accruals. Furthermore, the values for LEV show that the average firm has long-term debt amounting to about 31 per cent of its total assets. The quartiles indicate that there is a relatively even distribution amongst the sample: the first and third quartiles are approximately equal distance from the median. Also worth noting is the large number of firms that have refrained from paying dividends over the time period.

Table 1b shows similar descriptive statistics for our second measure of conservatism, CONMKT, over the same time period. There are some fewer samples included in this regression compared with CONACC. As with CONACC, CONMKT represents an increasing value of conservatism; thus, values closer to zero represents a higher level of conservatism. As for LEV and DIV, values are rather similar to those for CONACC: the average firm is leveraged at 29 per

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>First Quartile</th>
<th>Median</th>
<th>Third Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONMKT</td>
<td>769</td>
<td>.01</td>
<td>.11</td>
<td>.04</td>
<td>.05</td>
<td>.11</td>
</tr>
<tr>
<td>STD ROA</td>
<td>282</td>
<td>.01</td>
<td>.11</td>
<td>.04</td>
<td>.05</td>
<td>.11</td>
</tr>
<tr>
<td>DIV</td>
<td>281</td>
<td>.01</td>
<td>.05</td>
<td>.00</td>
<td>.00</td>
<td>.02</td>
</tr>
<tr>
<td>LEV</td>
<td>282</td>
<td>.31</td>
<td>.20</td>
<td>.15</td>
<td>.32</td>
<td>.47</td>
</tr>
<tr>
<td>SIZE</td>
<td>278</td>
<td>15.55</td>
<td>1.57</td>
<td>14.47</td>
<td>15.60</td>
<td>16.63</td>
</tr>
<tr>
<td>ROA</td>
<td>262</td>
<td>.00</td>
<td>.13</td>
<td>-.05</td>
<td>.02</td>
<td>.06</td>
</tr>
<tr>
<td>GROWTH</td>
<td>267</td>
<td>7.43</td>
<td>78.89</td>
<td>-.02</td>
<td>.15</td>
<td>.44</td>
</tr>
</tbody>
</table>

Note: The table presents descriptive statistics for the regression of CONACC on the proxies for bondholder-shareholder conflict between 2006-2011. The disparity in N stems from missing observations for certain variables.

19 Autocorrelation is controlled for using Durbin-Watson’s d-test. Roughly, a score below one or above three indicate autocorrelation. As indicated by table 7a and 7b in Appendix A, our test values amount to 1,844 for CONACC and 1,752 for CONMKT, respectively. As for multicollinearity, we observe, for all variables, scores below ten and close to one for the Variance Inflation Factor and the Tolerance value, respectively.
cent and paid dividends of about one per cent, although the majority of firms refrained equity distributions to shareholders over the time period. Lastly, we observe rather well-distributed values for ROA for both samples: a mean of 0.00 and 0.01 for the CONACC and CONMKT sample, respectively. Although the exclusion of extreme values have had certain explanatory impact, we suspect this may depend on the relative high portion of mature firms in the sample that have explored the Norwegian bond market.

Table 1b
Descriptive Statistics for CONMKT

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>First Quartile</th>
<th>Median</th>
<th>Third Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONMKT</td>
<td>264</td>
<td>-.78</td>
<td>.50</td>
<td>-.99</td>
<td>-.73</td>
<td>-.43</td>
</tr>
<tr>
<td>STD ROA</td>
<td>264</td>
<td>.09</td>
<td>.10</td>
<td>.03</td>
<td>.05</td>
<td>.08</td>
</tr>
<tr>
<td>DIV</td>
<td>260</td>
<td>.01</td>
<td>.03</td>
<td>.00</td>
<td>.00</td>
<td>.02</td>
</tr>
<tr>
<td>LEV</td>
<td>264</td>
<td>.29</td>
<td>.21</td>
<td>.11</td>
<td>.28</td>
<td>.47</td>
</tr>
<tr>
<td>SIZE</td>
<td>239</td>
<td>15.63</td>
<td>1.56</td>
<td>14.67</td>
<td>15.69</td>
<td>16.78</td>
</tr>
<tr>
<td>ROA</td>
<td>264</td>
<td>.01</td>
<td>.11</td>
<td>-.01</td>
<td>.02</td>
<td>.06</td>
</tr>
<tr>
<td>GROWTH</td>
<td>243</td>
<td>6.15</td>
<td>76.67</td>
<td>-.04</td>
<td>.14</td>
<td>.35</td>
</tr>
</tbody>
</table>

Note: The table presents descriptive statistics for the regression of CONMKT on the proxies for bondholder-shareholder conflict 2006-2011. The disparity in N stems from missing observations for certain variables.

Table 2a and 2b illustrate the Pearson correlations among our dependent, independent, and control variables for H1. In table 2a, as predicted in our H1, CONACC shows significant positive correlation with two of our proxies for the bondholder-shareholder conflict, STDROA and DIV. LEV, the third proxy, shows negative correlation with our accrual-based measure, which contradicts to H1. As for the control variables, CONACC and GROWTH exhibit a positive relationship, which is consistent with our predictions. However, both SIZE and ROA are both negatively correlated with CONACC.

In table 2b, we observe that CONMKT is also positively correlated with STDROA and DIV. Consistent with CONACC, and in contrast to H1, CONMKT is negatively correlated with LEV.
Conservatism as mitigation for bondholder-shareholder conflict

Table 3a and 3b present the result from the regression of CONACC and CONMKT, respectively, on the conflict proxies and control variables between 2006-2011. Following from earlier argumentation, we expect the three measures to be positively related to the conservative proxies and thus adopting a positive sign for their coefficients. Moreover, we expect SIZE and ROA to obtain positive signs for their respective coefficients.

As shown in table 3a below, the STDROA coefficient is positive with a value of 0.830 (p=0.001). Similarly, our second proxy, DIV, exhibit a significantly positive coefficient, 0.001 (p=0.002). These values are consistent with H1 based on the previous research presented. LEV,
however, with a coefficient of -0.02 (p=0.078) show an insignificant negative relationship with CONACC, which contradicts with the expected result.

As for our control variables in table 3a, both SIZE and ROA adopt negative coefficients in relation to CONACC. This stands in contrast to our expectations, asserting that larger and more profitable firms should employ a higher degree of conservatism. GROWTH was excluded, as its coefficient was insignificant.

Table 3a
Regression of Conservative Accounting and Bondholder-Shareholder Conflict - CONACC

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected Sign</th>
<th>Coefficient for 2006-2011</th>
<th>t-statistics</th>
<th>t-statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>?</td>
<td>.100</td>
<td>3.915</td>
<td>.000</td>
</tr>
<tr>
<td>STDROA</td>
<td>+</td>
<td>.830</td>
<td>3.463</td>
<td>.001</td>
</tr>
<tr>
<td>DIV</td>
<td>+</td>
<td>.001</td>
<td>3.196</td>
<td>.002</td>
</tr>
<tr>
<td>LEV</td>
<td>+</td>
<td>-.02</td>
<td>-1.768</td>
<td>.078</td>
</tr>
<tr>
<td>ROA</td>
<td>?</td>
<td>-.006</td>
<td>-3.621</td>
<td>.000</td>
</tr>
<tr>
<td>SIZE</td>
<td>+</td>
<td>-.09</td>
<td>-5.034</td>
<td>.000</td>
</tr>
</tbody>
</table>

R² = .243

Note: The table presents the regression of CONACC and the bondholder-shareholder conflict proxies. Robust standard errors are presented in parenthesis. t-values are presented in the t-statistics column with p-values below.

Table 3b presents the results from the regression of CONMKT on our conflict and control variables. Similarly to CONACC, the results show a positive coefficient for both STDROA and DIV, 0.539 (p=0.053) and 0.018 (p=0.053) respectively. However, both coefficients are marginally insignificant in the 95 per cent confidence interval. The third proxy, LEV, adopts a statistically significant negative sign, -0.693 (p=0.000). As with the regression of CONACC, such result stands in contrast to our anticipation from H1.²⁰

²⁰ Beaver and Ryan (2000) find a positive relationship between leverage and CONMKT. Ahmed et al. (2002), however, experience similar issues as us for their value of the LEV coefficient. Beaver and Ryan (2000) measure leverage as total liabilities over market value of equity and CONMKT as the bias component of book-to-market (BTM) ratio (\(\alpha_i\) in equation (1)), and Ahmed et al (2002) propose this may be the explanation for the deviances in the correlations. Specifically, they argue that employing market value of equity as a deflator for both BTM and leverage may create an inherent positive relationship between the two variables, explaining Beaver and Ryan’s (2000) significant result.
For this test, none of the control variables generated significant coefficients – although adopting their anticipated signs – and were therefore excluded from the presented regression.

Table 3b
Regression of Conservative Accounting and Bondholder-Shareholder Conflict - CONMKT

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected Sign</th>
<th>Coefficient for 2006-2011</th>
<th>t-statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>?</td>
<td>-.653</td>
<td>-11.267</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.58)</td>
<td>.000</td>
</tr>
<tr>
<td>STDROA</td>
<td>+</td>
<td>.593</td>
<td>1.947</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.305)</td>
<td>.053</td>
</tr>
<tr>
<td>DIV</td>
<td>+</td>
<td>.018</td>
<td>1.944</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.009)</td>
<td>.053</td>
</tr>
<tr>
<td>LEV</td>
<td>+</td>
<td>-.693</td>
<td>-4.819</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.144)</td>
<td>.000</td>
</tr>
</tbody>
</table>

R² = .263

Note: The table presents the regression for CONMKT and the bondholder-shareholder conflict proxies. Robust Standard errors are presented in parenthesis. t-values are presented in the t-statistics column with p-values below.

Conservatism and its Effect on Cost of Debt

The second hypothesis put forward is intended to explain the relationship between conservatism and cost of debt. Table 4a and 4b present the descriptive statistics for SPREAD (dependent variable measuring debt cost), CONACC and CONMKT (independent variables for conservatism), and the control variables ROA, LEV, and SIZE.

Table 4a
Descriptive Statistics for SPREAD and CONACC

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>First Quartile</th>
<th>Median</th>
<th>Third Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPREAD</td>
<td>534</td>
<td>7.17</td>
<td>2.31</td>
<td>5.42</td>
<td>6.91</td>
<td>8.87</td>
</tr>
<tr>
<td>CONACC</td>
<td>534</td>
<td>.01</td>
<td>.036</td>
<td>-.010</td>
<td>-.005</td>
<td>.026</td>
</tr>
<tr>
<td>ROA</td>
<td>534</td>
<td>.01</td>
<td>.125</td>
<td>-.005</td>
<td>.026</td>
<td>.064</td>
</tr>
<tr>
<td>LEV</td>
<td>534</td>
<td>.35</td>
<td>.187</td>
<td>.190</td>
<td>.347</td>
<td>.524</td>
</tr>
<tr>
<td>SIZE</td>
<td>534</td>
<td>15.9</td>
<td>1.47</td>
<td>14.95</td>
<td>16.31</td>
<td>17.12</td>
</tr>
</tbody>
</table>

Note: The table presents descriptive statistics for the regression of SPREAD on CONACC between 2006-2011.

The mean SPREAD obtained in the first regression (table 4a) amount to 7.17 per cent. As indicated by the standard deviation of 2.31 per cent, firms, on average, exhibit a reasonable variation in their cost of debt. The mean level of conservatism, CONACC, is 0.01, which implies that the average firm is conservative. However, observing the quartiles and the median, it becomes apparent that a significant share of the observations do not rank conservative.
ROA, LEV and SIZE obtain mean values of 1.3 per cent, 35.5 per cent, and 15.9 per cent, respectively. The median ROA is significantly higher than the mean, implying that there are observations with a large negative ROA.

In table 4b, similar result is presented for the regression of SPREAD on CONMKT. The mean firm have a cost of debt of 7.16 per cent with a standard deviation of 2.49 per cent. As for their level of conservatism, the mean of CONMKT is -0.72, implying that the firms, on average, adopt conservative account. As for ROA, LEV, and SIZE, the mean amount to 1.6 per cent, 33.4 per cent, and 15.9 per cent respectively.

Table 4b
Descriptive Statistics for SPREAD and CONMKT

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>First Quartile</th>
<th>Median</th>
<th>Third Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPREAD</td>
<td>500</td>
<td>7.16</td>
<td>2.49</td>
<td>5.36</td>
<td>6.86</td>
<td>8.77</td>
</tr>
<tr>
<td>CONMKT</td>
<td>500</td>
<td>-.72</td>
<td>.33</td>
<td>-.96</td>
<td>-.75</td>
<td>-.47</td>
</tr>
<tr>
<td>ROA</td>
<td>500</td>
<td>.016</td>
<td>.125</td>
<td>-.001</td>
<td>.028</td>
<td>.064</td>
</tr>
<tr>
<td>LEV</td>
<td>500</td>
<td>.334</td>
<td>.197</td>
<td>.171</td>
<td>.344</td>
<td>.522</td>
</tr>
<tr>
<td>SIZE</td>
<td>482</td>
<td>15.9</td>
<td>1.51</td>
<td>14.93</td>
<td>16.25</td>
<td>17.18</td>
</tr>
</tbody>
</table>

Note: The table presents descriptive statistics for the regression of SPREAD on CONMKT between 2006-2011. The disparity in N stems from missing observations for certain variables.

Table 5a and 5b, presented in Appendix B, show the correlations among the variables in the regression. Worth noting is the significant positive correlation between SPREAD and CONACC, which contradicts with our H2. The control variables in the same tables all obtain their anticipated positive or negative relationship with SPREAD ((-) ROA, (+) LEV, and (-) SIZE).

The correlation between SPREAD and CONMKT is, albeit negative as predicted, strongly insignificant. Similarly, correlation between SPREAD and LEV is insignificantly positive. The other two control variables – ROA and SIZE – both show significant negative results, as predicted.

The two regressions – CONACC and CONMKT – cover 534 and 500 samples, respectively. Table 6a presents the results from the first regression of SPREAD on CONACC for bonds issued between 2006 and 2011. As apparent from the table, CONACC obtains a positive, yet insignificant, coefficient (0.520 (p=0.843). This contradicts with H2, suggesting that conservative firms experience reduced cost of debt. On the other hand, the control variables are all significant with coefficient exhibiting their anticipated signs. This is consistent with our predictions that larger, less leveraged, and more profitable firms, individually, experience lower cost of debt (ROA, -1.714 (p=0.020), LEV, 1.168 (p=0.011), SIZE, -0.754 (p=0.000)).

The coefficient on CONMKT in table 6b shows that there is no significant relation between CONMKT and SPREAD (0.184 (p=0.568)). This also contradicts with our H2 for CONMKT
and SPREAD. Similarly the previous regression, all control variables attain significant anticipated coefficients (ROA, -1.651 (p=0.025), LEV, 1.787 (p=0.002), SIZE, -0.752 (p=0.000)).

Table 6a
Regression of SPREAD and Conservative Accounting - CONACC

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected Sign</th>
<th>Coefficient for 2006-2011</th>
<th>t-statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>?</td>
<td>18.809</td>
<td>17.990</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1.045)</td>
<td>.000</td>
</tr>
<tr>
<td>CONMKT</td>
<td>-</td>
<td>.520</td>
<td>.198</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2.620)</td>
<td>.843</td>
</tr>
<tr>
<td>ROA</td>
<td>-</td>
<td>-1.714</td>
<td>-2.341</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.732)</td>
<td>.020</td>
</tr>
<tr>
<td>LEV</td>
<td>+</td>
<td>1.168</td>
<td>2.537</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.460)</td>
<td>.011</td>
</tr>
<tr>
<td>SIZE</td>
<td>-</td>
<td>-.754</td>
<td>-12.013</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.062)</td>
<td>.000</td>
</tr>
</tbody>
</table>

$R^2$ .531

Note: The table presents the regression for SPREAD and conservative accounting between 2006-2011. Robust Standard errors are presented in parenthesis. t-values are presented in the t-statistics column with p-values below.

Table 6b
Regression of SPREAD and Conservative Accounting - CONMKT

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected Sign</th>
<th>Coefficient for 2006-2011</th>
<th>t-statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>?</td>
<td>18.588</td>
<td>18.356</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1.018)</td>
<td>.000</td>
</tr>
<tr>
<td>CONMKT</td>
<td>-</td>
<td>.184</td>
<td>.572</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.322)</td>
<td>.568</td>
</tr>
<tr>
<td>ROA</td>
<td>-</td>
<td>-1.651</td>
<td>-2.244</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.735)</td>
<td>.025</td>
</tr>
<tr>
<td>LEV</td>
<td>+</td>
<td>1.787</td>
<td>3.139</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.569)</td>
<td>.002</td>
</tr>
<tr>
<td>SIZE</td>
<td>-</td>
<td>-.752</td>
<td>-12.102</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.062)</td>
<td>.000</td>
</tr>
</tbody>
</table>

$R^2$ .536

Note: The table presents the regression of SPREAD and conservative accounting between 2006-2011. Robust standard errors are presented in parenthesis. t-values are presented in the t-statistics column with p-values below.
VII. Interpretation of Results

Consistent with our prediction in H1, we observe that CONACC is positively associated with two of the proxies for the bondholder-shareholder conflict. This reaffirms findings in previous research by Ahmed et al. (2002) and Zhang (2008), which demonstrate that firms with more austere conflict over dividend policy tend to adopt more conservative accounting. Opposite to our expectations, however, we find a statistically significant negative relation between firm leverage – LEV – and CONACC. This opposes previous findings by Callen et al. (2010) that conservative firms tend to adopt more debt relative to assets. CONACC is estimated using income statement accruals whereas leverage stems from debt and asset values in the balance sheet. Although depreciation relates to assets, we find no reason to assume any technical explanation for an inherent negative association between the variables. Thus, we conclude that our results for LEV indicate that conservative firms in our sample tend to adopt more debt relative to assets.

The second conservative proxy, CONMKT, derives from the conservatism component in book-to-market ratio. Our regression yields equal positive relation with STDROA and DIV, respectively, although both variables exhibit statistical insignificance at the five per cent level. We are thus restricted to infer only weak indication that also CONMKT supports conservatism as a tool to mitigate bondholder-shareholder conflict. The statistical insignificance in STDROA and DIV, albeit weak, can presumably be explained by the changes in accounting standards following the implementation of IFRS. Beisland and Knivsflå (2012) isolate (1) increased fair value accounting and, (2) liberalization in asset recognition as the two most distinct effects that follow the IFRS implementation, and Christensen and Nikolaev (2012) specifically assess that discretionary leeway has been compressed in firms that adopt more fair value accounting. This also pertains to the Norwegian market specifically (Beisland and Knivsflå, 2012). Thus, increased assets, stemming from the recognition of intangible assets, may bias the book-to-market ratio by neutralizing results from firms with previously low values.

Congruent with the estimations of the first proxy, CONMKT exhibits a significant negative relation with LEV. On equal ground, we find no technical link that corroborates a negative association.

Due to insignificant coefficients, we excluded GROWTH in the CONACC regression, and all control variables in the CONMKT regression. The negative coefficients for SIZE and ROA in the CONACC regression signal that larger and more profitable firms in our sample are less conservative in their accounting. In contrast, previous studies (Zmijewski and Hagerman, 1981; Ahmed et al., 2002; Bushman and Piotrski, 2006; Ramalingegowda and Yu, 2012) conclude that
large, more profitable firms, or firms exposed to higher political or institutional influence, have a greater margin to assume conservative accounting. Possibly, relating back to the IFRS implementation, the discrepancy between the theory and our findings can be explained by the shift in asset reporting. Persistently higher assets given level of net income yield lower ROA ratios, even for conservative firms defined by CONACC, which bias against our hypothesis. Altogether, we find that conservative accounting plays an important role in mitigating conflict between bondholders and shareholders stemming from volatility in returns and dividend policy, but not firm leverage. The regression with our second conservative proxy renders weakly insignificant correlation, which, drawn from previous research, leads us to conclude that CONMKT may not be a valid conflict proxy for the Norwegian market.

Perhaps the most thought-provoking results pertain to our second hypothesis. Our findings display a statistically insignificant negative relation between conservatism and spread. This implies that although firms that adopt more conservative accounting to mitigate the conflict, bondholders seem not to reward such mediating measures by lowering debt cost. This points to several interesting insights bearing on previous research. Ahmed et al. (2002) and Zhang (2008) both find negative association between level of conservatism and bond spread. Whereas Ahmed et al. (2002) adopt firm credit rating as a proxy for cost of debt, Zhang (2008) derives the cost of debt from interest expenses reported in the income statement. The latter measure exhibits strong resemblance with the bond spread proxy used in this study; hence, we have no reason to suspect any inherent problems with the chosen proxy. Instead, as evident from bond-spread models (see section II), factors such as tax, liquidity, market interest rates, macro economic environment, amongst others, influence the determination of the spread (Elton et al. 2001). As a consequence, accounting conservatism may have been subordinate other influential components in determining the spread. Moreover, this study relies entirely on public accounting data to measure proxies for conservatism, bondholder-shareholder conflict, and spread. An underlying assumption is that creditors, in determining the spread, emanate from external accounting information provided by firms in their financial reports. We cannot, however, exclude that internal accounting information have been a reference point in spread negotiations. Such effect could diffuse the inherent relation among our variables and presumably contribute to the insignificant results.

All control variables yield statistically significant coefficients with predicted signs for both conservative proxies. We had no a priori reason to assume these factors should have changed with the shift in accounting praxis. Concordantly with earlier and more recent bond spread models derived from firm leverage (e.g., Black and Sholes, 1973; Merton, 1974; Longstaff and Schwartz, 1995), LEV is positively associated with the spread; hence, higher indebted firms also
experience increased cost of debt. Similarly, profitability, measured as higher income given assets, and firm size move in opposite direction to the spread.

Overall, Watts (2003b) brings up the predicaments in cross-country analysis of accounting conservatism. Apart from innate regional differences in accounting practice, disparity in the legal framework has considerable effect on, inter alia, debt contracting and dividend policy. Generally, as discussed in section II, the Norwegian market presumably has distinct features that separate it from others. Most evident may be the comparatively high density of firms in the oil, gas, and shipping industry. Such firms are characterized by higher volatility in depletions (Wright and Gallun, 2008), which may deteriorate the mean reverting trend in accruals (see Sloan, 1996). Together with Hellman’s (2008) argument that IFRS has limited opportunities for consistent accounting conservatism in favor of temporal conservatism, this effect may bias the CONACC variable against our predictions.

To summarize, we find empirical support for our first hypothesis on conservative accounting as a means to assuage the conflict between bondholders and shareholders over dividend policy in firms on the Norwegian market. We find no evidence, however, to accept our second hypothesis. Therefore, we conclude that bondholders on the Norwegian market do not value conservative accounting to the extent shown by previous research on other markets. Altogether, our analysis indicates that conservative accounting mitigates the bondholder-shareholder conflict over dividend policy; though, firms with conservative accounting are not compensated with a lower cost of debt. We recognize the complication of generalizing our findings from the Norwegian market, particularly since it is relatively undeveloped and contain unique industry features. Nonetheless, we are convinced that our findings provide valuable insight in the relation between bondholders and shareholders in conflict and over debt cost, and how this, compared with previous research, has changed following the international shift in accounting praxis.

VIII. Concluding Remarks

This study aims to contribute to the understanding of whether conservative accounting can mitigate bondholder-shareholder conflict over dividend policy, and how it affects cost of debt when firms issue bonds. Firm financing has become a prevalent subject in recent years, and the role of accounting conservatism has fundamentally changed in Europe due to the mandatory application of the IFRS in 2005. Several studies have measured the effect of accounting conservatism on financing issues; however, only few have examined these effects after the introduction of the IFRS.
Our findings partly support the conclusion that accounting conservatism mitigates the conflict between bondholders and shareholders. However, we find no convincing evidence that bondholders reward higher degree of conservative accounting with lower cost of debt. There are several explanations as to why our results deviate from our expectations. We argue foremost that the implications of the IFRS has reduced firms’ ability to adopt conservative accounting. It is important to understand that the robustness of the method as well as the different assumptions and limitations affected our results. Although there has been a clear paradigm shift from conservatism towards fair value accounting, we can conclude that conservatism still seem to play an important role in firm financing.

Our study also leaves interesting openings for further research. By extending our research into examine how, in detail, IFRS has constrained discretionary conservatism, one could develop the proxies for conservatism in our model to better fit with the new accounting standards. Moreover, in contrast to the employed perspective in this study, and bearing on the contemporary debate on fair value accounting, it would be insightful to examine fair value accounting in the role of bondholder-shareholder conflict and firm cost of debt. Recent studies have examined the actual effects of the intended increase in value relevance following from IFRS, but little has been done on its effect in the corporate bond markets.
IX. Literature


X. Appendices

Appendix A

Table 7a
Model Summary for Regression of CONACC and Bondholder-Shareholder Conflict

<table>
<thead>
<tr>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>.493</td>
<td>.243</td>
<td>.235</td>
<td>.0379</td>
<td>1.844</td>
</tr>
</tbody>
</table>

Note: The table presents the model summary for regression of CONACC on the conflict proxies and control variables. Predictors are STDROA, DIV, LEV, ROA, SIZE. Dependent Variable is CONACC.

Table 7b
Model Summary for Regression of CONMKT and Bondholder-Shareholder Conflict

<table>
<thead>
<tr>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>.513</td>
<td>.263</td>
<td>.235</td>
<td>.0379</td>
<td>1.752</td>
</tr>
</tbody>
</table>

Note: The table presents the model summary for regression of CONMKT on the conflict proxies and control variables. Predictors are STDROA, DIV, LEV, ROA, SIZE. Dependent Variable is CONMKT.

Diagram 1a
Normal Distribution of Standardized Residuals - CONACC

```
Mean  .020
Std. Dev. .932
```

Note: The diagram presents the plotted standardized residuals from the regression of CONACC and bondholder-shareholder conflict proxies. The horizontal axis show the residuals and the vertical axis the frequency.
Diagram 1b
Normal Distribution of Standardized Residuals - CONMKT

![Diagram](image)

Mean -.020
Std. Dev. 1.037

Note: The diagram presents the plotted standardized residuals from the regression of CONMKT and bondholder-shareholder conflict proxies. The horizontal axis show the residuals and the vertical axis the frequency.

Table 8a
Regression Statistics CONACC

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-statistics</th>
<th>Sig.</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>.100</td>
<td>.026</td>
<td>3.915</td>
<td>.000</td>
<td>.050</td>
<td>.150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STDROA</td>
<td>.083</td>
<td>.024</td>
<td>3.463</td>
<td>.001</td>
<td>.036</td>
<td>.130</td>
<td>.789</td>
<td>1.268</td>
</tr>
<tr>
<td>DIV</td>
<td>.001</td>
<td>.000</td>
<td>3.196</td>
<td>.002</td>
<td>.001</td>
<td>.002</td>
<td>.903</td>
<td>1.108</td>
</tr>
<tr>
<td>LEV</td>
<td>-.020</td>
<td>.012</td>
<td>-1.768</td>
<td>.078</td>
<td>-.043</td>
<td>.002</td>
<td>.967</td>
<td>1.034</td>
</tr>
<tr>
<td>SIZE</td>
<td>-.006</td>
<td>.002</td>
<td>-3.622</td>
<td>.000</td>
<td>-.009</td>
<td>-.003</td>
<td>.854</td>
<td>1.171</td>
</tr>
<tr>
<td>ROA</td>
<td>-.090</td>
<td>.018</td>
<td>-5.034</td>
<td>.000</td>
<td>-1.123</td>
<td>.055</td>
<td>.734</td>
<td>1.327</td>
</tr>
</tbody>
</table>

Note: The table presents the unstandardized coefficients, t-statistics, confidence interval, and collinearity analysis for the regression of CONACC and the bondholder-shareholder conflict proxies.

Table 8b
Regression Statistics CONMKT

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-statistics</th>
<th>Sig.</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-.653</td>
<td>.058</td>
<td>-11.267</td>
<td>.000</td>
<td>-.767</td>
<td>-.539</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STDROA</td>
<td>.393</td>
<td>.305</td>
<td>1.947</td>
<td>.053</td>
<td>.007</td>
<td>1.192</td>
<td>.993</td>
<td>1.007</td>
</tr>
<tr>
<td>DIV</td>
<td>.018</td>
<td>.009</td>
<td>1.944</td>
<td>.053</td>
<td>.000</td>
<td>.037</td>
<td>.992</td>
<td>1.008</td>
</tr>
<tr>
<td>LEV</td>
<td>-.693</td>
<td>.144</td>
<td>-4.819</td>
<td>.000</td>
<td>-.976</td>
<td>-.410</td>
<td>.998</td>
<td>1.002</td>
</tr>
</tbody>
</table>

Note: The table presents the unstandardized coefficients, t-statistics, confidence interval, and collinearity analysis for the regression of CONMKT, the bondholder-shareholder conflict proxies, and the control variables.
Appendix B

Table 5a
Pearson Correlation Matrix for SPREAD and CONACC

<table>
<thead>
<tr>
<th>Variable</th>
<th>SPREAD</th>
<th>CONACC</th>
<th>ROA</th>
<th>LEV</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPREAD</td>
<td>1</td>
<td>.200**</td>
<td>-.208**</td>
<td>.153**</td>
<td>-.513**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>CONACC</td>
<td>.200**</td>
<td>1</td>
<td>-.300**</td>
<td>-.047</td>
<td>-.352**</td>
</tr>
<tr>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.280</td>
<td>.056</td>
<td>.000</td>
</tr>
<tr>
<td>ROA</td>
<td>-.208**</td>
<td>-.300**</td>
<td>1</td>
<td>-.083</td>
<td>.221**</td>
</tr>
<tr>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.056</td>
<td>.000</td>
<td>.014</td>
</tr>
<tr>
<td>LEV</td>
<td>.153**</td>
<td>-.047</td>
<td>-.083</td>
<td>1</td>
<td>-.106*</td>
</tr>
<tr>
<td></td>
<td>.000</td>
<td>.280</td>
<td>.056</td>
<td>.014</td>
<td>1</td>
</tr>
<tr>
<td>SIZE</td>
<td>-.513**</td>
<td>-.352**</td>
<td>.221**</td>
<td>-.106*</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: The table presents the Pearson correlations for SPREAD, CONACC, and the control variables. All correlations are presented with their respective statistical significance, * and ** denote significance at the 1 and 5 percent level, respectively.

Table 5b
Pearson Correlation Matrix for SPREAD and CONMKT

<table>
<thead>
<tr>
<th>Variable</th>
<th>SPREAD</th>
<th>CONACC</th>
<th>ROA</th>
<th>LEV</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPREAD</td>
<td>1</td>
<td>.004</td>
<td>-.179**</td>
<td>.075</td>
<td>-.511**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.930</td>
<td>.000</td>
<td>.095</td>
<td>.000</td>
</tr>
<tr>
<td>CONACC</td>
<td>.004</td>
<td>1</td>
<td>.102*</td>
<td>.534**</td>
<td>-.022</td>
</tr>
<tr>
<td></td>
<td>.930</td>
<td>.023</td>
<td>.000</td>
<td>.635</td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>-.179**</td>
<td>.102*</td>
<td>1</td>
<td>-.063</td>
<td>.183**</td>
</tr>
<tr>
<td></td>
<td>.000</td>
<td>.023</td>
<td>.159</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>LEV</td>
<td>.075</td>
<td>-.534**</td>
<td>-.063</td>
<td>1</td>
<td>-.098*</td>
</tr>
<tr>
<td></td>
<td>.095</td>
<td>.000</td>
<td>.159</td>
<td>.031</td>
<td></td>
</tr>
<tr>
<td>SIZE</td>
<td>-.511**</td>
<td>-.022</td>
<td>.183**</td>
<td>-.098*</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>.000</td>
<td>.635</td>
<td>.000</td>
<td>.031</td>
<td></td>
</tr>
</tbody>
</table>

Note: The table presents the Pearson correlations for SPREAD, CONMKT, and the control variables. All correlations are presented with their respective statistical significance, * and ** denote significance at the 1 and 5 percent level, respectively.

Table 9a
Model Summary for Regression of SPREAD and Conservative Accounting - CONACC

<table>
<thead>
<tr>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>.531</td>
<td>.282</td>
<td>.276</td>
<td>1.967</td>
<td>1.573</td>
</tr>
</tbody>
</table>

Note: The table presents the model summary for regression of SPREAD on CONACC. Predictors are CONACC, SIZE, LEV, ROA. Dependent Variable is SPREAD.
### Table 9b
Model Summary for Regression of SPREAD and Conservative Accounting - CONMKT

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.536</td>
<td>.287</td>
<td>.281</td>
<td>2.009</td>
<td>1.244</td>
</tr>
</tbody>
</table>

Note: The table presents the model summary for regression of SPREAD on CONMKT. Predictors are CONMKT SIZE, LEV, ROA. Dependent Variable is SPREAD.

### Diagram 2a
Normal Distribution of Standardized Residuals - CONACC

<table>
<thead>
<tr>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>.000</td>
<td>.996</td>
</tr>
</tbody>
</table>

Note: The diagram presents the plotted standardized residuals from the regression of CONMKT and bondholder-shareholder conflict proxies. The horizontal axis shows the residuals and the vertical axis the frequency.

### Diagram 2b
Normal Distribution of Standardized Residuals - CONMKT

<table>
<thead>
<tr>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>.000</td>
<td>.996</td>
</tr>
</tbody>
</table>

Note: The diagram presents the plotted standardized residuals from the regression of CONMKT and bondholder-shareholder conflict proxies. The horizontal axis shows the residuals and the vertical axis the frequency.