THREE ESSAYS ON AUDIT COMMITTEES

AND FINANCIAL REPORTING QUALITY

by

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ABSTRACT

This dissertation investigates the relationship between audit committee characteristics and financial reporting quality. The dissertation is organized into three essays that examine this topic. The first two essays examine audit committee characteristics and their association with various measures of financial reporting quality. Essay Three summarizes relevant literature regarding conservatism, a measure of financial reporting quality.

In Essay One, I examine whether adding board members with accounting financial expertise to the audit committee is associated with an increase in a firm's accounting conservatism. The results of this study provide evidence that the addition of accounting expertise is positively associated with higher conservatism as measured by the Penman and Zhang (2000) C-Score measure of conservatism, but only for firms with a strong governance structure. For firms with weak governance, the addition of accounting expertise to the audit committee is associated with higher levels of conservatism as measured by the Givoly and Hayn (2000) negative accruals measure of conservatism. However, the addition of accounting financial expertise is not associated with higher levels of conservatism as measured by the Beaver and Ryan (2000) book-to market measure. Sensitivity analysis suggests that the addition of accounting financial expertise is associated with higher conditional conservatism as measured by the Basu (1997) asymmetric loss recognition measure.

In Essay Two, I investigate the association between analyst earnings forecast properties and the presence of accounting financial expertise on audit committees. The results indicate that the presence of accounting financial expertise is associated with significantly higher forecast accuracy and significantly lower forecast dispersion. Additionally, I find that the non-accounting

financial expertise is significantly associated with higher analyst forecast accuracy and lower forecast dispersion, but nonfinacial expertise is not.

Essay Three summarizes relevant literature regarding conservatism, a measure of financial reporting quality.

DEDICATION

This dissertation is dedicated above all to Christ, who is my life. Also to my beautiful wife

Cindy and my son Blake, good and perfect gifts, given from above.

ACKNOWLEDGEMENTS

LIST OF ABBREVIATIONS

FASB   Financial Accounting Standards Board

IASB   International Accounting Standards Board

FSA   Financial Statement Analysis

FRQ   Financial Reporting Quality

EPS   Earnings per Share

RIM   Residual Income Valuation Model

SOX   Sarbanes-Oxley Act of 2002

SEC   Securities Exchange Commission

ACFE   Audit Committee Financial Expert

I/B/E/S   Institutional Brokers' Estimate System

CRSP   Center for Research in Securities Prices

S&P   Standard and Poor's

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INTRODUCTION

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In Essay 1 I examine whether adding board members with accounting financial expertise to the audit committee is associated with an increase in a firm's accounting conservatism. The results of this study provide evidence that the addition of accounting expertise is positively associated with higher conservatism as measured by the Penman and Zhang (2000) C-Score measure of conservatism, but only for firms with a strong governance structure. For firms with weak governance, the addition of accounting expertise to the audit committee is associated with higher levels of conservatism as measured by the Givoly and Hayn (2000) negative accruals measure of conservatism. However, the addition of accounting financial expertise is not associated with higher levels of conservatism as measured by the Beaver and Ryan (2000) book-to market measure. Sensitivity analysis suggests that the addition of accounting financial expertise is associated with higher conditional conservatism as measured by the Basu (1997) asymmetric loss recognition measure.

In Essay 2 I investigate the association between analyst earnings forecast properties and the presence of accounting financial expertise on audit committees. The results indicate that the presence of accounting financial expertise is associated with significantly higher forecast accuracy and significantly lower forecast dispersion. Additionally, I find that the non-accounting

financial expertise is significantly associated with higher analyst forecast accuracy and lower

forecast dispersion, but nonfinacial expertise is not.

CHAPTER 1
When Do Accountants Matter? The Implications of Adding
Audit Committee Accounting Financial Expertise
for Accounting Conservatism

1. Introduction

The primary objective of the Sarbanes-Oxley Act of 2002 (SOX) was to restore investor

confidence in the U.S. financial reporting system. Toward that end, Section 407 of SOX

required the Securities Exchange Commission (SEC) to adopt rules mandating that audit

committees of public firms contain at least one member who is deemed a financial expert. The

SEC initially proposed a narrow definition of financial expert that classified individuals as

financial experts only if they had education or experience in accounting or auditing (SEC 2002).[1]

However, many companies criticized this initial definition of a financial expert for being overly

restrictive and severely limiting the pool of qualified financial experts (Bryan-Low 2002). The

SEC responded to these concerns by expanding the definition of the audit committee financial

expert to include non-accounting financial experts (SEC 2003).

This broader definition of audit committee financial expert gave rise to a stream of

academic research investigating the association between the type of financial expertise on the

audit committee (accounting and non-accounting) and financial reporting quality (FRQ). The

results of these studies indicate that only the presence of accounting financial expertise on the

audit committee is positively related to FRQ (Carcello et al. 2006; Dhaliwal et al. 2006;

Krishnan and Visvanathan 2008; hereafter KV).

While prior research has documented an association between the presence of an

accounting financial expert on an audit committee and higher FRQ, this study contributes to the

literature by investigating the longitudinal impact of adding an accounting financial expert to the

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[1] A more detailed description of the SEC rules is contained in Appendix A.

audit committee. Specifically, I examine whether the addition of an accounting financial expert

to the audit committee after the passage of SOX is associated with an increase in accounting

conservatism, a proxy for FRQ (e.g. Ahmed and Duellman 2006; LaFond and Watts 2008).

While the inclusion of *accountants* on the audit committee was not mandated by SOX,

many firms have chosen to appoint accounting financial experts to the audit committee

subsequent to the passage of SOX.[2] Beasley and Salterio (2001) suggest that individuals with a

better understanding of technical accounting and auditing issues will contribute more

significantly to audit committee effectiveness. DeFond et al. (2005) and KV (2008) argue that

effective oversight by an audit committee requires that its members possess expertise in

accounting and auditing.

Prior research supports these arguments. For example, using pre-SOX samples, KV

(2008) and Dhaliwal et al. (2006) find that only the presence of accounting financial expertise (as

opposed to non-accounting financial expertise) on the audit committee is associated with higher

FRQ. Research using post-SOX data also underscores the importance of accounting financial

expertise. For example, Hoitash et al. (2009), Carcello et al. (2006), and Dhaliwal et al. (2008)

all document a positive association between accounting financial expertise and FRQ.

However, it is important to note that previous studies investigate the *association* between

audit committees with accounting financial expertise and FRQ. None of the previously listed

studies explicitly address whether or not placing an accounting financial expert on the audit

committee is associated with higher FRQ. Accordingly, the aggregate increase in the number of

firms with at least one accountant on its audit committee subsequent to the passage of SOX

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[2] A survey of Fortune 100 and NASDAQ 100 firms found that the percentage of companies with at least one
accountant on their audit committee increased from 21 percent in 2002 to 40 percent in 2006 (Huron Consulting
2007). Krishnan and Lee (2008) note that 58 percent of Fortune 1000 firms have at least one accounting financial
expert on their audit committee.

presents a unique opportunity to investigate the effect of initially appointing a director with accounting financial expertise to the audit committee on FRQ.

Specifically, if accountants on the audit committee provide a unique service or skill that increases a firm's FRQ, then FRQ should increase following the appointment of an accounting financial expert to the audit committee. On the other hand, while some firms may experience an increase in FRQ as a result of the appointment of an accounting financial expert, it is possible that firms appointed accounting financial experts to the audit committee only as a result of the "coercive influence" (DiMaggio 1983, 150) of SOX, but doing so did not impact the quality of their financial reporting.

Using a sample of non-financial U.S. firms included in the S&P 500, I examine whether the addition of an accounting financial expert to the audit committee is associated with greater accounting conservatism. I partition audit committee members into one of three categories of financial expertise. Specifically, audit committee members are categorized as accounting financial experts if they have experience as a certified public accountant, auditor, chief financial officer, controller, or chief accounting officer.[3] The second classification, labeled non-accounting financial experts, contains audit committee members who have experience as chief executive officer or president of a for-profit company. The final category contains all audit committee members who are neither accounting financial experts nor non-accounting financial experts and are categorized as nonfinancial experts.[4]

Consistent with prior literature, I employ three proxies for conservatism, which are: (1) an accrual-based measure employed by Givoly and Hayn (2000); (2) a market-based measure

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[3] This definition is consistent with the original definition of financial expertise proposed by the SEC.
[4] The broad definition of financial expertise includes supervisory experience, which may include board members with no direct financial experience. This category contains members with experience as Chief Operating Officer, attorney, and politicians, primarily.

employed by Beaver and Ryan (2000); and (3) the C-score employed by Penman and Zhang (2002), which measures the effect of conservative accounting on the balance sheet.[5]

The results of this paper indicate that for firms with weak governance, the addition of an accounting financial expert to the audit committee is associated with an increase in accounting conservatism only as measured by the Givoly and Hayn (2000) accruals measure. On the other hand, for firms with strong governance, the addition of an accounting financial expert to the audit committee is associated with higher conservatism only as measured by the Penman and Zhang (2002) C-score measure. Sensitivity analysis suggests that adding accounting financial expertise to the audit committee is associated with higher conditional accounting conservatism as measured by the Basu (1997) measure.

The results of this paper also suggest that previous studies showing an association between accounting financial expertise on the audit committee and accounting conservatism were driven in large part by firm type. That is, more conservative firms were more likely in the pre-SOX period to appoint accounting financial experts to the audit committee. The results of this study are consistent with prior research that underscores the contextual role of accounting expertise on the audit committee.

The paper proceeds as follows. Section 2 reviews prior literature and develops the hypotheses relating audit committee expertise to the quality of financial reporting. Section 3 describes the research methods and the sample selection process employed in this study. Section 4 presents the empirical results, and Section 5 concludes the paper.

2. Prior Research and Hypotheses

Background

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[5] For sensitivity analysis, I also employ the Penman and Zhang (2002) Q-Score, which is a measure of conservatism on the income statement and Basu (1997) asymmetric timeliness measure.

While not a mandated objective, Section 407 of SOX appears to have increased the presence of financial expertise on audit committees. However, the definition of a financial expert remains ambiguous. The initial rules proposed by the SEC would have limited audit committee financial experts to professionals with previous experience as a public accountant, auditor, chief financial officer, controller, chief accounting officer.

However, in the final rules, the SEC allows for experts with experience in "analyzing or evaluating" financial statements or in "actively supervising" others in the preparation, auditing, analyzing or evaluating financial statements. This implies that professionals with experience as president, chief executive officer (CEO), professional financial analysts, investment bankers or venture capitalists, would meet the qualifications that are in the SEC final rules. Thus, the current "broad" definition of financial expertise adopted by the SEC and the major stock exchanges includes accounting expertise, finance expertise, or supervisory expertise (expertise obtained through supervising the preparation of financial statements) (Dhaliwal et al. 2006).

Prior Research

Prior research has provided mixed support for the broad definition of financial expertise as a determinant of audit committee effectiveness. For example, Abbott et al. (2004), and Agrawal and Chada (2005) find that the financial expertise (under a broad definition) of the audit committee is significantly negatively related to the occurrence of restatement.[6] Farber (2005) also employs the broad definition of financial expertise and finds a significantly lower occurrence of financial fraud in firms with financial expertise on the audit committee.

However, Anderson et al. (2004) employ the broad definition of financial expertise and find no association between audit committee financial expertise and cost of debt. Van der Zahn

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[6] See Cohen, Krishnamoorthy, and Wright (2004); DeZoort, Hermanson, Archambeault, and Reed (2002); Bedard and Gendron (2009); and Turley and Zaman (2004) for more thorough reviews of the academic literature on audit committees.

and Tower (2004), also using the broad definition of financial expertise, find no association between the magnitude of earnings management and the audit committee's financial expertise among the independent directors. Additionally, anecdotal evidence suggests that financial expertise obtained through experience as a CEO or President does not ensure an adequate understanding of accounting matters for an audit committee member (Livingston 2003).

However, studies that have adopted a more narrow definition of financial expertise, which differentiates between accounting and financial expertise, have provided more consistent results. For example, Dhaliwal et al. (2006) documents a significant positive relation between accounting expertise on audit committees and accrual quality. Quin (2007) finds that firms with accounting financial expertise on the audit committee are associated with higher earnings response coefficients (ERCs). KV (2008) find that firms with accounting financial experts on the audit committee are associated with more conservative financial reporting.

Furthermore, research suggests that market participants are sensitive to the type of financial expertise on the audit committee. For example, Davidson et al. (2004) shows that the market rewards companies for the appointment of accounting financial experts, but shows no reaction to the appointment of audit committee members with corporate financial management expertise. Similarly, Defond et al. (2005) find a significant positive market reaction to the appointment of accounting financial experts to the audit committee, but no significant reaction to the appointment of non-accounting financial experts.

It is important to note that the benefit of accounting financial expertise on the audit committee appears to be contingent upon the presence of a strong governance environment (Dhaliwal et al. 2006). For example, DeFond et al. (2005) finds that the significant positive market reaction to the appointment of accounting experts to the audit committee is concentrated

among firms with strong corporate governance. Similarly, KV (2008) note that the association between accounting financial expertise and conservative accounting exists only in firms that are characterized by strong governance.

In sum, prior research has shown an association between accounting financial expertise and FRQ (Dhaliwal et al. 2006, KV 2008) and has shown that the market values the addition of accounting financial expertise to the audit committee (DeFond et al. 2005). Both of these streams have underscored that a strong corporate governance culture is necessary for accounting expertise to be beneficial. However, no study has yet addressed the firm-specific financial reporting implications of adding accounting financial expertise to the audit committee. Accordingly, the aggregate increase in the number of firms with at least one accountant on its audit committee subsequent to the passage of SOX presents a unique opportunity to investigate the effect of initially appointing a director with accounting financial expertise to the audit committee on FRQ.

Hypothesis Development

The audit committee is the ultimate monitor of the financial reporting process (BRC 1999). Accounting conservatism is an important feature of quality financial reporting because it acts to protect the interests of stakeholders (Ahmed and Duellman 2007; LaFond and Watts 2008). Watts (2003) argues that conservatism reduces managers' ability to overstate earnings and net assets by requiring higher verification standards for gain recognition, which reduces managers' ability to withhold information about expected losses.

Conservatism also facilitates the monitoring of firms' investment policies (Ball 2001). By requiring more timely recognition of expected losses, conservatism helps identify negative net present value projects or poorly performing investments. This requirement limits losses from

poor investment decisions and thus increases firm and equity values. Therefore, stakeholders of the firm will desire monitors who demand more conservative financial reporting. Many companies specifically reference accounting conservatism as a responsibility of the audit committee (KV 2008).

KV (2008), using a narrow definition of financial expertise, show that the accounting expertise of the audit committee is significantly positively associated with higher levels of conservatism. This benefit is not significantly associated with non-accounting expertise (non-accounting financial expertise or nonfinancial expertise) in the pre-SOX period. This finding, along with findings from other studies discussed previously, indicates that financial reporting quality is positively associated *only* with accounting financial expertise on the audit committee. This suggests that the current definition of financial expertise adopted by the SEC may be too broad and lacks the efficacy to ensure high financial reporting quality.

On the other hand, other research indicates that an audit committee with different types of financial expertise may be more effective at monitoring financial reporting. For example, Bedard et al. (2004) find that corporate governance experience of the audit committee (measured by the number of outside board directorships held) significantly reduces the probability of aggressive earnings management. Also, Xie et al. (2003) document a significant negative association between abnormal working capital accruals and financial expertise obtained through experience as an investment banker (non-accounting financial expertise). McDaniel et al. (2002) suggest that different types of expertise provide unique but complementary viewpoints to the assessments of financial reporting. Thus, the addition of an accounting financial expert to the audit committee may not, in and of itself, improve FRQ.

Accordingly, this study will specifically address the financial reporting implications of adding accounting financial expertise to the audit committee. While an increase has occurred in the number of audit committee members with accounting financial expertise post-SOX, it is unclear whether firms have increased accounting financial expertise simply to follow best practices, or truly to improve the corporate governance culture, and specifically, the monitoring of the financial reporting process.

DiMaggio and Powell (1983) suggest that organizations often enact ceremonial changes in response to political influence. Therefore, it is possible that in the pre-SOX association tests, more conservative firms were more likely to have an audit committee containing accounting financial experts. As a result of SOX, it is possible that less conservative firms added accounting financial expertise to the audit committee. That is, the addition of an accounting financial expert to the audit committee was simply "window dressing" in response to the influence of SOX. If a firm with no accounting expertise on its audit committee pre-SOX adds an accounting expert without a change in its overall corporate governance and financial reporting process, then the addition of an audit committee member with accounting financial expertise will not increase the accounting conservatism of that firm.

However, if audit committee members with accounting financial expertise are better monitors and are able to contribute to a stronger corporate governance culture, then they will induce an increase in the conservatism of the firm. If this supposition is valid, post-SOX, firms that appoint audit committee members with accounting financial expertise to the audit committee should experience an increase in the level of conservatism. Therefore, I present the following hypothesis in alternate form:

H$_1$: Firms with no accounting financial expertise on the audit committee that add accounting financial expertise to the audit committee will experience an increase in the level of conservatism.

While research investigating the association between accounting financial expertise on the audit committee and FRQ has provided consistent results, most of these studies emphasize the contextual nature of accounting financial expertise. Dhaliwal et al. (2006) suggest that the benefit of accounting financial expertise on the audit committee appears to be contingent upon the presence of a strong governance environment. Likewise, KV (2008) note the association between accounting financial expertise and conservative accounting exists only in firms that are characterized by strong governance. Additionally, DeFond et al. (2005) find the significant positive market reaction to the appointment of accounting experts to the audit committee is concentrated among firms with strong corporate governance.

Becasuse prior research suggests that the effects of accounting financial expertise is limited to firms with strong corporate governance, it is expected that firms with strong (weak) corporate governance that appoint audit committee members with accounting financial expertise to the audit committee will (not) experience an increase in the level of conservatism. Thus, I present the second hypothesis in alternate form:

H$_2$: Firms with strong (weak) corporate governance that add accounting financial expertise to the audit committee will (not) experience an increase in the level of conservatism.

3. Research Methodology and Sample Selection

Measures of Financial Expertise

To measure financial expertise, I assign audit committee members into one of three categories of financial expertise. Accounting financial experts are audit committee members

who have experience as a certified public accountant, auditor, chief financial officer, controller, or chief accounting officer. Nonfinancial accounting experts are those audit committee members who have experience as chief executive officer or president of a for-profit company. All other audit committee members are classified as nonfinancial experts.

Measures of Conservatism

I use three[7] primary proxies for conservatism in my primary analysis.[8] The first measure of conservatism is an accrual-based measure employed by Givoly and Hayn (2000). Givoly and Hayn (2000) examine the income statement effects of conservatism over time and conclude that conservative accounting leads to persistently negative accruals rather than the expected pattern of accrual reversals. Thus, a firm's mean accrual over a long time period provides a firm-specific proxy for conservatism. Accruals before depreciation is calculated as net income before extraordinary items and discontinued operations plus depreciation expense less operating cash flows.[9] Accruals are deflated by total assets and averaged over a five year time-period centered at period t to determine a firm's mean accrual. The mean accrual is multiplied by -1 so that it is increasing in the amount of negative accruals. I refer to this measure as CONACRU. More conservative accounting should lead to higher measures of CONACRU.

The conservatism index (C-score) developed by Penman and Zhang (2002) is used as the second measure of conservatism. The C-score measures unrecorded reserves on the balance sheet, and is computed as the amount of LIFO reserve, research and development, and

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[7] My dissertation proposal included a fourth measure, CONACRUF, employed by Hui and Matsunaga (2004). This measure was included in the working paper format of Hui and Matsunaga (2004), but not in the final published paper. This measure is also highly correlated with CONACRU. Therefore, I omit it from my primary analysis. Results using this measure are included in Appendix B.

[8] The Basu (1997) asymmetric timelines measure and the Penman and Zhang (2002) Q-Score measure are employed in sensitivity analysis.

[9] The Givoly and Hayn (2000) measure ignores any conservatism in a firm's depreciation calculation, which biases against my hypothesis.

advertising reserves scaled by net operating assets for firms with one or more of the three reserves. C_{it} is referred to as CSCORE, and is calculated as:

$$C_{it} = (INV_{it}^{RES} + RD_{it}^{RES} + ADV_{it}^{RES}) / NOA_{it} \qquad (1)$$

Where:

INV_{it}^{RES} = Inventory reserve is the LIFO reserve reported in the footnotes to the financial statements.

RD_{it}^{RES} = Research and Development reserve is the estimated unamortized R&D assets that would have been on the balance sheet had R&D not been expensed.[10]

ADV_{it}^{RES} = Advertising reserve is the estimated brand assets created by advertising expenditures.[11]

The third and final measure of conservatism is a market-value-based measure of conservatism developed by Beaver and Ryan (2000). Beaver and Ryan (2000) suggest that variation in book-to-market (BM) ratios is a function of two components: biased accounting recognition and lagged accounting recogntion. The bias component reflects persistent differences between book and market values resulting from conservative accounting. The lag component reflects temporary differences in book and market values attributable to the lag in recognizing economic gains and losses in accounting. Beaver and Ryan (2000) measure the bias (conservatism) and lag components of the BM ratio by regressing the BM ratio on current and six lagged annual stock returns, as demonstrated in the following model:

$$BM_{it} = \chi + \chi_i + \chi_t + \sum \delta_k RET_{it-k} + \varepsilon_{it}$$

Where:

BM_{it} = the book-to-market ratio for firm i at fiscal year-end t;

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[10] I capitalize R&D expenditures and amortize them using the industry coefficients estimated by Lev and Sougiannis (1996).
[11] I capitalize advertising expenditures and amortize them over two years using the sum-of-year's digits method.

χ = the intercept across all firms and years;

χ_i = the persistent firm specific bias component of BM ratio over the sample period;

χ_t = the year-specific component of BM ratio across all firms;

RET_{it}= annual stock returns including dividends for firm i in year t.

The firm specific intercept, χ_i, is multiplied by -1 and will be referred to as CONBM.

Conservatism Model

I estimate the following empirical model (Eq. 4) adapted from KV (2008) to test the

impact of the addition of accounting financial expertise to the audit committee on accounting

conservatism[12]:

$$CON = a_o + a_1ADD + a_2AFEXP + a_3BSIZE + a_4NODUAL$$
$$+ a_5BIND + a_6ACSIZE + a_7ACMEET + a_8SIZE + a_9DEBT$$
$$+ a_{10}CFO + a_{11}RDADV + a_{12}SGROW + a_{13}LlTI + a_{14}INOWN$$
$$+ a_{15}INSTOWN + \varepsilon \tag{4}$$

I define the variables as follows:

CON = one of the three measures of conservatism;
ADD = a dummy variable equal to 1 for those firms that had no accounting financial expert in the pre-SOX period and had at least one in the post-SOX period, and 0 otherwise;
AFEXP = a dummy variable indicating firms that had an accounting financial expert in the pre-SOX period and in the post-SOX period, and 0 otherwise;
BSIZE = the log of total number of directors in the board;
NODUAL = a dummy variable that equals 1 if the CEO is also not the chairman of the board, and 0 otherwise;
BIND = the proportion of directors who are independent;
ACSIZE = the log of total number of directors on the audit committee;
ACMEET = the number of meetings by the audit committee during the year;
SIZE = the log of total assets;
DEBT = long-term debt divided by total assets;
CFO = cash flow from operations, scaled by total assets;
RDADV = research and development expense plus advertising expense, scaled by sales;
SGROW = the annual percentage change in sales;

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[12] KV (2008) include Big 4 as an independent variable in the multivariate regression. However, over 99% of firms in my sample are audited by Big 4 accounting firms; thus, this independent variable is excluded.

LITI = a dummy variable that equals 1 for biotechnology, computers, electronics, and retailing industries and equals 0 for other industries (Francis et al. 1994);

INOWN= the percentage of common stock owned by all officers of the corporation and directors as a group;

INSTOWN = the percentage of common stock held by institutions.

I expect a positive coefficient for a_1, which is consistent with Hypothesis 1 that the addition of accounting financial expertise is associated with increased accounting conservatism in the post-SOX period. AFEXP consists of those firms with accounting expertise in the pre-SOX and post-SOX period. Based on prior literature suggesting accounting financial expertise is associated with higher levels of conservatism, I expect a positive coefficient for a_2.

The additional variables in my tests control for governance characteristics of the firm. The first control variable is board size. Prior research suggests that smaller boards are more effective (Jensen 1993); therefore, I expect a negative sign for the coefficient for a_3. Prior research also indicates that separation of the role of CEO and chairman of the board enhances corporate governance (Jensen 1993; Agrawal and Chada 2005) and shows that more independent boards are associated with lower incidence of fraud and earnings management (Beasley 1996; Klein 2002). Therefore, a positive relation is expected for a_4 and a_5. Prior research is mixed with regard to audit committee size; thus, no expectation is made for the sign of a_6. Farber (2005) finds that the frequency of audit committee meetings is negatively associated with fraudulent reporting; thus, I expect a positive coefficient on a_7.

I include control variables for profitability, size, sales growth, and growth opportunities, which are potentially associated with alternative motivations for and costs of conservatism (Ahmed et al. 2002). I expect a_8, a_9, a_{10}, a_{11}, and a_{12} to be positive. When conservatism is defined as CSCORE, I do not include RDADV in the model because it is used in the calculation of the C-Score.

Firms operating in industries where the risk of litigation is high have incentives to adopt conservative financial reporting (KV 2008). Thus, I expect a positive relation for a_{13}. Warfield, Wild, and Wild (1995) find that managerial ownership is positively associated with the informativeness of earnings. Therefore, I expect a_{14} to be positive. Finally, I expect a negative sign for a_{15}, consistent with prior research that institutional investors may emphasize short-term performance and, thus, have a greater likelihood of earnings management (Bushee 2004).

Conservatism Model Conditioned Upon Governance

Prior research investigating the relationship between audit committee financial expertise and FRQ has used a measure of strong governance (SGOV) and noted that the effect of accounting financial expertise on the audit committee is conditional upon the governance of the firm (KV 2008; DeFond et al. 2005). SGOV is a dummy variable that equals 1 if GOV is greater than the sample median and 0 otherwise. The components of SGOV are defined as follows:

GOV = a summary measure of corporate governance that is equal to the sum of the following six binary governance variables: LBSIZE, HBIND, HACSIZE, HACIND, LGINDEX, and HINSTOWN;

LBSIZE = a dummy variable that equals 1 if the board size is less than the sample median, and 0 otherwise;

HBIND = a dummy variable that equals 1 if the proportion of outside directors is greater than 60 percent, and 0 otherwise;

HACSIZE = a dummy variable that equals 1 if the proportion of the number of directors on the audit committee to the total number of directors on board is greater than the sample median, and 0 otherwise;

HACIND = a dummy variable that equals 1 if the audit committee is composed solely of independent directors, and 0 otherwise;

LGINDEX = a dummy variable that equals 1 if the GINDEX is below the sample median, and 0 otherwise; GINDEX, developed by Gompers, Ishii, and Metrick 2003, measures the strength of a firm's governance system and is constructed based on a simple counting of 24 corporate

governance provisions. A low (high) GINDEX means that a firm has a strong (weak) governance system;

HINSTOWN = a dummy variable that equals 1 if the percentage of institutional ownership (INSTOWN) is greater than the sample median, and 0 otherwise.

I partition the sample into strong governance firms (SGOV=1) and weak governance firms (SGOV=0) and estimate the following empirical model (Eq. 4) to test Hypothesis 2:

$$CON = a_o + a_1ADD + a_2AEXP + a_3SIZE + a_4 DEBT + a_5CFO$$
$$+ a_6RDADV + a_7SGROW + a_8LlTI + a_9INOWN + \varepsilon \qquad (5)$$

In this model, SGOV includes a number of governance variables that are considered separately in Eq. 4, thus these control variables are not included in this regression analysis. For the CSCORE measure, RDADV is omitted.

For firms with strong governance (SGOV=1), I expect a positive coefficient for a_1, which is consistent with Hypothesis 2 that the addition of accounting financial expertise to firms with strong governance is associated with higher accounting conservatism in the post-SOX period. Based on prior literature suggesting that accounting financial expertise is associated with higher levels of conservatism in firms with strong governance, I expect a positive coefficient for a_2 for firms with strong governance.

For firms with weak governance (SGOV=0), no prediction is made for the coefficient for a_1 or a_2, because prior literature suggests accounting financial expertise is associated with higher levels of conservatism *only* in firms with strong governance. Therefore, there is no conceptual link between the accounting expertise of the audit committee and accounting conservatism for firms with weak governance.

4. Empirical Results

Sample and Descriptive Statistics

In order to examine the appointment of accounting experts to the audit committee around the passage of SOX, I require firms to have observations in both the pre-SOX (2000-2001) and post-SOX period (2006-2007). These time periods were selected for two reasons. First, SOX was passed in July of 2002, so ending the pre-SOX period in 2001 eliminates much of the influence that the passage of SOX may have on the results. Second, the typical term for a board member is 3 to 5 years. The five year time span allows for more turnover in the board and audit committee.

The sample selection begins with firms that are included in the S&P 500 for the years 2000 through 2001. The sample was confined to firms in the S&P 500 in order to increase the data availability for members of the board of directors.[13] A search on COMPUSTAT for the S&P 500 firms yielded 390 firms. Sixty-six firms in the financial services industries (Standard Industrial Classification [SIC] codes 6000-6999) are excluded because accruals of these firms are interpreted differently from accruals of firms in other industries.[14] I exclude 34 firms that underwent a merger, acquisition, or disposition of a major segment between the end of the pre-SOX sample (2002) and the beginning of the post-SOX sample (2006). I also exclude 16 firms for which either financial data or governance data are unavailable. My final sample consists of 274 firms (548 firm-years). For the CSCORE measure, I exclude 148 firm-years where data are unavailable for any of the three reserves (LIFO inventory reserve, R&D expense, and advertising expense) needed to estimate CSCORE. The final sample for the CSCORE measure is 400 firm-years.

For each firm-year in the final sample, I hand collect data about the background and experience of the audit committee members from proxy statements, 10-K reports, and other

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[13] Using a sample of S&P 500 firms is consistent with prior research (e.g. Klein 2002 and KV 2008).
[14] Many studies on conservatism also eliminate firms in the utilities industry. In sensitivity analysis, the results of this paper are not changed by eliminating firms in the utilities industry.

publicly available sources. Accounting data are obtained from COMPUSTAT. The corporate

governance data are obtained from proxy statements, 10-K reports, and other publicly available

sources.

For my primary analysis, I partition firms into one of three different categories: ADD

firms are those firms that had no accounting financial expert on the audit committee at any time

in the pre-SOX period (2000-2001), and did have an accounting financial expert in the post-SOX

period; AFEXP firms are those firms that had an accounting financial expert on the audit

committee at any time in the pre-SOX period (2000-2001) and continued to have an accounting

financial expert on the audit committee in the post-SOX period; while NAFEXP are those firms

that did not have an accounting financial expert on the audit committee at any time in the pre-

SOX period and did not have an accounting financial expert in the post-SOX period. [15]

INSERT TABLE 1 ABOUT HERE

The industry distribution for the sample appears in Table 1. The industry distribution is

similar to that of KV (2008). Business equipment, manufacturing, and retail industries represent

47 percent of the sample (56 percent for the CSCORE measure).

INSERT TABLE 2 ABOUT HERE

Information about the presence of financial experts on the audit committee for sample

firms is summarized in Table 2. The number of firms with at least one accounting financial

expert has increased over time, with a dramatic increase in the post-SOX period. Additionally,

the number of firms with at least one nonfinancial expert has decreased substantially in the post-

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[15] The pre-SOX sample contains multiple firm-year observations, and some firms changed levels of accounting expertise within the pre-SOX sample. Accordingly, in considering changes in audit committee expertise from pre- to post-SOX, I classify firms as "ADD" firms if they had no accounting financial expertise at any time during the pre-SOX period and had accounting financial expertise at any time in the post-SOX period.

SOX period. Thus, the goal of SOX Section 407, which is to increase financial expertise on the audit committee, appears to have been achieved.

INSERT TABLE 3 ABOUT HERE

Descriptive statistics for the pooled sample in the post-SOX period are presented in Table 3. The mean value for ADD is 42.7, which indicates that about 43 percent of the firm-years consist of firms that had no accounting financial expertise on the audit committee in the pre-SOX period and had accounting financial expertise on the audit committee in the post-SOX period. The mean value for AFEXP is .218, thus, about 22 percent of the firm years had accounting financial expertise on the audit committee in the pre-SOX period and continued to have accounting financial expertise on the audit committee in the post-SOX period. About 36 percent of firms had no accounting expertise on the audit committee in the pre-SOX period and continued to have no accounting financial expertise on the audit committee in the post-SOX period (NFEXP).

About 67 percent of the firm-years have at least one accounting financial expert (AFINEXD), and 22.2 percent of the total audit committee directors qualify as accounting financial experts (AFIN). The proportion of audit committee directors who are neither accounting financial experts nor non-accounting financial experts reduced significantly to 15.8 percent (NFE). The mean value of audit committee independence (ACIND) is .943,[16] while board independence is .738. This indicates that 94.3% and 73.8% of audit committee and board members are independent, respectively. The mean value for NODUAL is 0.263, indicating that for about 26 percent of the firm-years, the position of CEO and the chairman of the board are not

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[16] Audit committee members' independence may be impaired by performing legal or other consulting services. Most companies acknowledge the relationship between the company and the audit committee member and include a disclaimer in the proxy that the company believes that the relationship does not impair the independence of that audit committee member.

held by the same individual. The mean percentages of common stock held by insiders (INOWN) and institutions (INSTOWN) are, respectively, 4.8 percent and 70.9 percent.

Univariate Analysis

INSERT TABLE 4 ABOUT HERE

Correlation coefficients for firm types and conservatism measures are reported in Table 4. Results indicate that for the post-SOX sample, ADD is not significantly correlated with any of the conservatism measures using Pearson correlations, and significantly positively correlated only with CONBM using Spearman correlations. On the other hand, AFEXP is positively correlated with CONACRU and CSCORE using both Pearson and Spearman correlations. AFEXP is significantly negatively correlated with CONBM using Spearman correlations, but not using Pearson correlations. These results provide weak evidence indicating that firms who added accounting financial expertise to the audit committee in the post-SOX period are associated with higher levels of conservatism only using the CONBM measure. However, the results suggest that firms with an accounting expert in the pre-SOX period are more conservative even in the post-SOX period using CONACRU and CSCORE measures.

I also examine whether significant differences exist in mean and median values of the various conservatism measures between firms with no accounting expert in the pre-SOX period and added at least one accounting financial expert and firms that did not add any accounting financial experts. ADD is a dummy variable that equals 1 for firms that added at least one accounting financial expert between pre-SOX and post-SOX, and 0 otherwise. Those results are reported in Table 5.

INSERT TABLE 5 ABOUT HERE

As seen in Panel A, the mean values of conservatism are not significantly different for firm-years that added at least one accounting financial expert relative to firm-years that did not add any accounting experts for any of the three conservatism measures. These results indicate that adding accounting financial expertise is not associated with a subsequent increase in accounting conservatism. The median analysis provides mixed results. For CONACRU and CONBM, the medians are significantly higher at the .10 level for firms that added an accounting financial expert to the audit committee. However, the median value for CSCORE is significantly lower at the .10 level for firms that added an accounting financial expert to the audit committee. These results provide mixed and weak support about the benefit of adding an accounting financial expert to the audit committee.

Results about the relation between accounting financial expertise on the audit committee and accounting conservatism using a changes specification are provided in Panel B of Table 5. To determine the change in conservatism for each firm, I use the methodology employed by Ahmed et al. (2002). Specifically, for each firm, I calculate the change in conservatism variables as the firm-specific mean value for the post-SOX period (2006-2007) less the firm-specific mean value for the pre-SOX period (2000-2001). Panel B provides the change in conservatism measures from the pre-SOX period (2000-2001) to the post-SOX period (2006-2007) for firms that added at least one accounting financial expert and firms that did not. The differences in mean and median values are not significant for CONACRU or CONBM; however, the mean and median changes in CSCORE are significantly higher at the .10 level for firms that did *not* add an accountant to the audit committee. These results indicate that adding accounting financial experts to the audit committee is not associated with a change in accounting conservatism.

However, the univariate analyses do not indicate how the variables jointly affect accounting conservatism and are subject to omitted variables bias.

Multivariate Analysis

INSERT TABLE 6 ABOUT HERE

Results for the Eq. 5 are presented in Table 6. To control for industry-specific effects, I include 10 industry-dummy variables based on Fama-French industry classifications (excluding money and finance) (coefficients for the industry-dummy variables are not tabulated). The t-statistics in Table 6 are based on Huber-White standard errors that correct for clustering and are robust to heteroscedasticity and serial correlation (Huber 1967; White 1980; Rogers 1993).

In multivariate analysis, the variable of interest, ADD is not significant for any of the conservatism measures. AFEXP is positive and significant at the .05 level in the CSCORE model, and is marginally significant in the CONACRU model (t-statistic of 1.54).   However, AFEXP is not significant in the CONBM model.

Turning to control variables, the sign for BSIZE is positive but significant only for the CONBM measure at the .10 level. NODUAL is mixed and insignificant for all three measures of conservatism. BIND is positive but not significant for any cases. ACSIZE is significant only in the CSCORE case, and ACMEET is significant at the .05 or better level in the CSCORE cases. The sign for ACIND is negative in both cases, but is not significant in either case. INSTOWN is positive and significant in the CSCORE case. This result suggests that institutions have a preference for more conservative financial reporting in the post-SOX period.

Multivariate Analysis Conditioned Upon Strong Governance

Table 7 presents the results of multivariate analysis conditioned upon SGOV. Consistent with Hypothesis 2, for firms with a strong governance structure, the addition of an accounting financial expert is positively and significantly associated with higher levels of conservatism as measured by CSCORE at the .05 level. The results also show that for firms with weak governance, the addition of an accounting financial expert to the audit committee is significantly positively associated with higher levels of accounting conservatism using the CONACRU measure at the .05 level.

INSERT TABLE 7 ABOUT HERE

Firm Type Analysis

The results from Table 4 indicate that firms that had an accounting financial expert on the audit committee in both the pre- and post-SOX period are associated with higher levels of accounting conservatism. To investigate whether firm type is driving the results found in the pre-SOX period, I partition firms into one of two groups: firms that had an accounting financial expert on the audit committee in the pre-SOX period (PREAFINEXD=1) and firms that did not have an accounting financial expert on the audit committee in the pre-SOX period (PREAFINEXD=0). I compare the mean and median values of conservatism measures between these firms in the post-SOX period to determine whether significant differences exist in levels of conservatism in Table 8.

INSERT TABLE 8 ABOUT HERE

As seen in Panel A, both mean and median values of conservatism are significantly higher for firm-years with at least one accounting financial expert in the pre-SOX period relative to firm-years that had only non-accounting financial experts in the pre-SOX period for the CONACRU and CSCORE measures. The differences in mean values are significant for

CONACRU and CSCORE at the .05 and .01 levels, respectively. The differences in median values are significant at the .05 level for the CSCORE measure. Interestingly, the level of conservatism as measured by CONBM is significantly lower in the post-SOX period for firms that had an accountant on the audit committee in the pre-SOX period. Prior research provided no results using the CONBM measure (KV 2008). These results suggest that firm type was driving the results found in prior literature documenting an association between accounting financial expertise and accounting conservatism using the CONACRU and CSCORE measures.

Panel B provides the change in conservatism measures from the pre-SOX period to the post-SOX period for firms that had at least one accounting financial expert in the pre-SOX period and firms that did not. The differences in mean and median values are not significant for any of the measures. These results indicate that firms with accounting financial experts on the audit committee in the pre-SOX period did not have a greater change in accounting conservatism post-SOX than firms with no accounting financial experts in the pre-SOX period.

As an additional analysis regarding firm type, I again assign firms into one of two groups: firms that had an accounting financial expert on the audit committee in the pre-SOX period (AFINEXD=1) and firms that did not have an accounting financial expert on the audit committee in pre-SOX period (AFINEXD=0). In Table 9, I compare the mean and median values of conservatism measures between these firms in the 1997-1998 time period (prior to the KV 2008 sample period) to determine whether significant differences exist in levels of conservatism.

INSERT TABLE 9 ABOUT HERE

As seen in Table 9, both mean and median values of conservatism are higher for firm-years with at least one accounting financial expert in the pre-SOX period relative to firm-years that had only non-accounting financial experts in the pre-SOX period for both CONACRU and

CSCORE conservatism measures. The differences in mean values are significant for

CONACRU at the 0.01 level and at the .05 level for CSCORE. The differences in median values

are significant for CSCORE at the 0.05 level and at the .01 level for CONACRU. No significant

differences are reported using the CONBM measure. These results further suggest that firm type

was driving the results found in prior literature documenting an association between accounting

financial expertise and accounting conservatism.

Asymmetric Loss Recognition

Basu's [1997] measure of accounting conservatism is a measure of conditional

conservatism.[17] This measure focuses on the implication that earnings will reflect "bad news"

more quickly than "good news." According to the Basu measure, the greater the asymmetric

timeliness, the greater the degree of conservatism in a firm. The following cross-sectional

regression is used to assess the degree of conservatism (i.e. asymmetric timeliness):

$$EPS_{it}/P_{it} = \alpha_0 + \alpha_1 DR_{it} + \beta_0 R_{it} + \beta_1 R_{it}*DR_{it} + \varepsilon_{it} \qquad (7)$$

Where:

EPS_{it} = Earnings per share for firm i year t

P_{it} = Opening stock market price for firm i year t

R_{it} = Stock market return for firm i year t

DR_{it} = Dummy variable that is equal to 1 if the stock market return for firm i in year t is

negative, and equal to 0 if the stock market return for firm i in year t is nonnegative.

Basu [1997] regresses accounting earnings (EPS/P) on stock returns (R) separately for

'good-news' and 'bad-news' firm-years. A firm-year is deemed as a "good-news" firm-year if its

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[17] Despite criticism of the Basu (1997) measure (see Givoly et al. 2007 for further discussion), it is the most widely used conservatism measure in the literature. Because of the criticism, I use this measure only in sensitivity analysis. Sample limitations do not allow me to use other asymmetric timeliness measures such as the Ball and Shivakumar (2005) cash flow measure.

market return is positive or zero. A firm-year is deemed a "bad-news" firm-year if its stock

return is negative. The regression model uses the dummy variable, DR, to separate "good-news"

from "bad-news", which allows the slope coefficients (and the intercepts) to differ between these

two groups. The estimated slope coefficient measures how timely the news embodied in the

stock return is recognized in earnings, conditional on the nature (i.e. the sign) of the "news."

Under good news, DR equals 0, and the good-news timeliness coefficient is $\beta1$. Under

bad news, DR equals 1, and the bad-news timeliness coefficient is $\beta0+ \beta1$. Therefore, $\beta1$ is the

asymmetric timeliness coefficient and is the primary indicator of accounting conservatism in the

Basu model. The greater $\beta1$ is, the higher the degree of conservatism.

To test the effect of the addition of accounting financial expertise to the audit committee

on asymmetric timeliness, I estimate the following model, adopted from Ahmed and Duellman

(2007):

$$EPS_{it}/P_{it}=\alpha_0 + \alpha_1 DR_{it} + \beta_0 R_{it} + \beta_1 R_{it}*DR_{it} + \beta_2 ADD_{it} + \beta_3 ADD_{it}*DR_{it} \qquad (8)$$
$$+ \beta_4 ADD_{it} *Rit + \beta_5 ADD_{it}* R_{it}*DR_{it} + \beta_6 TYPE_{it} + \beta_7 TYPE_{it}*DR_{it}$$
$$+ \beta_8 TYPE_{it} *Rit + \beta_5 TYPE_{it}* R_{it}*DR_{it} + \varepsilon_{it}$$

Where:

EPS_{it} = Earnings per share for firm i year t

P_{it} = Opening stock market price for firm i year t

R_{it} = Stock market return for firm i year t

DR_{it} = Dummy variable that is equal to 1 if the stock market return for firm i in year t is

negative, and equal to 0 if the stock market return for firm i in year t is nonnegative.

ADD = Dummy variable that is equal to 1 if the firm had no accounting expertise on the audit

committee in the pre-SOX period and added accounting expertise in the post-SOX period, 0

otherwise.

TYPE= Dummy variable that is equal to 1 if the firm had accounting expertise on the audit committee in the pre-SOX period and had accounting expertise on the audit committee in the post-SOX period, 0 otherwise.

I expect a positive coefficient on β_5, which represents the timeliness coefficient for firms that added an accounting financial expert to the audit committee between the pre-and post-SOX periods.

The results of pooled regressions used to estimate the asymmetric timeliness coefficient and test for the effects of the addition of accounting financial expertise to the audit committee on asymmetric timeliness are presented in Table 10. In Panel A, I present the Basu regression for the entire sample and find that the asymmetric timeliness coefficient for the entire sample is 0.200, which is consistent with magnitude of that coefficient found in Basu (1997).

INSERT TABLE 10 ABOUT HERE

The results from Eq. 8 are presented in Panel B of Table 10. The coefficient on β_5 is positive and significant at the .10 level, which is consistent with my expectation. This result indicates that firms who added an accounting financial expert to the audit committee around the passage of SOX display higher levels of conditional conservatism as measured by the asymmetric timeliness coefficient.

Penman and Zhang (2002) Q-Score

According to Penman and Zhang (2002), the C score measures the effect of conservative accounting on the balance sheet. Thus, they compute a Q score which measures the effect of conservatism on the income statement. The Q score is a combination of two measures. The first measure Q_{it}^A is the change in a firm's conservatism score C_{it}.

$$Q_{it}^A = \frac{ER_{it}}{NOA_{it}} - \frac{ER_{it-1}}{NOA_{it-1}}$$

The second measure compares a firm's C score to the industry median, where industry is measured by two-digit SIC.

$$Q_{it}^{B} = \frac{ER_{it}}{NOA_{it}} - \text{Industry median} \left(\frac{ER_{it}}{NOA_{it}} \right)$$

The Q score is an average of these two measures.

In untabulated results, I use the Q score as the dependent variable in Eqs. 4 and 6. The results from Eq. 4 indicate that the addition of an accounting financial expert is not significantly associated with an increase in conservatism. Partitioning the sample into strong and weak governance (Eq. 6) does not provide any significant results. Thus, it appears the addition of accounting financial expertise to the audit committee is not associated with the Penman and Zhang (2002) Q score measure.

When DO Accountants Matter?

Building on the suggestion of Beasley and Salterio (2001) that individuals with a better understanding of technical accounting and auditing issues will contribute more significantly to audit committee effectiveness, I investigate whether accountants contribute to higher conservatism only in certain firms.

Risk

Under the premise that riskier firms will demand higher quality financial reporting, and thus demand accounting expertise on the audit committee, I partition the sample according to various measures of risk. I expect the effect of adding accounting financial expertise will be more pronounced in riskier firms.

Shu (2000) develops a model of auditor litigation risk. Incorporating many of the variables in her analysis to capture the higher risk firms does not provide any significant results. Partitioning the sample based on risk does not provide any significant results.

The second measure of risk I use is cost of capital. Using the Gebhardt, Lee, and Swaminathan (2001; hereafter GLS) and PEG ratio cost of capital as employed by Easton and Monahan (2004), I find that in the pre-SOX period, there is some evidence that firms with accounting financial expertise on the audit committee faced a higher cost of capital, that is, firms that had accounting financial expertise on the audit committee were riskier firms, as proxied by cost of capital.

In the post-SOX period, there are no significant differences in cost of capital between types of firms, including firms that added an accountant vs. firms that did not; firms that had an accountant in the pre-SOX period vs. those that did not.

Complexity

Under the same premise above, I expect the effect of adding accounting financial expertise will be more pronounced in more complex firms. I have looked at the complexity of the firm according to various measures of complexity found in prior literature, including lines of business, segments, and foreign operations, but found no significant results using any of the complexity partitions.

5. Conclusion and Limitations

KV (2008) document a significant positive association between accounting financial expertise on the audit committee and accounting conservatism. However, KV (2008) do not examine whether firms that replace non-accounting experts with accounting experts exhibit greater conservatism. This study specifically addresses the implication of adding accounting financial expertise to the audit committee for accounting conservatism.

The results of this paper indicate that for firms with weak governance, the addition of an accounting financial expert to the audit committee is associated with an increase in the Givoly

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and Hayn (2000) measure of accounting conservatism. On the other hand, for firms with strong governance, the addition of an accounting financial expert to the audit committee is associated with higher conservatism as measured by the Penman and Zhang (2002) C score measure. Additionally, sensitivity analysis suggests that adding accounting financial expertise to the audit committee is associated with an increase in conditional accounting conservatism as measured by the Basu (1997) measure.

The most consistent results suggest that previous studies showing an association between accounting financial expertise on the audit committee and accounting conservatism were driven in large part by firm type. That is, more conservative firms were more likely in the pre-SOX period to appoint accounting financial experts to the audit committee.

This paper is subject to several limitations. First, the categorization of financial expertise is subject to measurement error because of the limited scope of biographical data for many directors. Second, this study focuses on large S & P 500 firms, and may not be generalizable to the population of all firms. Finally, because conservatism is a complex construct, there may be measurement error inherent in the proxies for financial statement quality.

REFERENCES

Abbott, L., Parker, S., and G. Peters. 2004. Audit committee characteristics and restatements. *Auditing: A Journal of Practice & Theory* 23 (1): 69-87.

Agrawal, A., and S. Chadha. 2005. Corporate governance and accounting scandals. *Journal of Law and Economics* 48: 371-406.

Ahmed, A., B. Billings, R. Morton, and M. Stanford-Harris. 2002. The role of accounting conservatism in mitigating bondholder-shareholder conflicts over dividend policy and in reducing debt costs. *The Accounting Review 11* (4): 867-90.

Ahmed, A., and S. Duellman. 2007. Accounting conservatism and board of director characteristics: An empirical analysis. *Journal of Accounting & Economics* 43. (2/3): 411.

American Association of Bank Directors. "Letter to the SEC – RE: The Sarbanes Oxley Act of 2002." December 9, 2002.

Anderson, R. C., S. A. Mansi, and D. M. Reeb. 2004. Board characteristics, accounting report integrity, and the cost of debt. *Journal of Accounting and Economics* 37: 315–342.

Ball, R. 2001. Infrastructure requirements for an economically efficient system of public financial reporting and disclosure. *Brookings-Wharton Papers on Financial Services:* 127-82.

Ball, R., and L. Shivakumar. 2005. Earnings quality in UK private firms: Comparative loss recognition timeliness. *Journal of Accounting & Economics* 39 (1): 83-128.

Basu, S. 1997. The conservatism principle and the asymmetric timeliness of earnings. *Journal of Accounting and Economics* 24 (1): 3-37.

Beasley, M. 1996. An empirical analysis of the relation between the board of director composition and financial fraud. *The Accounting Review* 71 (4): 443-65.

Beasley, M. S., and S. E. Salterio. 2001. The relationship between board characteristics and voluntary improvements in audit committee composition and experience. *Contemporary Accounting Research* 18 (Winter): 539-570.

Beaver, W., and S. Ryan. 2000. Biases and lags in book value and their effects on the ability of the book-to-market ratio to predict book return on equity. *Journal of Accounting Research* 38: 127-148.

Bédard, J., S. M. Chtourou, and L. Courteau. 2004. The effect of audit committee expertise, independence, and activity on aggressive earnings management. *Auditing: A Journal of Practice & Theory* 23 (2): 13–35.

Bedard, J., and Y. Gendron. 2009. Strengthening the financial reporting system: Can audit committees deliver? Working paper. Universite Laval.

Blue Ribbon Committee. 1999. *Report and recommendations of the Blue Ribbon Committee on improving the effectiveness of corporate audit committees.* New York Stock Exchange and National Association of Securities Dealers.

Bryan-Low, C. 2002. Defining moment for the SEC: Who's a financial expert? *Wall Street Journal* December 9.

Bushee, B. 2004. Identifying and attracting the "right" investors: Evidence on the behavior of institutional investors. *Journal of Applied Corporate Finance* 16 (4): 28-35.

Carcello, J. V., and T. L. Neal. 2003. Audit committee characteristics and auditor dismissals following "New" going-concern reports. *The Accounting Review* 78 (January): 95-117.

Carcello, J., C. Hollingsworth, and T. Neal. 2006. Audit committee financial experts: A closer look using firm designations. *Accounting Horizons* 20(4): 351-373.

Cohen, J., G. Krishamoorthy, and A. M. Wright. 2004. The corporate governance mosaic and financial reporting quality. *Journal of Accounting Literature* 23: 87–152.

Davidson III, W. N., B. Xie, and W. Xu. 2004. Market reaction to voluntary announcements of audit committee appointments: The effect of financial expertise. *Journal of Accounting and Public Policy* 23 (July): 279-293.

DeFond, M.L., R. N. Hann, and X. Hu. 2005. Does the market value financial expertise on audit committees of boards of directors? *Journal of Accounting Research* 43 (2), 153-193.

DeZoort, F. T., D. R. Hermanson, D. Archambeault, and S. Reed. 2002. Audit committee effectiveness: A synthesis of the empirical audit committee literature. *Journal of Accounting Literature* 21: 38–75.

Dhaliwal, D., V. Naiker, and F. Navissi. 2006. Audit committee financial expertise, corporate governance, and accruals quality: An empirical analysis. Working Paper, University of Arizona.

Dhaliwal, D., V. Naiker, and F. Navissi. 2008. The association between accruals quality and the characteristics of accounting experts and mix of expertise on audit committees. Working Paper, University of Arizona.

DiMaggio, P. J., and W. Powell. 1983. The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review* 48: 147-160.

Farber, D. 2005. Restoring trust after fraud: Does corporate governance matter? *The Accounting Review* 80 (2): 539-61.

Francis, J., D. Philbrick, and K. Schipper. 1994. Shareholder litigation and corporate disclosures. *Journal of Accounting Research* 32(2), 137.

Givoly, D., and C. Hayn. 2000. The changing time-series properties of earnings, cash flows, and accruals: Has financial reporting become more conservative? *Journal of Accounting and Economic,* 29: 287-320.

Givoly, D., C. Hayn, and A. Natarajan. 2007. Measuring reporting conservatism. *The Accounting Review* 82 (1): 65-106.

Hoitash, U., R. Hoitash, and J Bedard. 2009. Corporate governance and internal control over financial reporting: A comparison of regulatory regimes. *The Accounting Review* 84 (3): 839-867.

Huber, P. J. 1967. The behavior of maximum likelihood estimates under nonstandard conditions. In *Proceedings of the Fifth Berkeley Symposium on Mathematical Statistics and Probability* 1:221-3 . Berkeley, CA: University of California Press.

Hui, K., and S. Matsunaga. 2004. An empirical test of the relation between accounting conservatism and management forecast frequency. Working paper. University of Oregon.

Huron Consulting Group 2007. 2007 Audit Committee Research Report.

Jensen, M. 1993. The modern industrial revolution, exit, and the failure of internal control systems. *The Journal of Finance* 48 (3): 831-80.

Klein, A. 2002. Audit committee, board of director characteristics, and earnings management. *Journal of Accounting and Economics* 33: 375-400.

Krishnan, G. V., and G. Visvanathan. 2008. Does the SOX definition of an accounting expert matter? The association between audit committee directors' accounting expertise and accounting conservatism. *Contemporary Accounting Research* 25(3): 827-857.

Krishnan, J., and J. E. Lee. 2008. Audit Committee Financial Expertise, Litigation Risk and Corporate Governance. Working Paper. Temple University.

LaFond, R., and R. Watts. 2008. The information role of conservatism. *The Accounting Review* 83(2), 447-478.

Lev, B., and T. Sougiannis. 1996. The capitalization, amortization, and value-relevance of R&D. *Journal of Accounting and Economics* 21: 107-138.

Li, H., H. Pincus, and S.O. Rego. 2006. Market reaction to events surrounding the Sarbanes-Oxley Act of 2002. Working Paper, University of Iowa, University of California, Irvine, and University of Iowa.

Livingston, P. 2003. Financial experts on audit committees. *Financial Executive* 19: 6–7.

McDaniel L., R. D. Martin, and L. A. Maines. 2002. Evaluation financial reporting quality: the effects of financial expertise vs. financial literacy. *The Accounting Review* 77 (Supplement): 139–167.

Penman, S., and X. Zhang. 2002. Accounting conservatism, quality of eamings, and stock returns. *The Accounting Review* 77 (2): 237-264.

PricewaterhouseCoopers LLP. 2000. *Audit committee effectiveness – What works best.* Second edition. Altamonte Springs, FL: Institute of Internal Auditors Research Foundation.

Quin, B. 2007. The influence of audit committee financial expertise on earnings quality: US evidence. *Working Paper*. University of Gronigen.

Rogers, W. H. 1993. Regression standard errors in clustered samples. *Stata Technical Bulletin* 13: 19-23.

Sarbanes-Oxley Act of 2002, (SOX) Public Law 107-204, 107th Congress, 2d Session, July 24, 2002. Available on Congress.gov.

SEC. 2002. Proposed Rule: Disclosed Required By Sections 406 and 407 of the Sarbanes-Oxley Act of 2002. http://www.sec.gov/rules/proposed/33-8138.htm

SEC. 2003. Final Rule: Disclosed Required By Sections 406 and 407 of the Sarbanes-Oxley Act of 2002. http://www.sec.gov/rules/final/33-8177.htm

Turley, S., and M. Zaman. 2004. The corporate governance effects of audit committees. *Journal of Management and Governance* 8 (3): 305–32.

U.S. Congress. 2002. Sarbanes-Oxley Act of 2002. *107th Congress, HR 3763.*

Vafeas, N. 2005. Audit committees, boards, and the quality of reported earnings. *Contemporary Accounting Research* 22 (Winter): 1093-1122.

Van Der Zahn, M., and G. Tower. 2005. Corporate governance - earnings management linkages: Impact of audit committee composition and operational characteristics. *International Journal of Accounting, Auditing and Performance Evaluation* 1: 401-431.

Warfield, T. D., J. J. Wild, and K. L. Wild. 1995. Managerial ownership, accounting choices, and informativeness of earnings. *Journal of Accounting & Economics* 20 (1): 61-91.

Watts, R. 2003. Conservatism in accounting — Part I: Explanations and implications. *Accounting Horizons* 17 (3): 207-21.

White, H. 1980. A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica* 48 (4): 817-30.

Xie, B., W. N. Davidson, P. J. DaDalt. 2003. Earnings management and corporate governance: the role of the board and the audit committee. *Journal of Corporate Finance* 9 (3): 295-316.

Zhang, I.X., 2005. Economic consequences of the Sarbanes-Oxley Act of 2002. Joint Center: AEI-Brookings Joint Center for Regulatory Studies.

TABLE 1
Industry distribution

Industry	Firm-Years for full sample	Firm years for CSCORE sample
Consumer nondurables	54	47
Consumer durables	18	15
Manufacturing	94	83
Energy	22	18
Chemicals and allied products	32	26
Business equipment	91	80
Telephone and telephone transmission	11	8
Utilities	52	0
Shops	72	59
Health care	41	35
Other	61	29
	548	400

Note:
Industry classification is based on 11 Fama and French industries excluding money and finance.

TABLE 2
Presence of financial experts on the audit committee for sample firms

Panel A: Proportion of firms (as a percentage of total sample) - Pre-SOX

Year	With at least one accounting financial expert	With at least one Non-accounting financial expert	With at least one nonfinancial expert
2000	25.6	97.8	83.3
2001	29.2	97.4	80.8

Panel B: Proportion of firms (as a percentage of total sample) - Post-SOX

Year	With at least one accounting financial expert	With at least one non-accounting financial expert	With at least one nonfinancial expert
2006	66.6	96.1	60.9
2007	66.9	97.2	66.2

Notes: Members of the audit committee are classified into three categories. Accounting financial experts are directors with experience as a certified public accountant, auditor, principal or chief financial officer, controller, or principal or chief accounting officer. Non-accounting financial experts are all directors with experience as the chief executive officer or president of a for-profit corporation. Nonfinancial experts are directors who are neither accounting nor non-accounting financial experts.

Table 3: Descriptive Statistics

Variable	Mean	Median	Standard deviation	Minimum	Maximum
CONACRU	0.012	0.005	0.045	-0.122	0.338
CONBM	0.359	0.321	0.226	-0.574	1.290
CSCORE	0.181	0.114	0.203	0.000	0.990
ADD	0.427	0.000	0.495	0.000	1.000
AFEXP	0.218	0.000	0.414	0.000	1.000
NFEXP	0.355	0.000	0.481	0.000	1.000
AFINEXD	0.667	1.000	0.471	0.000	1.000
AFIN	0.222	0.200	0.203	0.000	1.000
NAFIN	0.619	0.667	0.235	0.000	1.000
NFE	0.158	0.143	0.187	0.000	1.000
BSIZE	2.390	2.400	0.196	1.791	3.045
NODUAL	0.263	0.000	0.441	0.000	1.000
BIND	0.738	0.769	0.138	0.143	0.929
ACIND	0.943	1.000	0.134	0.000	1.000
ACSIZE	1.443	1.390	0.254	0.690	2.398
ACMEET	7.464	7.000	3.400	1.000	28.000
SIZE	9.410	9.510	1.130	6.790	13.590
CFO	0.115	0.109	0.063	-0.078	0.414
DEBT	0.203	0.184	0.136	0.000	0.733
RDADV	0.052	0.025	0.075	0.000	0.655
SGROW	0.074	0.071	0.169	-0.690	1.920
LITI	0.297	0.000	0.458	0.000	1.000
INOWN	0.048	0.017	0.084	0.000	0.602
INSTOWN	0.709	0.732	0.142	0.325	0.987

Notes:
Data include 274 firms (548 firm years) for years 2006 and 2007.

CONACRU = mean total accruals (net income before extraordinary items plus depreciation less cash flow from operations) scaled by total assets, averaged over a three-year period centered on the year of interest and multiplied by -1 (Givoly and Hayn 2000);

CSCORE = amount of inventory, R&D, and advertising reserves scaled by net operating assets for firms that have one or more of the three reserves (Penman and Zhang 2002);

CONBM = firm-specific intercept from the fixed-effect regression of book-to market ratio (BM) on current and six lagged annual stock returns (Beaver and Ryan 2000) multiplied by -1;

ADD =a dummy variable that equals 1 for firm years that have accounting financial expertise on the audit committee in the post-SOX period and had no accounting financial expertise on the audit committee in the pre-SOX period, and 0 otherwise.

AFEXP =a dummy variable that equals 1 for firm years that had accounting financial expertise on the audit committee in the pre-SOX period and continued to have accounting financial expertise on the audit committee in the post-SOX period, and 0 otherwise.

NFEXP =a dummy variable that equals 1 for firm years that had no accounting financial expertise on the audit committee in the post-SOX period and had no accounting financial expertise on the audit committee in the pre-SOX period, and 0 otherwise.

AFINEXD	= a dummy variable that equals 1 if the audit committee has at least one accounting financial expert in the post-SOX period, and 0 otherwise;
AFINEXP	= proportion of audit committee directors who qualify as accounting financial experts to the total number of directors on the audit committee;
NAFINEXP	= proportion of audit committee directors who qualify as non-accounting financial experts to the total number of directors on the audit committee;
NFINEXP	= proportion of audit committee directors who qualify as nonfinancial experts to the total number of directors on the audit committee;
BSIZE	= log of total number of directors on the board of directors;
NODUAL	= a dummy variable that equals 1 if the CEO is also not the chairman of the board, 0 otherwise;
BIND	= proportion of directors that are independent in the board of directors;
ACIND	= proportion of directors that are independent in the audit committee;
ACSIZE	= log of total number of directors in the audit committee;
ACMEET	= number of meetings by the audit committee during the year;
SIZE	= log of total assets;
CFO	= cash flow from operations, scaled by total assets;
DEBT	= long-term debt divided by total assets;
RDADV	= R&D plus advertising expense, scaled by sales;
SGROW	= annual percentage change in sales;
LITI	= a dummy variable that equals 1 for biotechnology, computers, electronics, and retailing industries, and 0 otherwise;
INOWN	= percentage of common stock owned by all officers of the corporation and directors as a group (Karamanou and Vafeas 2005);
INSTOWN	= percentage of common stock held by institutions (Karamanou and Vafeas 2005).

Table 4 Correlations
Univariate Correlations of Conservatism Estimates and
Financial Expertise Variables for the Sample of 548 Firm-years

	ADD	AFEXP	NAFEXP	CONACRU	CONBM	CSCORE
ADD		-0.4214	-0.6492	0.0677	0.0848	-0.0943
		<.0001	*<.0001*	*0.1212*	*0.05*	*0.052*
AFEXP	-0.4214		-0.3983	0.1211	-0.727	0.1991
	<.0001		*<.0001*	*0.004*	*0.093*	*<.0001*
NAFEXP	-0.6492	-0.3983		-0.1583	-0.0122	-0.0634
	<.0001	*<.0001*		*<.0001*	*0.7777*	*0.1923*
CONACRU	-0.0073	0.1181	-0.0768		-0.0074	0.0976
	0.8668	*0.007*	*0.079*		*0.8676*	*0.049*
CONBM	0.0511	-0.0056	0.004	0.2344		-0.3182
	0.2381	*0.199*	*0.927*	*<.0001*		*<.0001*
CSCORE	-0.0617	0.16144	-0.65	0.1801	-0.1928	
	0.205	*0.0008*	*0.182*	*0.0003*	*<.0001*	

Spearman Correlation coefficients are reported above the diagonal and Pearson correlations below the diagonal.
P-values (two-tailed) are in italics.
Conservatism variables are defined in Table 3.
ADD is a dummy variable that equals 1 for firms that had no accounting financial expertise in the pre-SOX period and did have accounting financial expertise in the post-SOX period, and 0 otherwise.
AFEXP is a dummy variable that equals 1 for firms that had accounting financial expertise on the audit committee in the pre-SOX period and had accounting financial expertise on the audit committee in the post-SOX period, and 0 otherwise.
NAFEXP is a dummy variable that equals one for firms that had no accounting financial expert on the audit committee in the pre-SOX period and had no accounting financial expert on the audit committee in the post-SOX period, and 0 otherwise.

Table 5: Differences in Mean and Median

Test of differences in mean and median values of conservatism measures between post-SOX firm years that added at least one accounting financial expert and post-SOX firm-years that did not add an accounting financial expert.

PANEL A: LEVELS OF CONSERVATISM

	Mean			Median		
Variable	ADD=1	ADD=0	t-statistic	ADD=1	ADD=0	z-statistic
CONACRU	0.012	0.012	0.17	0.012	0.003	1.93*
CONBM	0.370	0.349	1.20	0.355	0.301	1.87*
CSCORE	0.166	0.191	-1.27	0.093	0.123	-1.78*

PANEL B: CHANGES IN CONSERVATISM

	Mean			Median		
Variable	ADD=1	ADD=0	t-statistic	ADD=1	ADD=0	z-statistic
CONACRU_CH	-0.004	-0.005	1.50	-0.001	-0.005	1.33
CONBM_CH	-0.022	-0.016	0.19	0.015	0.011	0.36
CSCORE_CH	-0.004	0.034	-1.82*	0.000	0.010	-1.59*

ADD is a dummy variable that equals 1 if the firm added at least one accounting financial expert to the audit committee in the post-SOX period, and 0 otherwise.

T-statistics are from t-tests of the differences in the means, and z-statistics are from Wilcoxan two-sample tests. Significance is based on two-tailed tests.
*   Significant at the 10 percent level.
**   Significant at the 5 percent level.
***Significant at the 1 percent level.

OLS Regressions of conservatism measures on the addition of accounting financial expertise to the audit committee and control variables

	CONACRU Coefficient (t-statistic)	CONBM Coefficient (t-statistic)	CSCORE Coefficient (t-statistic)
Intercept	0.006	.494***	-0.193
	0.15	2.70	-1.10
ADD	0.005	.011	0.028
	1.26	0.52	1.38
AFEXP	0.008	0.025	0.051**
	1.54	0.02	2.24
BSIZE	0.007	0.094*	0.023
	0.61	1.87	0.47
NODUAL	-0.002	0.006	-0.015
	-0.40	0.28	-0.72
BIND	0.024	.090	0.017
	1.52	1.23	0.22
ACSIZE	-0.004	-0.041	0.067*
	-0.40	-0.98	1.78
ACIND	-0.004	-0.672	0.058
	-0.25	-0.99	0.87
ACMEET	0.000	-0.005*	0.001
	0.17	-1.80	0.49
SIZE	-0.003	-0.008	0.001
	-1.59	-0.92	0.02
DEBT	0.031*	-0.24***	-0.276***
	1.94	-3.42	-4.11
CFO	0.041	-1.28***	0.330**
	1.23	-8.42	2.39
RDADV	0.102***	-0.25*	
	3.43	-1.84	
SGROW	0.000	-0.12**	-0.079
	0.00	-2.29	-1.49
LITI	0.007	-0.001	0.169***
	1.34	-0.08	8.89
INOWN	-0.015	0.146	0.024
	-0.59	1.24	0.21
INSTOWN	-0.016	0.019	0.116*
	-1.07	0.28	1.79
Adj. R^2	.08	.17	.28

Variables are defined in Table 3.
Significance is based on two-tailed tests.
* Significant at the 10 percent level.
** Significant at the 5 percent level.
***Significant at the 1 percent level.

Table 7: OLS Regressions Conditioned upon Governance

OLS Regressions of conservatism measures on audit committee's financial expertise and control variables conditioned on strong governance.

Panel A: Weak Governance firms (SGOV=0)

	CONACRU Coefficient *(t-statistic)*	CONBM Coefficient *(t-statistic)*	CSCORE Coefficient *(t-statistic)*
Intercept	0.062**	.621	.217*
	2.45	*5.05*	*1.94*
ADD	0.012**	0.018	-0.003
	2.06	*0.63*	*-0.12*
AFEXP	0.005	0.002	0.051
	0.69	*0.05*	*1.54*
SIZE	-0.007***	-0.007	-0.008
	-2.85	*-0.54*	*-0.75*
DEBT	0.031	-0.147	-0.338***
	1.51	*-1.52*	*-3.68*
CFO	-0.003***	-1.486***	0.2922
	-0.07	*-7.52*	*1.60*
RDADV	0.165**	.005	
	4.25	*0.02*	
SGROW	-0.015	-0.105	-0.135
	-0.98	*-1.42*	*-1.62*
LITI	0.008	0.011	0.152***
	1.34	*0.38*	*5.67*
INOWN	-0.045*	0.124	0.063
	-1.74	*0.98*	*.53*
Adj. R^2	.14	.19	.28

Table 7 is continued on the following page.

Panel B: Strong Governance firms (SGOV=1)

	CONACRU Coefficient (t-statistic)	CONBM Coefficient (t-statistic)	CSCORE Coefficient (t-statistic)
Intercept	-0.022	0.654***	-.017
	-0.78	*5.24*	*-0.14*
ADD	0.002	0.002	.057**
	0.36	*0.07*	*2.00*
AFEXP	0.014*	0.005	0.046
	1.69	*0.15*	*1.43*
SIZE	0.001	-0.009	0.013
	0.22	*-0.72*	*1.13*
DEBT	0.034	-0.32***	-0.145
	1.41	*-3.04*	*-1.48*
CFO	0.090	-0.995***	0.377*
	1.64	*-4.14*	*1.78*
RDADV	0.043	-0.497**	
	0.96	*-2.54*	
SGROW	0.010	-0.173	-0.045
	0.55	*-2.17*	*-0.66*
LITI	0.006	-0.009	0.194***
	0.79	*-0.25*	*7.06*
INOWN	0.015	0.050	-0.406*
	0.31	*0.23*	*-1.93*
Adj. R^2	.06	.15	.29

Notes:

Data are for the years 2006 and 2007. Total number of firm-year observations is 548.

Significance is based on two-tailed tests.

*   Significant at the 10 percent level.

**   Significant at the 5 percent level.

***Significant at the 1 percent level.

The regression being estimated is

$CON = a_o + a_1ADD + a_2AEXP + a_3SIZE + a_4 DEBT + a_5CFO + a_6RDADV + a_7SGROW + a_8LITI + a_9INOWN + \varepsilon$

Variables are defined in Table 3.

Table 8: Post SOX Firm Type Analysis

Test of differences in mean and median values of conservatism measures between firms that had an accountant on the audit committee pre-SOX and firms that did not have an accountant on the audit committee pre-SOX (AFINEXD=0 and AFINEXD=1, respectively) in the post-SOX period, regardless of the post-SOX level of accounting expertise.

PANEL A: LEVELS OF CONSERVATISM

	Mean			Median		
Variable	PREAFINEXD=1	PREAFINEXD=0	t-statistic	PREAFINEXD=1	PREAFINEXD=0	z-statistic
CONACRU	0.018	0.010	1.81**	0.009	0.044	1.17
CONBM	0.327	0.372	-1.87**	0.281	0.342	-2.08**
CSCORE	0.227	0.161	3.13***	0.173	0.093	3.86**

PANEL B: CHANGES IN CONSERVATISM FROM PRE-SOX PERIOD

	Mean			Median		
Variable	PREAFINEXD=1	PREAFINEXD=0	t-statistic	PREAFINEXD=1	PREAFINEXD=0	z-statistic
CONACRU_CH	-0.007	0.001	-1.29	-0.011	-0.002	1.33
CONBM_CH	-0.011	-0.021	-0.28	0.017	0.015	0.00
CSCORE_CH	0.041	0.008	1.46	0.024	0.000	2.43

NOTES:
PREAFINEXD is a dummy variable that equals 1 if the firm had at least one accounting financial expert on the audit committee in the pre-SOX period, and 0 otherwise.

T-statistics are from t-tests of the differences in the means, and z-statistics are from Wilcoxan two-sample tests. Significance is based on two-tailed tests.
* Significant at the 10 percent level.
** Significant at the 5 percent level.
***Significant at the 1 percent level.

Table 9: Pre SOX Firm Type Analysis

Test of differences in mean and median values of conservatism measures between firms that had an accountant on the audit committee in 2001 and firms that did not have an accountant on the audit committee in 2001 (AFINEXD=0 and AFINEXD=1, respectively) in the 1997-1998 time period.

	Mean			Median		
Variable	AFINEXD=1	AFINEXD=0	t-statistic	AFINEXD=1	AFINEXD=0	t-statistic
CONACRU	0.017	-0.002	5.46***	0.005	-0.001	2.37***
CONBM	0.310	0.314	0.20	0.254	0.287	-1.04
CSCORE	0.210	0.162	2.27**	0.156	0.089	2.57**

NOTES:
PREAFINEXD is a dummy variable that equals 1 if the firm had at least one accounting financial expert on the audit committee in the pre-SOX period, and 0 otherwise.

T-statistics are from t-tests of the differences in the means, and z-statistics are from Wilcoxan two-sample tests. Significance is based on two-tailed tests.
* Significant at the 10 percent level.
** Significant at the 5 percent level.
***Significant at the 1 percent level.

Table 10 Test of Asymmetric Loss Recognition

Parameter	Estimate	Standard Error	t-statistic	p-value
Panel A:				
Intercept	0.054	0.045	12.11	<.0001
DUMMYRET	0.021	0.008	2.47	0.0137
RETURN	0.046	0.015	3.14	0.0018
DUMMYRET*RETURN	0.200	0.036	5.50	<.0001
R-SQUARE	0.157			
Panel B:				
Intercept	0.064	0.007	8.75	<.0001
DUMMYRET	0.004	0.015	0.27	0.7849
RETURN	0.031	0.024	1.32	0.1869
DUMMYRET*RETURN	0.151	0.055	2.71	0.0068
ADD	-0.015	0.010	-1.49	0.1369
ADD*RETURN	0.030	0.033	0.89	0.3737
ADD*DUMMYRET	0.032	0.019	1.68	0.0937
ADD*RETURN*DUMMYRET	0.144	0.084	1.72	0.0865
TYPE	-0.014	0.012	-1.18	0.2402
TYPE*RETURN	0.014	0.038	0.36	0.7205
TYPE*DUMMYRET	0.024	0.024	1.03	0.3028
TYPE*RETURN*DUMMYRET	0.052	0.095	0.54	0.5863
R-SQUARE	0.173			

Notes:

Data are for the years 2006 and 2007. Total number of firm-year observations is 548.

The regression being estimated is

$$EPS_{it}/P_{it}=\alpha_0 + \alpha_1 DR_{it} + \beta_0 R_{it} + \beta_1 R_{it}*DR_{it} + \beta_2 ADD_{it} + \beta_3 ADD_{it}*DR_{it} + \beta_4 ADD_{it}*Rit + \beta_5 ADD_{it}* R_{it}*DR_{it} + \beta_6 TYPE_{it} + \beta_7 TYPE_{it}*DR_{it} + \beta_8 TYPE_{it}*Rit + \beta_5 TYPE_{it}* R_{it}*DR_{it} + \varepsilon_{it}$$

Where:

EPS_{it} = Earnings per share for firm i year t

P_{it} = Opening stock market price for firm i year t

R_{it} = Stock market return for firm i year t

DR_{it} = Dummy variable that is equal to 1 if the stock market return for firm i in year t is negative, and equal to 0 if the stock market return for firm i in year t is nonnegative.

ADD = Dummy variable that is equal to 1 if the firm had no accounting expertise on the audit committee in the pre-SOX period and added accounting expertise in the post-SOX period, 0 otherwise.

TYPE= Dummy variable that is equal to 1 if the firm had accounting expertise on the audit committee in the pre-SOX period and had accounting expertise on the audit committee in the post-SOX period, 0 otherwise.

Significance is based on two-tailed tests.
* Significant at the 10 percent level.
** Significant at the 5 percent level.
*** Significant at the 1 percent level.

Appendix A: SEC Rules on Financial Expertise

SOX contains a range of accounting-related reforms designed to improve corporate governance and, in turn, investor confidence in the U.S. financial reporting system following several high profile accounting scandals, such as Enron, WorldCom, and Adelphia. SOX and the SEC have placed heavy emphasis on the audit committee, which has the ultimate responsibility of overseeing the financial reporting process and ensuring high-quality financial reporting (PricewaterhouseCoopers 2000).

Section 407 of SOX addresses the perceived deficiency of financial expertise among audit committee members (Dhaliwal et al. 2006). Consistent with the idea that financial expertise is necessary for the audit committee to fulfill its responsibilities, Section 407 of SOX requires the SEC to adopt rules mandating that audit committees of public companies disclose to the SEC whether they have a financial expert on the audit committee.

Initially, the SEC (2003) proposed a narrow definition of financial expert, which identified a financial expert as someone who possesses the following five specific attributes:

1) An understanding of generally accepted accounting principles and financial statements.

2) Experience applying such generally accepted accounting principles in   connection with the accounting for estimates, accruals, and reserves that are   generally comparable to the estimates, accruals and reserves, if any, used in the   registrant's financial statements.

3) Experience preparing or auditing financial statements that present accounting   issues that are generally comparable to those raised by the registrant's financial   statements.

4) Experience with internal controls and procedures for financial reporting.

5) An understanding of audit committee functions.

This proposal drew intense criticism and received many comments from corporations, professional associations, accountants, law firms, analysts, consultants, academics, and investors. Most of the criticism was directed at the notion that the definition was too restrictive and limited the pool of qualified directors (Defond et al. 2005). The American Association of Bank Directors argued that under the proposed rules, Alan Greenspan would not qualify as a financial expert (American Association of Bank Directors 2002).

Table 11: Pre-Sox Results and replication of KV (2008)

Panel A: Industry Distribution For KV (2008) Replication

Firm-years

Industry	For conservatism measures other than CSCORE	For CSCORE measure
Consumer nondurables	87	63
Consumer durables	33	12
Manufacturing	153	113
Energy	42	30
Chemicals and allied products	54	48
Business equipment	155	109
Telephone and telephone transmission	36	17
Utilities	84	0
Shops	126	96
Health care	69	57
Other	96	55
	931	600

Panel B: Descriptive Statistics for KV (2008) Replication

Variable	Mean	Median	Standard deviation	Minimum	Maximum
CONACRU	0.018	0.011	0.043	-0.164	0.493
CSCORE	0.165	0.106	0.187	0.000	1.070
AFINEXD	0.299	0.000	0.465	0.000	1.000
AFINEXP	0.082	0.000	0.140	0.000	0.667
NAFINEXP	0.601	0.600	0.228	0.000	1.000
NFINEXP	0.316	0.333	0.218	0.000	1.000
BSIZE	2.390	2.400	0.223	1.610	3.044
NODUAL	0.205	0.000	0.404	0.000	1.000
BIND	0.706	0.727	0.152	0.143	0.938
ACIND	0.908	1.000	0.154	0.000	1.000
ACSIZE	1.460	1.390	0.261	0.693	2.398
ACMEET	5.691	5.000	2.560	1.000	26.000
SIZE	9.067	9.070	1.180	6.287	13.263
CFO	0.110	0.105	0.071	-0.213	0.503
DEBT	0.227	0.228	0.138	0.000	0.673
RDADV	0.050	0.025	0.070	0.000	0.753
SGROW	0.081	0.039	0.385	-0.830	7.110
LITI	0.307	0.000	0.461	0.000	1.000
INOWN	0.050	0.015	0.085	0.000	0.667
INSTOWN	64.370	66.000	14.600	0.000	97.700

PANEL C: PRE-SOX SAMPLE
Test of differences in mean and median values of conservatism measures between firm years with at least one accounting financial expert and firm-years with no accounting financial expert

Variable	Mean			Median		
	AFINEXD=1	AFINEXD=0	t-statistic	AFINEXD=1	AFINEXD=0	z-statistic
CONACRU	0.031	0.013	5.90***	0.018	0.009	6.05***
CONACRUF	0.033	0.012	4.68***	0.020	0.008	4.24***
CONBM	0.399	0.397	0.08	0.353	0.350	0.103
CSCORE	0.199	0.150	3.25***	0.153	0.085	4.04***

Panel D: Multivariate Results for KV (2008) Replication
OLS Regressions of conservatism measures on audit committee's financial expertise and control variables.

	CONACRU Coefficient (t-statistic)	CONACRUF Coefficient (t-statistic)	CONBM Coefficient (t-statistic)	CSCORE Coefficient (t-statistic)
Intercept	0.039	-0.030	0.754***	0.574***
	1.54	0.81	5.10	5.99
AFINEXP	0.048***	0.051***	-0.042	0.086*
	4.40	3.30	0.67	1.84
NAFINEXP	0.009	0.004	-0.058	-0.022
	1.50	0.42	1.590	0.81
BSIZE	-0.017**	-0.023**	-0.119***	-0.126***
	2.40	2.21	2.870	3.77
NODUAL	0.0106***	0.012**	-0.047**	0.008
	3.05	2.35	2.360	0.56
BIND	-0.004	-0.001	-0.010	0.184***
	0.39	0.07	0.160	4.03
ACSIZE	-0.003	0.004	0.025	-0.018
	0.48	0.52	0.710	0.67
ACIND	0.007	0.011	0.103*	0.005
	0.71	0.78	1.880	0.12
ACMEET	0.003***	0.0036***	0.015***	0.0003
	5.33	4.80	4.810	0.11
SIZE	0.0017	0.0047**	-0.004	-0.0065
	1.22	2.36	0.510	1.09
DEBT	-0.013	0.040**	-0.082	-0.41***
	1.16	2.51	1.280	8.40
CFO	0.080***	0.348***	-1.692***	0.159*
	4.02	12.03	14.530	1.78
RDADV	0.049**	0.057*	-0.515***	
	2.25	1.82	4.110	
SGROW	-0.004	-0.021***	-0.064***	-0.044***
	1.22	4.23	3.310	2.71
LITl	0.001	-0.003	0.117	0.086***
	0.42	0.72	1.510	6.41
B1G4	-0.025*	-0.034*	-0.323***	
	1.88	1.76	3.030	
INOWN	0.006	0.018	-0.065	-0.179**
	0.30	0.67	1.130	2.21

INSTOWN	-0.009	-0.0004	-0.058	-0.157***
	0.92	*0.03*	*1.590*	*3.37*
Adj. R^2	.15	.23	.30	.32

Panel E: Multivariate Results for KV (2008) Replication
OLS Regressions of conservatism measures on audit committee's financial expertise and control variables conditioned on strong governance.

	CONACRU Coefficient *(t-statistic)*	CONACRUF Coefficient *(t-statistic)*	CONBM Coefficient *(t-statistic)*	CSCORE Coefficient *(t-statistic)*
Intercept	-0.019	-0.045**	0.725***	0.263***
	1.54	*1.98*	*7.92*	*3.73*
AFINEXP	0.027	0.002	-0.145	0.060
	1.55	*0.06*	*1.47*	*0.79*
AFIN*SGOV	0.067**	0.107**	0.244	0.124
	2.58	*2.84*	*1.62*	*1.08*
NAFIN	0.004	-0.008	-0.085	0.021
	0.37	*0.59*	*1.50*	*0.48*
NAFIN*SGOV	0.015	0.029	0.092	-0.013
	0.96	*1.33*	*1.05*	*0.19*
SGOV	-0.005	-0.017	-0.046	0.30
	0.47	*1.17*	*0.77*	*0.63*
SIZE	0.002	0.001	-0.007	-0.009
	1.08	*0.63*	*0.80*	*1.40*
DEBT	-0.015	0.032*	-0.021	-0.431***
	1.13	*1.67*	*0.27*	*7.26*
CFO	0.092***	0.363***	-1.45***	0.194*
	3.98	*10.84*	*10.88*	*1.88*
RDADV	0.044**	0.026	-0.643***	
	1.55	*0.62*	*3.97*	
SGROW	0.003	-0.013***	-0.007	-0.040***
	0.75	*2.53*	*0.34*	*2.37*
LITI	0.001	-0.001	-0.064***	0.091***
	0.25	*0.16*	*2.85*	*5.54*
INOWN	0.034*	0.029	-0.309***	-0.154**
	1.81	*1.09*	*2.91*	*1.90*
Adj. R^2	.11	.22	.29	.29

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Panel F: Post SOX regressions using CONACRUF MEASURE

OLS Regressions of conservatism measures on the addition of accounting financial expertise to the audit committee and control variables in the Post-SOX period using CONACRUF measure

	Coefficient	Standard Error	T-statistic	p-value
Intercept	-0.02366	0.046013	-0.51	0.6073
ADD1	0.011743	0.005145	2.28**	0.0229
Type	0.009478	0.006323	1.5	0.1345
BSIZE	0.004455	0.012763	0.35	0.7272
NODUAL	-0.00794	0.005432	-1.46	0.1444
IND	0.022842	0.01852	1.23	0.218
ACSIZE	-0.01593	0.010532	-1.51	0.1309
ACIND	-0.02256	0.017158	-1.31	0.1891
ACMEET	-0.00038	0.000712	-0.54	0.5898
SIZE	0.000177	0.002131	0.08	0.9338
DEBT	0.043034	0.01778	2.42**	0.0158
CFO	0.286873	0.037912	7.57***	<.0001
RDADV	0.130918	0.034948	3.75***	0.0002
SGROW	-0.02915	0.013701	-2.13**	0.0338
LITI	-0.0034	0.005675	-0.6	0.5491
INOWN	0.012739	0.030005	0.42	0.6713
INSTOWN	-0.00223	0.017043	-0.13	0.8961
Adj. R^2	.16			

Variables are defined in Table 3.
Significance is based on two-tailed tests.
*   Significant at the 10 percent level.
**   Significant at the 5 percent level.
***Significant at the 1 percent level.

CHAPTER 2
Audit Committee Financial Expertise and
Properties of Analyst Earnings Forecasts

1. Introduction

In this study, I investigate the association between audit committee financial expertise and the properties of earnings forecasts issued by financial analysts. Prior research suggests that the presence of accounting financial expertise on the audit committee is associated with higher levels of financial reporting quality (Krishnan and Visvanathan 2008; Dhaliwal et al. 2006; Carcello et al. 2006). Additionally, research suggests that market participants are sensitive to the financial expertise of audit committee members. For example, Defond, et al. (2005) find that companies appointing audit committee members with accounting expertise experience significant positive abnormal market returns, while no market reaction is observed upon the appointment of those with non-accounting financial expertise.

Accordingly, I examine whether accounting financial expertise on the audit committee is associated with better user decision-making by focusing on earnings forecasts issued by financial analysts. Financial analysts use historical earnings to predict future earnings; thus, if accounting expertise on the audit committee reduces measurement errors in historical earnings, then analysts' forecasts are likely to be more accurate and less dispersed for firms with accounting financial expertise on the audit committee relative to firms with no accounting financial expertise on the audit committee.

The Sarbanes-Oxley Act (SOX) of 2002 required the Securities Exchange Commission (SEC) to adopt rules mandating that the audit committee of every public company have a designated financial expert; and that the name of that financial expert be disclosed (Sarbanes-Oxley Act of 2002). The SEC suggests that having at least one financial expert on the audit

committee should improve the quality of information available to investors (Carcello et al. 2006). Prior research supports this notion by showing that the financial expertise of the audit committee is significantly associated with a reduced incidence of financial statement restatement (Abbott, et al. 2004), a reduced likelihood of material weaknesses in internal control reported during an auditor change (Krishnan 2005), a reduced incidence of fraud (Farber 2005), and a reduced likelihood of earnings management (Bedard, et al. 2004).

The SEC initially proposed a stringent definition of financial expert, which defined individuals as financial experts only if they had education and experience in accounting or auditing (i.e., as a certified public accountant, auditor, chief financial officer, financial controller or accounting officer). In response to criticism that this definition was overly restrictive, the SEC adopted the current definition of audit committee financial expert, which is broad in nature. Specifically, an audit committee member could be deemed a financial expert if the member has work experience in accounting or auditing, as well as any work experience in finance positions or as a chief executive officer (CEO) or company president. Hence, financial expertise could involve accounting or finance expertise, or any expertise entailed in supervising the preparation of financial statements (supervisory expertise).

The definition of financial expert is of importance because many studies suggest that the current definition of financial expertise may be too broad and lack the ability to ensure high financial reporting quality. For example, prior research shows that audit committee accounting expertise is significantly positively related with accrual quality (Dhaliwal et al. 2006), significantly negatively associated with suspicious auditor switches (Archambeault and DeZoort 2001), significantly positively associated with firm credit ratings (Ashbaugh-Skaife, Collins and LaFond 2005) and significantly positively associated with more conservative financial reporting

(Krishnan and Visvanathan 2008). In addition, Dickins et al. (2009) survey financial analysts and find that analysts are more confident in the financial statements when the Audit Committee Financial Expert (ACFE) has accounting-based financial expertise.

While evidence exists that financial reporting quality is higher when firms have accounting-based financial experts on the audit committee (Krishnan & Visvanathan 2008; Dhaliwal 2006; Carcello et al. 2006), no evidence exists that financial statement users make better decisions as a result. Because prior literature suggests that financial analysts use financial statement information in formulating earnings forecasts, this study fills that void in the literature by examining whether the accounting financial expertise of the audit committee is associated with analysts' forecasting ability.

The results of this study suggest that the accounting financial expertise of the audit committee is significantly associated with higher levels of analyst forecast accuracy. Additionally, the accounting financial expertise of the audit committee is significantly associated with lower levels of analyst forecast dispersion. Consistent with the broad definition of financial expertise adopted by the SEC, non-accounting financial expertise is also significantly associated with higher analyst forecast accuracy and lower analyst forecast dispersion. Nonfinancial expertise is not significantly associated with either property of analysts' forecasts.

The paper proceeds as follows. Section 2 reviews prior literature and develops the hypotheses relating audit committee expertise to the properties of analysts' forecasts. Section 3 describes the research methods and the sample selection process employed in this study. Section 4 presents the empirical results, and Section 5 concludes the paper.

2. Prior Research and Hypotheses

Prior Research on Audit Committees and Financial Expertise

Prior studies using the broad definition of financial expertise have provided mixed evidence about an association between financial expertise and financial reporting quality.[18] Abbott et al. (2004), and Agrawal and Chada (2005) find that the financial expertise (under a broad definition) of the audit committee is significantly negatively related to the occurrence of restatement. Farber (2005) also employs the broad definition of financial expertise and finds a significantly lower occurrence of financial fraud in firms with financial expertise on the audit committee.

However, Anderson et al. (2004) employ the broad definition of financial expertise and find no association between audit committee financial expertise and cost of debt. Van der Zahn and Tower (2004), also using the broad definition of financial expertise, find no association between the magnitude of earnings management and the audit committee's financial expertise among the independent directors. Additionally, anecdotal evidence suggests that financial expertise obtained through experience as a CEO or President does not ensure an adequate understanding of accounting matters for an audit committee member (Livingston 2003).

Later studies have adopted a more narrow definition of financial expertise, similar to the definition initially proposed by the SEC. This definition differentiates between accounting and non-accounting financial expertise. Such research has provided more consistent associations between financial expertise on the audit committee and financial reporting quality. Dhaliwal et al. (2006) finds a significant positive relation between accounting expertise on audit committees and accrual quality. Quin (2007) finds that firms with accounting financial expertise on the audit

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[18] See Cohen, Krishnamoorthy, and Wright (2004); DeZoort, Hermanson, Archambeault, and Reed (2002); Bedard and Gendron (2009); and Turley and Zaman (2004) for more thorough reviews of the academic literature on audit committees.

committee are associated with higher earnings response coefficients (ERCs). Krishnan &

Visvanathan (2008) find that firms with accounting financial experts on the audit committee are

associated with more conservative financial reporting.

Additionally, research has also shown that the market values accounting financial

expertise on the audit committee. For example, Davidson et al. (2004) findst the market rewards

companies for the appointment of accounting financial experts, but shows no reaction for the

appointment of audit committee members with corporate financial management expertise.

Similarly, Defond et al. (2005) find a significant positive market reaction to the appointment of

accounting financial experts to the audit committee, but no significant reaction to the

appointment of non-accounting financial experts. These studies suggest that the market

discriminates between types of audit committee financial expertise.

Hypothesis Development

The primary objective of financial reporting according to *Statement of Financial

Concepts No. 1* is to provide information that is useful to present and potential users in making

decisions (FASB 1978). An effective audit committee can enhance the credibility and reliability

of the financial statements provided to users. Because financial reporting credibity is

unobservable, prior studies have used stock price reaction or some other proxy for financial

reporting quality to evaluate the quality of the audit committee. For example, prior research

shows that the accounting financial expertise of the audit committee is significantly positively

associated with accrual quality (Dhaliwal et al. 2006); lower levels of earnings management

(Carcello et al. 2006); higher earnings response coefficients (ERCs) (Qin 2007); and higher

levels of accounting conservatism (Krishnan and Visvanathan 2008). Therefore, users would

likely consider financial statements of firms with accounting financial expertise on the audit

committee to be of higher quality and thus more reliable.

This study measures financial reporting quality by examining the association between

audit committee financial expertise and earnings forecasts issued by financial analysts.

Financial analysts typically cover ten to twenty stocks in a given industry or economic sector

and rely on historical earnings information to predict firms' future earnings (Behn et al. 2008).

Prior research suggests that analysts assimilate and process publicly available information such

as past earnings and prices (Schipper 1991). Similarly, Abarbanell and Bushee (1997) find that

historical earnings explain variation in analysts' forecast revisions. Therefore, it is likely that

analysts' forecasting ability increases with the quality (reliability) of financial information they

use to predict future earnings.

In addition, Dickins et al. (2009) suggest that analysts are sensitive to the financial

expertise of the audit committee. In an experimental setting, they document that financial

analysts have more confidence in financial statements when the ACFE's source of expertise is

accounting-based rather than supervisory-based. In sum, if historical earnings information

contains errors, it will be less likely that analysts will issue accurate forecasts. Hence, I expect

that the accounting financial expertise of the audit committee will be positively associated with

analysts' earnings forecast accuracy. My first hypothesis in alternative form is as follows:

> *H1: The accounting expertise of a firm's audit committee is positively associated with analysts' earnings forecast accuracy.*

Prior research indicates that analysts' forecast dispersion reflects uncertainty about the

firm's information environment (e.g., Imhoff and Lobo 1992; Payne and Robb 2000, Behn et al.

2008). Imhoff and Lobo (1992) suggest that forecast dispersion is a proxy for uncertainty about

earnings before they are announced. Furthermore, Herrmann and Thomas (2005) propose that

greater forecast dispersion indicates less agreement among analysts. They suggest analysts with

more precise information regarding future earnings are more likely to be in agreement, and thus

the forecast dispersion should be smaller. Thus, if audit committee accounting financial expertise

and financial reporting reliability are positively correlated, I expect that analysts' forecast

dispersion will be negatively associated with audit committee accounting financial expertise.

Thus, my second hypothesis in alternative form is as follows:

> *H2: The accounting financial expertise of the audit committee is negatively associated with analysts' earnings forecast dispersion.*

3. Research Methodology

To measure financial expertise, I assign audit committee members into one of three

categories of financial expertise. First, audit committee members will be categorized as

accounting financial experts if they have experience as a certified public accountant, auditor,

chief financial officer, controller, or chief accounting officer, consistent with the original

definition of financial expertise proposed by the SEC. Second, audit committee members will be

classified as non-accounting financial experts if they have experience as chief executive officer

or president of a for-profit company. Third, those audit committee members who are neither

accounting financial experts nor non-accounting financial experts will be categorized as

nonfinancial experts.

To empirically test hypothesis one, I use the following equation, which controls for

previously identified determinants of analysts' forecast properties. Because multiple observations

from the same firm (but from different years) are included in my dataset, I use t-statistics based

on Huber-White standard errors to correct for clustering, and these standard errors are robust to

heteroscedasticity and serial correlation (Huber 1967; White 1980; Rogers 1993) for all the

analyses. I use the following Eq. (1) to test H1:

$$ACCY = \varphi_0 + \varphi_1 AFIN + \varphi_2 NAFIN + \varphi_3 SIZE + \varphi_4 SURPRISE +$$
$$\varphi_5 LOSS + \varphi_6 ZMIJ + \varphi_7 HORIZON + \varphi_8 STDROE + \varphi_9 NANA +$$
$$\varphi_{10} EL + \ year\ dummies + \varepsilon \qquad\qquad\qquad\qquad (1)$$

Forecast accuracy (ACCY) is measured by the negative of the absolute value of forecast

error scaled by stock price at time t-1 (Lang and Lundholm 1996), as follows:

$$ACCY_t = (-1) \frac{|FORECAST_t - EPS_t|}{PRICE_{t-1}} \qquad\qquad\qquad (2)$$

where FORECAST$_t$ is the mean I/B/E/S consensus forecast of period t earnings made

during the period starting two months before the corresponding actual earnings announcement

and ending three days before the announcement, EPS$_t$ is the actual earnings per share before

extraordinary items at time t, taken from I/B/E/S, and PRICE$_{t-1}$ is the stock price at the end of

period t-1.

Firm size (SIZE) and number of analysts following (NANA) are included based on Lang

and Lundholm (1996), who document a positive association between firm size, analyst following

and forecast accuracy. Absolute value of the earnings surprise (SURPRISE) is also based on

Lang and Lundholm (1996), who find that larger changes in earnings are associated with less

accurate forecasts. The loss indicator variable (LOSS) is included based on Hwang et al. (1996),

who find that analysts' forecasts for loss-reporting firms are on average less accurate than

forecasts for profit-reporting firms. Zmijewski's (1984) financial distress score (ZMIJ) is also

included because financially distressed firms tend to have less accurate forecasts.

Per Brown (2001), I control for forecast horizon (HORIZON), which is the natural

logarithm of the average number of calendar days between the forecast announcement date and

corresponding actual earnings announcement date. I expect a forecast announced closer to the

actual earnings announcement date (i.e., short forecast horizon) is more accurate than a forecast

announced in the earlier period (i.e., long forecast horizon). Earnings volatility (STDROE) is

included based on Kross et al. (1990), who have shown that analysts' earnings forecasts are less accurate for firms with higher long-term earnings volatility. Finally, I include the earnings per share variable (EL) to control for earnings level based on Eames and Glover (2003), who report that earnings level is related to forecast accuracy.

To test the second hypothesis, I use the following equation:

$$DISP = \varphi_0 + \varphi_1 AFIN + \varphi_2 NAFIN + \varphi_3 SIZE + \varphi_4 SURPRISE$$
$$+ \varphi_5 ZMIJ + \varphi_6 HORIZON + \varphi_7 STDROE + year\ dummies + \varepsilon \qquad (3)$$

The dispersion of analysts' forecasts (*DISP*) is defined as the standard deviation of earnings forecasts issued by individual analysts scaled by stock price at time t-1.

$$DISP_t = \frac{STD(FORECAST_t)}{PRICE_{t-1}} \qquad (4)$$

This variable has commonly been used as a measure for uncertainty about future earnings since it represents the consensus among analysts regarding future firm prospects (see, for instance, Imhoff and Lobo 1992 and Barron and Stuerke 1998).

The control variables are as defined in the accuracy model (Eq. 1), but I do not include number of analysts (NANA), loss dummy (LOSS), and earnings level (EL) because the conceptual link between these variables and forecast dispersion is not clearly established in the literature (Behn et al. 2008). I expect that large (SIZE) firms would have smaller dispersions, while financially distressed (ZMIJ) firms, firms with longer forecast horizons (HORIZON), and firms with more volatile earnings streams (SURPRISE and STDROE) would have larger dispersions.

4. Sample and Empirical Results

Sample

Sample selection begins with firms that are included in the S&P 500 for the years 2000 through 2002. The sample was confined to firms in the S&P 500 to increase the data availability for members of the board of directors.[19] A search on COMPUSTAT for the S&P 500 firms yielded 390 firms. Sixty-six firms in the financial services industries (Standard Industrial Classification [SIC] codes 6000-6999) are excluded. I also exclude 127 firm-years for which either financial data or governance data are unavailable. My final sample consists of 274 firms (815 firm-years).

INSERT TABLE 1 ABOUT HERE

Descriptive statistics for the variables used in the regressions are presented in Table 1. The mean forecast accuracy (ACCY) is -.002, which indicates that the mean difference between analysts' forecasts and actual earnings is about 0.2 percent of the lagged stock price. The mean dispersion (DISP) of .001 suggests that the average forecast dispersion is about 0.1 percent of lagged stock price.

AFINEXD is a dummy variable that equals 1 if the audit committee has at least one accounting financial expert, and 0 otherwise. The mean value of .279 for AFINEXD indicates that about 27.9 percent of the sample-firm years have at least one accountant on the audit committee. AFIN has a mean value of 0.075, indicating that about 7.5% of the audit committee members are accounting financial experts, while non-accounting financial experts (NAFIN) and nonfinancial experts (NFE) comprise 60.7 and 31.7 percent of the audit committee members, respectively. Firm size (SIZE), which is the natural logarithm of the market value of equity, is

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[19] Using a sample of S&P 500 firms is also consistent with prior research on audit committee financial expertise (e.g. Klein 2002 and KV 2008).

9.14, or about $9.3 million. The average earnings surprise (SURPRISE) is .053, and about

sixteen percent of the sample firm-years report a loss (LOSS) for the year. The mean financial

distress score (ZMIJ) is -2.98, and the average standard deviation of return on equity (STDROE)

is 0.136. The mean forecast horizon (HORIZON) is 3.72, implying that the average number of

calendar days between the forecast announcement date and the actual announcement date is 41

days. The mean number of analysts following (NANA) is 2.64, indicating that an average of

over 15 analysts follow a firm included in the sample. The average earnings per share (EL) for

the entire sample is $1.63.

I perform parametric t-tests and nonparametric Wilcoxan z-tests to examine any

systematic differences in sample characteristics between firms that have an accounting financial

expert on the audit committee and firms without an accounting financial expert on the audit

committee. Untabulated results show that firms with an accounting financial expert on the audit

committee (AFINEXD=1) tend to be larger firms (SIZE, t=3.42), have more analysts following

the firm (NANA, t=3.07), fewer loss firm-years (LOSS, t=2.53), and lower standard deviation of

return on equity (STDROE, t=2.35) than firms with no accounting financial expert on the audit

committee. Because of these differences, I control for these factors in multivariate analyses to

remove their possible influence on the dependent variable.

INSERT TABLE 2 ABOUT HERE

Univariate Analysis

In Table 2, I report a correlation matrix, which contains Pearson (Panel A) and Spearman

(Panel B) correlations among the regression variables. All of the control variables other than

earnings level (EL) are significantly correlated with forecast accuracy (ACCY). ACCY is

significantly negatively correlated with DISP (p<0.01). All of the control variables are

significantly correlated with dispersion (DISP). However, there are no significant correlations between financial expertise variables and ACCY or DISP.

In further univariate analysis, I examine difference in the mean and median level of analyst forecast accuracy and dispersion between firms that have an accounting financial expert on the audit committee (AFINEXD=1) and those firms without an accounting financial expert on the audit committee (AFINEXD=0). The results are reported in Table 3.

INSERT TABLE 3 ABOUT HERE

As reported in column (1), the mean (median, which is in column 2 is -.001) forecast accuracy is -0.002 when the firm has an accounting financial expert on the audit committee. It is also -0.002 (-0.001) when the firm does not have an accounting financial expert on the audit committee (i.e., column (2)). The difference is insignificant ($t = 0.65$) (Wilcoxan z-statistic=0.43), suggesting that no difference exists in forecast accuracy for firms that have an accounting financial expert on the audit committee. Similarly, there appears to be no difference in forecast dispersion for the firms that have accounting financial expertise on the audit committee as evidenced by the difference reported in the bottom row of Table 3 (columns 4, 5, and 6) ($t = 0.39$ and $z = 0.42$).

Multivariate Analysis

I perform regressions using Eqs. (1) and (3), which use two analysts' forecast property variables, ACCY and DISP, as the dependent variables. The accuracy regression results using Eq. (1) are reported in Table 4.

INSERT TABLE 4 ABOUT HERE

In Table 4, the coefficient on AFIN (φ_1) is positive and significant at the 0.01 level. This result is consistent with the prediction of the first hypothesis (H1) that accounting financial

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expertise on the audit committee is associated with higher forecast accuracy. The coefficient on

NAFIN (φ_2) is also significant, which is consistent with the intuition that the financial expertise

of the audit committee is a significant indicator of its effectiveness.

The control variables have the expected signs and are significant in most cases.

Consistent with Lang and Lundholm (1996), the coefficient on SIZE is positive and significant at

the .01 level. The coefficient on SURPRISE is negative and significant at the .01 level. The signs

of the coefficients for the other control variables are in the expected direction, but none is

significant. The explanatory power of the model is about 22 percent.

<div align="center">INSERT TABLE 5 ABOUT HERE</div>

The forecast dispersion regression results using Eq. (3) are reported in Table 5. AFIN, the

variable of interest, has a negative and significant coefficient (t=2.79). This result is consistent

with the second hypothesis (H2) that the accounting financial expertise of the audit committee is

associated with lower analyst forecast dispersion. NAFIN is also negative and significant at the

.10 level, indicating that non-accounting financial experts on the audit committee also are

associated with lower analyst forecast dispersion.

Turning to control variables, DISP is negatively correlated with firm size (SIZE) at the

.01 level and DISP tends to increase with the magnitude of earnings surprise (SURPRISE,

t=10.37) and financial distress (ZMIJ, t=2.62).   The explanatory power of the model is about 25

percent.

5. Conclusion and Limitations

According to the *Statement of Financial Accounting Concepts No. 1* (FASB 1978), the

primary objective of financial reporting is to provide useful information to present and potential

investors, creditors and other users in making rational investment, credit, and similar decisions.

The audit committee is the ultimate monitor of the financial reporting process and thus a major factor enhancing the credibility and decision-usefulness of the financial statements to users.

Because financial reporting reliability is unobservable, prior studies have largely relied on proxies for financial reporting quality or stock price to infer how market participants evaluate the quality of an audit (e.g., DeFond et al. 2005; Krishnan and Visvanathan 2008). In this study, I directly examine whether audit committee financial expertise relates to the usefulness of financial statements by focusing on the properties of earnings forecasts issued by financial analysts. The results of this paper are generally consistent with my expectations. I find a positive relation between accounting financial expertise on the audit committee and forecast accuracy, and a negative relation between accounting financial expertise on the audit committee and forecast dispersion.

This study is subject to several limitations. First, while the results indicate an association between accounting financial expertise and analyst forecast properties, this study does not necessarily suggest a causal relationship between the two. Finding support for causality would require knowledge of whether and how individual users (i.e., security analysts) improve their decisions based on the accounting expertise of the audit committee. Second, the documented association between accounting expertise of the audit committee and analyst forecast properties might not necessarily be attributable to increased financial reporting reliability. I cannot dismiss the possibility of unknown omitted factors influencing the empirical results. Third, because I use large (S&P 500) firms in my sample, the results may not generalize to other, especially smaller firms. Despite these limitations, this study extends the literature on audit committee financial expertise by documenting how it relates to financial statement users' decision-making processes.

REFERENCES

Abarbanell, J.S., and B.J. Bushee. 1997. Fundamental analysis, future earnings, and stock prices. *Journal of Accounting Research* 35 (Spring): 1-24.

Abbott, L., Parker, S., and G. Peters. 2004. Audit committee characteristics and restatements. *Auditing: A Journal of Practice & Theory* 23 (1): 69-87.

Agrawal, A., and S. Chadha. 2005. Corporate governance and accounting scandals. *Journal of Law and Economics* 48: 371-406.

Anderson, R. C., S. A. Mansi, and D. M. Reeb. 2004. Board characteristics, accounting report integrity, and the cost of debt. *Journal of Accounting and Economics* 37: 315–342.

Archambeault, D., and F. T. DeZoort. 2001. Auditor opinion shopping and the audit committee: An analysis of suspicious auditor switches. *International Journal of Auditing* 5 (1): 33-52.

Ashbaugh-Skaife, H., D. W. Collins, and R. LaFond. 2006. The effects of corporate governance on firms' credit ratings. *Journal of Accounting and Economics* 42 (1/2): 203-227.

Barron, O. E., and P. S. Stuerke. 1998. Dispersion in analysts' earnings forecasts as a measure of uncertainty. *Journal of Accounting, Auditing, and Finance* 13 (Summer): 245-270.

Bedard, J., and Y. Gendron. 2009. Strengthening the financial reporting system: Can audit committees deliver? Working paper. Universite Laval.

Bédard, J., S. M. Chtourou, and L. Courteau. 2004. The effect of audit committee expertise, independence, and activity on aggressive earnings management. *Auditing: A Journal of Practice & Theory* 23 (2): 13–35.

Bedard, J., and Y. Gendron. 2009. Strengthening the financial reporting system: Can audit committees deliver? Working paper. Universite Laval.

Behm, B., J-H. Choi, and T. Kang. 2008. Audit quality and properties of analyst earnings forecasts. *The Accounting Review*. 83 (2): 327-349.

Blue Ribbon Committee. 1999. *Report and recommendations of the Blue Ribbon Committee on improving the effectiveness of corporate audit committees.* New York Stock Exchange and National Association of Securities Dealers.

Brown, L. D. 2001. How important is past analyst forecast accuracy? *Financial Analyst Journal* (November/December): 44-49.

Carcello, J., C. Hollingsworth, and T. Neal. 2006. Audit committee financial experts: A closer look using firm designations. *Accounting Horizons* 20(4): 351-373.

Cohen, J., G. Krishamoorthy, and A. M. Wright. 2004. The corporate governance mosaic and financial reporting quality. *Journal of Accounting Literature* 23: 87–152.

Davidson III, W. N., B. Xie, and W. Xu. 2004. Market reaction to voluntary announcements of audit committee appointments: The effect of financial expertise. *Journal of Accounting and Public Policy* 23 (July): 279-293.

DeFond, M. L., R. N. Hann, and X. Hu. 2005. Does the market value financial expertise on audit committees of boards of directors? *Journal of Accounting Research* 43 (2), 153-193.

DeZoort, F. T., D. R. Hermanson, D. Archambeault, and S. Reed. 2002. Audit committee effectiveness: A synthesis of the empirical audit committee literature. *Journal of Accounting Literature* 21: 38–75.

Dhaliwal, D., V. Naiker, and F. Navissi. 2006. Audit committee financial expertise, corporate governance, and accruals quality: An empirical analysis. Working Paper, University of Arizona.

Dickins, D., W. Hillison, and S. Platau. 2009. Do financial statement users care about differences in board members' source of financial expertise? Views of financial analysts. *The Journal of Applied Business and Economics* 9(2), 21-36.

Eames, M., and S. Glover. 2003. Earnings predictability and the directing of analysts' earnings forecast errors. *The Accounting Review* 78 (July): 707-724.

Farber, D. 2005. Restoring trust after fraud: Does corporate governance matter? *The Accounting Review* 80 (2): 539-61.

Financial Accounting Standards Board (FASB), Objectives of Financial Reporting by Business Enterprises. 1978. Statement of Financial Accounting Concepts No. 1, Norwalk, CT.

Herrmann, D., and W. B.Thomas. 2005. Rounding of analyst forecasts. *The Accounting Review* 80 (July): 805-823.

Huber, P. J. 1967. The behavior of maximum likelihood estimates under nonstandard conditions. In *Proceedings of the Fifth Berkeley Symposium on Mathematical Statistics and Probability,* 1:221-3 . Berkeley, CA: University of California Press.

Hwang, L., C. Jan, and S. Basu. 1996. Loss firms and analysts' earnings forecast errors. *Journal of Financial Statement Analysis* 1 (Winter): 18-31.

Imhoff, E. A., and G. J. Lobo. 1992. The effect of ex ante earnings uncertainty on earnings response coefficients. *The Accounting Review* 67 (April): 427-439.

Klein, A. 2002. Audit committee, board of director characteristics, and earnings management. *Journal of Accounting and Economics* 33: 375-400.

Krishnan, J. 2005. Audit committee quality and internal control: An empirical analysis. *The Accounting Review* 80 (2): 649-75.

Krishnan, G. V., and G. Visvanathan. 2008. Does the SOX definition of an accounting expert matter? The association between audit committee directors' accounting expertise and accounting conservatism. *Contemporary Accounting Research* 25(3): 827-857.

Kross, W., B.T. Ro, and D. Schroeder. 1990. Earnings expectations: the analysts' information advantage. *The Accounting Review* 65 (April): 461-476.

Lang, M., and R. Lundholm. 1996. Corporate disclosure policy and analyst behavior, *The Accounting Review* 71 (October): 467-492.

Livingston, P. 2003. Financial experts on audit committees. *Financial Executive* 19: 6–7.

Payne, J., and S. Robb. 2000. Earnings management: The effect of ex ante earnings uncertainty. *Journal of Accounting, Auditing & Finance* 15 (Fall): 371-392.

Quin, B. 2007. The influence of audit committee financial expertise on earnings quality: US evidence. *Working Paper*. University of Gronigen

Rogers, W. H. 1993. Regression standard errors in clustered samples. *Stata Technical Bulletin* 13: 19-23.

Sarbanes-Oxley Act of 2002, (SOX) Public Law 107-204, 107th Congress, 2d Session, July 24, 2002. Available on Congress.gov.

Schipper, K. 1991. Commentary on Analysts' Forecasts. *Accounting Horizons* (December): 105–121.

Turley, S., and M. Zaman. 2004. The corporate governance effects of audit committees. *Journal of Management and Governance* 8 (3): 305–32.

Van Der Zahn, M., and G. Tower. 2005. Corporate governance - earnings management linkages: Impact of audit committee composition and operational characteristics. *International Journal of Accounting, Auditing and Performance Evaluation* 1: 401-431.

White, H. 1980. A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica* 48 (May): 817-838.

Zmijewski, M. E. 1984. Methodological issues related to the estimation of financial distress prediction models. *Journal of Accounting Research* 22 (Supplement): 59-82.

Table 1			
DESCRIPTIVE STATISTICS			
Variable	Mean	Median	Standard Deviation
ACCY	-0.002	-0.001	0.005
DISP	0.001	0.001	0.002
AFINEXD	0.279	0	0.449
AFIN	0.075	0	0.13
NAFIN	0.607	0.6	0.233
NFE	0.317	0.333	0.222
SIZE	9.14	9.02	1.28
SURPRISE	0.053	0.018	0.109
LOSS	0.16	0	0.366
ZMIJ	-2.98	-2.97	1.06
HORIZON	3.72	3.71	0.254
NANA	2.64	2.71	0.475
STDROE	0.136	0.071	0.199
EL	1.63	1.47	1.34

Variable Definitions:
ACCY is the accuracy in analysts' earnings forecasts, defined as the negative of the absolute difference between the forecast and actual earnings, scaled by price.
DISP is the dispersion in analysts' earnings forecasts.
AFIN is the proportion of audit committee directors who qualify as accounting financial experts to the total number of directors on the audit committee;
NAFIN is the proportion of audit committee directors who qualify as non-accounting financial experts to the total number of directors on the audit committee;
NFE is the proportion of audit committee directors who qualify as nonfinancial experts to the total number of directors on the audit committee;
SIZE is the logarithm of market value of equity.
SURPRISE is this year's earnings minus last years' earnings deflated by stock price.
LOSS is coded as zero (one) for firm-year observations with positive (negative) earnings.
 ZMIJ is the Zmijewski's financial distress score.
HORIZON is the log of the average of the number of calendar days between mean forecast announcement date and subsequent actual earnings announcement date.
NANA is the log of number of analysts following the client.
STDROE is the standard deviation of earnings over the previous five years.
EL is the earnings per share

A total of 822 firm-year observations are used to calculate the descriptive statistics of the variables.

Table 2 Correlation Matrix

Panel A: Pearson Correlation Matrix

	DISP	AFIN	NAFIN	NFE	SIZE	SURPRISE
ACCY	-0.609***	0.03	0.045	-0.045	0.260***	-0.413***
DISP		-0.046	-0.019	0.035	-0.283***	0.442***
AFIN			-0.351***	-0.206***	-0.098**	0.045
NAFIN				-0.838***	0.037	0.022
NFE					0.022	-0.05
SIZE						-0.236***
SURPRISE						
LOSS						
ZMIJ						
HORIZON						
NANA						
STDROE						
EL						

Table 2, Panel A Continued

	LOSS	ZMIJ	HORIZON	NANA	STDROE	EL
ACCY	-0.244***	-0.187**	-0.115**	0.117***	-0.126***	0.028
DISP	0.296***	0.289**	0.08**	-0.129***	0.19***	-0.081**
AFIN	0.091**	-0.105**	-0.001	-0.079**	0.109**	0.05
NAFIN	-0.007	0.067**	0.015	0.031	0.047	-0.074**
NFE	-0.049	-0.007	-0.013	0.011	-0.109***	0.047
SIZE	-0.17***	-0.295**	-0.199***	0.603***	-0.105***	0.148***
SURPRISE	0.52***	0.375**	0.15***	-0.066*	0.416***	-0.15***
LOSS		0.264**	0.045	-0.052	0.271***	-0.256***
ZMIJ			0.202***	-0.255***	0.319***	0.039
HORIZON				-0.154***	0.127***	-0.008
NANA					-0.022	-0.109***
STDROE						-0.067*

Panel B: Spearman Correlations

	DISP	AFIN	NAFIN	NFE	SIZE	SURPRISE
ACCY	-0.586***	0.001	0.017	-0.009	0.298***	-0.334***
DISP		-0.008	-0.014	0.014	-0.407***	0.471***
AFIN			-0.318***	-0.198***	-0.103***	0.062*
NAFIN				-0.842***	0.007	0.014
NFE					0.050	-0.040
SIZE						-0.357***
SURPRISE						
LOSS						
ZMIJ						
HORIZON						
NANA						
STDROE						
EL						

Table 2, Panel B Continued

	LOSS	ZMIJ	HORIZON	NANA	STDROE	EL
ACCY	-0.234***	-0.197***	-0.029	0.114***	-0.163***	0.137***
DISP	0.274***	0.269***	0.020	-0.167***	0.205***	-0.091**
AFIN	0.093**	-0.115***	-0.015	-0.094**	0.158**	-0.037
NAFIN	0.002	0.083***	0.007	-0.011	0.038	-0.035
NFE	-0.041	-0.001	-0.003	0.040	-0.106***	0.053
SIZE	-0.153***	-0.245***	-0.155***	0.587***	-0.165***	0.149***
SURPRISE	0.478***	0.290***	0.058*	-0.176*	0.521***	-0.147***
LOSS		0.233***	-0.002	-0.055	0.412***	-0.311***
ZMIJ			0.165***	-0.227***	0.206***	0.112**
HORIZON				-0.118***	0.025***	0.040
NANA					-0.041	0.090***
STDROE						-0.177***

Notes:

***, **, and *indicate significance at 1, 5, and 10 % level in two-tailed test, respectively.

Variables are defined in Table 1.

Table 3: Univariate Analysis

Univariate comparisons of forecast accuracy and dispersion conditioned on the presence of accounting financial expertise on the audit committee.

	(1)	(2)	(3)	(4)	(5)	(6)
	Mean			Median		
Variable	AFINEXD=1	AFINEXD=0	t-statistic	AFINEXD=1	AFINEXD=0	z-statistic
ACCY	-.002	-.002	0.65	-.001	-.001	0.43
DISP	.001	.001	0.39	.001	.001	0.42

NOTES:

AFINEXD is a dummy variable that equals 1 if the audit committee has at least one accounting financial expert, and 0 otherwise.

Variables are defined in Table 1.

T-statistics are from t-tests of the differences in the means, and z-statistics are from Wilcoxan two-sample tests.

*   Significant at the 10 percent level.
** Significant at the 5 percent level.
***Significant at the 1 percent level.

Table 4				
Multivariate Tests on the Association between				
Accounting Financial Expertise and Forecast Accuracy				
ACCY = φ0 + φ1 AFIN+ φ2 NAFIN + φ3 SIZE+ φ4SURPRISE +φ5LOSS +φ6ZMIJ + φ7HORIZON + φ8STDROE+ φ9 NANA +φ10 EL + year dummies + ε				
Variable	**Coefficient**	**Standard Error**	**t-statistic**	
Intercept	-0.006	0.0029	-2.16**	
AFIN	0.004	0.0013	2.88***	
NAFIN	0.001	0.0007	2.00**	
SIZE	0.001	0.0002	4.40***	
SURPRISE	-0.017	0.0019	-9.26***	
LOSS	-0.001	0.0005	-1.54	
ZMIJ	0.0001	0.0002	0.59	
HORIZON	-0.0004	0.0006	-0.76	
NANA	-0.0002	0.0004	-0.56	
STDROE	0.001	0.0009	1.08	
EL	-0.00001	0.0001	-1.08	
Adjusted R-Squared	22.10%			
Number of observations	815			

***, **, * indicate significance at 1, 5, and 10% level in two-tailed test, respectively. All the t-statistics are based on White's (1980) heteroscedasticity-corrected standard errors and clustering procedure by each firm. Year dummies are included but not reported.

Variables are defined in Table 1.

		Table 5			
		Multivariate Tests on the Association between			
		Accounting Financial Expertise and Forecast Dispersion			

$$DISP = \varphi_0 + \varphi_1 \, AFIN + \varphi_2 \, NAFIN + \varphi_3 \, SIZE + \varphi_4 SURPRISE + \varphi_5 ZMIJ + \varphi_6 HORIZON + \varphi_8 STDROE + \text{year dummies} + \varepsilon$$

Variable	Coefficient	Standard Error	t-statistic	
Intercept	0.006	0.0014	4.55***	
AFIN	-0.018	0.0006	-2.79***	
NAFIN	-0.0006	0.0003	-1.84*	
SIZE	-0.0003	0.00006	-5.26***	
SURPRISE	0.0082	0.0008	10.37***	
ZMIJ	0.0002	0.00008	2.62***	
HORIZON	-0.0002	0.0003	-0.93	
STDROE	0.00008	0.0004	0.20	
Adjusted R-Squared	25.00%			
Number of observations	815			

***, **, * indicate significance at 1, 5, and 10% level in two-tailed test, respectively. All the t-statistics are based on White's (1980) heteroscedasticity-corrected standard errors and clustering procedure by each firm. Year dummies are included but not reported.

Variables are defined in Table 1.

CHAPTER 3
A Review of the Accounting Conservatism Literature:
A Contracting and Financial Statement
Analysis Perspective

1. Introduction

Even though the Financial Accounting Standards Board (FASB) has explicitly stated that financial statements should be neither conservative nor optimistic (i.e. financial statements should be neutral), research has consistently documented the conservative nature of financial reporting.[20] Historically, conservatism has been primarily viewed as a contracting mechanism.[21] In this paper, I update the contracting conservatism literature since Watts (2003a and 2003b) and synthesize the evolution of conservatism's effect on financial reporting. Hence, the primary contribution of this paper is the integration of the financial statement analysis literature and the conservatism literature. Also, I review the international accounting dimensions of the accounting conservatism literature from both a contracting and financial statement analysis perspective.

The early conservatism literature focused on the reason that conservative accounting exists. This was primarily investigated through a theory of contracts. This literature determined that conservatism as a contracting mechanism helps protect the suppliers of capital (both debt and equity) to align management's incentives with the suppliers of capital. Watts (2003a and b) provides a substantive literature review and synthesis of conservatism from a contracting perspective. However, more recent literature has investigated conservatism's effect on financial statement analysis (FSA) and firm valuation. In this paper, my incremental contribution is to (1)

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[20] See LaFond and Watts (2008) for a summary of FASB and International Accounting Standards Board (IASB) handouts discussing intentional conservatism in financial statements.
[21] Watts (2003a) suggests that there are also litigation, taxation and regulatory explanations for the existence of financial statement conservatism, which are separate from the contracting explanation. This paper incorporates these explanations into the contracting explanation.

update the conservatism contracting literature and (2) compare, contrast, and analyze the results

of studies investigating conservatism's effect on financial reporting.[22]

The integration of the financial statement analysis and conservatism literature has

produced several interesting results. For example, numerous studies have provided evidence

implying that financial statements have become more conservative through time (Collins,

Maydew, and Weis 1997; Cohen, Dey, and Lys 2008; Iliev 2010). Givoly and Hayn (2000)

provide evidence that this increase in conservatism is associated with an increase in non-

operating accruals rather than changes in the structural time-series properties of cash flows.

Additionally, several studies have focused on how conservatism affects the returns-earnings

relationship (e.g., Basu 1997; Easton, Shroff, and Taylor 2000). Ball and Shivakumar (2006)

show how conservatism may affect a linear accruals model leading to a potentially erroneous

conclusion that earnings are of lower quality. Penman (1996) and Penman and Zhang (2002)

examine the implications of conservative accounting on future earnings and return on assets.

Thus, future research must consider the impact of conservatism on financial reporting and

valuation.

Conservatism as a Contracting Mechanism

In its *Statement of Financial Accounting Concepts No. 2*, FASB defines conservatism as

"… a prudent reaction to uncertainty to try to ensure that uncertainty and risks inherent in

business situations are adequately considered." Accounting researchers (Watts 2003a and b)

have interpreted this definition to imply a higher degree of verification for profits than for losses.

Bliss (1924) is credited with the similar but more commonly used definition of conservatism as:

"anticipate no profit, but anticipate all losses." This definition has also been termed asymmetric

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[22] While the primary contribution of this paper is to compare, contract, and analyze the results studies investigating conservatism's effect on financial reporting, for completeness, I update the contracting literature since Watts (2003a and 2003b).

timeliness, differential timeliness, or differential verifiability, all of which have become synonymous with accounting conservatism. Employed in this context, accounting conservatism may be viewed as a contracting or corporate governance mechanism (Guay and Verrecchia 2007) that involves the timely recognition of bad news versus good news in earnings. As a contracting mechanism, conservatism is used to protect the investors' capital investment.

Incorporated into contracts (whether explicitly or implicitly), conservatism helps offset the opportunistic reporting incentives of management. In essence, this research stream focuses on a reduction of information asymmetry as a reason for accounting conservatism. Watts (2003a and b) identifies several potential contracting scenarios where accounting conservatism can reduce information asymmetry. For example, debt contracts and their corresponding debt covenants play an important role in protecting debt holders from management and equity holder opportunistic behavior.

Unlike equity holders, lenders have an asymmetric loss function. While a lender can lose all of its investment, the profit is limited to interest earned on the outstanding debt. Equity holders, on the other hand, have a similar loss function (their investment), but potential profits are unlimited. Hence, it is in the equityholders' best interest to invest borrowed money in riskier assets, letting lenders assume the extra risk without the possibility of enjoying the additional profits associated with the risk. Hence, debtholders place debt covenants into the debt contracts to minimize management's ability to invest in riskier than expected investments. Conservatism, here defined as a lower level of verifiability for losses, in conjunction with debt covenants, increases the probability that firms will have net assets available to repay the interest and loan at the maturity date, thus minimizing the lender's potential for loss. As discussed in Watts (2003a

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and b) and briefly summarized later, contracting is a common underlying theme for accounting conservatism.

Conservatism and Financial Statement Analysis

More recently, conservatism accounting research has focused on conservatism's effect on financial statement analysis (FSA). Instead of relying on the verification process of accounting conservatism (asymmetry between gains and losses), these studies define conservatism as a process that "when there is a genuine doubt concerning which of two or more reporting alternatives should be selected, the alternative with the least favorable effect upon owners' equity should be chosen" (Givoly and Hayn 2000; Givoly et al. 2007).

A primary difference in the accounting conservatism between the contracting literature and the FSA literature is the research question addressed in the studies. In the contracting literature, conservative accounting has been proposed as a way to minimize management's opportunistic behavior, while in the FSA literature, the focus has been on the "quality" of the earnings number produced by the accounting system and its relation to returns, cash flow, and price. In essence, this second stream of literature is interested in determining the quality of earnings reported from a conservative accounting system.

Penman and Zhang (2002) define conservatism as choosing accounting methods that "…keep the book values of net assets relatively low." This definition results in a price-to-book ratio that is greater than one. This result is consistent with the bias discussed in Ohlson (1995) and Feltham and Ohlson (1995). These studies, along with Ohlson and Juettner-Nauroth (2005), demonstrate how reported accounting information (equity and earnings), analysts' earnings forecasts and estimated costs of capital can be used to estimate a firm's intrinsic value. The difference between the intrinsic and book value of equity is the present value of future residual

income. The present value of future residual income represents the "bias"[23] associated with conservative accounting. This bias represents economic earnings that have been recorded by the market but will be recorded by the accounting system at some point in the future.

The remainder of the paper is organized as follows. Section II discusses the most common proxies for conservatism; Section III contains a discussion of the role of conservatism as a contracting mechanism and provides a review of the related literature. The impact of conservatism in valuation and financial statement analysis is discussed in Section IV. Conservatism and international accounting are examined in Section V. The paper is summarized in Section VI.

2. Measures of Conservatism

Conditional vs. Unconditional Conservatism

Prior literature generally describes two important roles of conservative financial reporting (Basu 1997; Watts 2003a; and Ball and Shivakumar 2005). The first role is to impart a downward bias in reported net worth in order to offset managers' tendencies to bias net worth upward. This role is referred to as unconditional conservatism. The second role is that conservative financial reporting commits managers to recognizing bad news in a timely manner. This role is described as conditional conservatism. Because contracting parties are expected to contract around an accounting bias toward reporting low earnings and book values of stockholders' equity, unconditional conservatism is unlikely to improve contracting efficiency through reductions in agency costs (Basu 1997; Ball and Shivakumar 2005, Guay 2008).

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[23] Ohlson (1995) refers to conservative accounting as bias.

Prior literature uses five primary measures of conservatism. In this section, I review five measures of accounting conservatism used most frequently in the literature.[24] The measures are:

(1) Basu's (1997) asymmetric timeliness measure (BASU),

(2) Ball and Shivakumar's (2005) asymmetric-cash-flow-to-accruals measure (ACFTA),

(3) The Beaver and Ryan (2000) Book-to-Market (or Market-to-Book) ratio (BTM),

(4) Penman and Zhang's (2002) hidden-reserves measure (CSCORE), and

(5) Givoly and Hayn's (2000) negative-accruals measure (NACC).

Basu's Asymmetric Timeliness Measure

Basu's (1997) measure of accounting conservatism is the most widely used measure of conservatism in the literature. This measure focuses on the implication that earnings will reflect "bad news" more quickly than "good news." According to Basu's measure, the greater the asymmetric timeliness, the greater is the degree of conservatism in a firm. As such, Basu's conservatism measure is a measure of conditional conservatism. The following cross-sectional regression is used to assess the degree of conservatism (i.e. asymmetric timeliness):

$EPS_{it}/P_{it} = \alpha_0 + \alpha_1 DR_{it} + \beta_0 R_{it} + \beta_1 R_{it} * DR_{it} + \varepsilon_{it}$

Where:

EPS_{it} = Earnings per share for firm i year t

P_{it} = Opening stock market price for firm i year t

R_{it} = Stock market return for firm i year t

DR_{it} = Dummy variable that is equal to 1 if the stock market return for firm i in year t is negative, and equal to 0 if the stock market return for firm i in year t is nonnegative.

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[24] A discussion of the five most commonly employed measures of conservatism is included for clarity in reviewing the literature. For a more detailed analysis of the strengths and weaknesses of the measures see Wang, Hogartaigh, and Zijl (2009).

Basu (1997) regresses accounting earnings (EPS/P) on stock returns (R) separately for 'good-news' and 'bad-news' firm-years. A firm-year is deemed as a "good-news" firm-year if its market return is positive or zero. A firm-year is deemed a "bad-news" firm-year if its stock return is negative. The regression model uses the dummy variable, DR, to separate "good-news" from "bad-news," which allows the slope coefficients (and the intercepts) to differ between these two groups. The estimated slope coefficient measures how timely the news embodied in the stock return is recognized in earnings, conditional on the nature (i.e. the sign) of the "news." Under good news, DR equals 0, and the good-news timeliness coefficient is β_1. Under bad news, DR equals 1, and the bad-news timeliness coefficient is $\beta_0 + \beta_1$. Therefore, β_1 is the asymmetric timeliness coefficient and is the primary indicator of accounting conservatism in the Basu model. The greater β_1 is, the higher the degree of conservatism.

Ball and Shivakumar's (2005) asymmetric-cash-flow-to-accruals measure (ACFTA)

Ball and Shivakumar (2005) developed the ACFTA measure in order to estimate the degree of accounting conservatism in private companies. Because private companies have no quoted stock prices, Basu's AT measure is not available for this setting. Thus, Ball and Shivakumar (2005) developed the ACFTA measure as a non-market based version of the AT measure. The ACFTA measure is based on the following (cross-sectional) regression:

$ACC_t = \beta_0 + \beta_1 DCFO_t + \beta_2 CFO_t + \beta_3 DCFO_t \times CFO_t + \varepsilon_t$

Where:

ACC_t = Accruals measured as Δ inventory + Δ Debtors + Δ other current assets – Δ Creditors – Δ other current liabilities – Depreciation.

CFO_t = Cash-flow for period t.

$DCFO_t$ = Dummy variable that is set to 0 if CFOt ≥ 0 , and is set to 1 if CFOt < 0.

The ACFTA measure is based on the same fundamental idea of asymmetric timeliness as Basu (1997) and is estimated with a very similar model. Both models regress an earnings variable on a proxy for economic "news." Both models employ dummy variables (DR or DCFO) to distinguish between 'good-news' and 'bad-news'. The main difference between these two measures is in the different proxies for economic 'news' and earnings. The BASU model uses stock return as the proxy for news, whereas the ACFTA measure uses operating cash-flow as the proxy for news. In terms of the response variable, the BASU model uses total earnings, whereas the ACFTA measure selects only the accrual component of total earnings. Ball and Shivakumar (2005) use the accrual component of total earnings because, in their view, accounting conservatism mainly influences the accruals component of earnings rather than the cash flows component. Therefore, β_3 is the asymmetric timeliness coefficient and is the primary indicator of accounting conservatism in the Ball and Shivakumar model. The greater β_3 is, the higher the degree of conservatism.

Beaver and Ryan (2000) Book-to-Market Ratio (BTM)

The idea underlying the use of BTM (or MTB)[25] as a measure of accounting conservatism is that, ceteris paribus, a conservative accounting system tends to depress the net book values of a firm relative to its "true" economic value (i.e intrinsic value). Therefore, a lower BTM implies a higher degree of accounting conservatism, and vice versa.

The BTM measure is based on the Residual Income Valuation Model (RIM) developed by Feltham and Ohlson (1995). Feltham and Ohlson (1995) first introduced accounting conservatism in the RIM context, and characterize conservatism as a tendency to bias downward

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[25] MTB is positive measure of conservatism, whereas BTM is a negative measure of conservatism.

the book value of a firm relative to its market value. This definition of conservatism was the foundation of subsequent work on conservatism such as Beaver and Ryan (2000).

In addition to the raw BTM ratio, Beaver and Ryan (2000) developed a refinement in using the BTM as a measure of conservatism that has been widely adopted in the literature. This refinement decomposes the BTM ratio into the bias component and the lag component. The bias component of BTM is regarded as a measure of accounting conservatism by Beaver and Ryan. In order to decompose BTM, Beaver and Ryan (2000) regress BTM on a series of lagged stock returns, up to six lagged years, as in the following fixed-effect panel data regression:

$$BTM_{t,i} = \alpha_t + \alpha_{i+} \sum_{j=0}^{6} \beta_j R_{t-j,i} + \varepsilon_{t,i}$$

Where:

$BTM_{t,i}$ = Book-to-Market (BTM) ratio of firm i, at the end of year t.

α_t = Year-to-year variation in the BTM common to the sample firms

α_i = Bias component of BTM for firm i

$R_{t-j,i}$ = Return on Equity (ROE) over each of the 6 preceding years

β_j = Regression coefficients on $R_{t-j,i}$

In the Beaver and Ryan (2000) panel data regression, the time intercept α_t is fixed for all firms in any particular year, but may change from year to year. α_t can be interpreted as a variable capturing the time effect of market-wide BTM movements. On the other hand, the fixed effect coefficient, α_i, captures the firm-specific persistent bias component of BTM for firm i, and is fixed for each firm. Moving further right, βj are the regression coefficients of the lag components of the BTM ratio, which are not regarded by Beaver and Ryan as the measure for conservatism. According to Beaver and Ryan's (2000) interpretation, the bias component of BTM, α_i, is a more accurate measure of the firm's degree of conservatism than is the raw BTM.

Penman and Zhang's (2002) hidden-reserves measure (CSCORE)

The fourth measure of conservatism is the CSCORE, or conservatism index, as computed by Penman and Zhang (2002). The CSCORE measures unrecorded reserves on the balance sheet, and is computed as the amount of LIFO reserve, research and development, and advertising reserves scaled by net operating assets for firms with one or more of the three reserves. C_{it} is referred to as CSCORE, and is measured as follows:

$$C_{it} = (INV_{it}^{RES} + RD_{it}^{RES} + ADV_{it}^{RES}) / NOA_{it}$$

Where:

INV_{it}^{RES} = Inventory reserve is the LIFO reserve reported in the footnotes to the financial statements.

RD_{it}^{RES} = Research and Development reserve is the estimated amortized R&D assets that would have been on the balance sheet had R&D not been expensed.

ADV_{it}^{RES} = Advertising reserve is the estimated brand assets created by advertising expenditures.

Givoly and Hayn's (2000) negative-accruals measure (NACC)

Givoly and Hayn (2000) examine the income statement effects of conservatism over time and conclude that conservative accounting leads to persistently negative accruals rather than the expected pattern of accrual reversals. Thus, a firm's mean accrual over a long time period provides a firm-specific proxy for conservatism. This measure calculates net income before extraordinary items and discontinued operations plus depreciation expense less operating cash flows as a proxy for accruals before depreciation. This amount is deflated by total assets and averaged over a five year time-period centered at period t.

3. Conservatism and Contracting

Watts (2003a) attributes the increase in accounting conservatism to the use of financial statements in debt and compensation contracts (the contracting explanation), shareholder litigation, taxation, and accounting regulation.[26] Qiang (2007) specifically investigates each of these explanations for the demand for cross-sectional conservatism at the firm level. Both conditional (BTM) and unconditional (NACC) conservatism measures are regressed on proxies representing four factors (excluding taxation) encouraging conservatism proposed by Watts (2003a). Her findings support the explanations proposed by Watts (2003a) and indicate that contracting induces conditional conservatism, litigation induces both unconditional and conditional conservatism, and regulation and taxation induce unconditional conservatism.

Historically, conservatism has been primarily viewed as a contracting mechanism. Because this stream of literature is most extensively developed, it is important to review the contracting literature generated since Watts (2003a and b). Watts (2003a) proposes three primary examples of contractual relationships under which conservatism emerges as an efficient contracting mechanism: debt contracts, compensation contracts, and corporate governance.

Conservatism and Debt Contracts

In support of the debt contracting explanation for conservatism, Nikolaev (2010) documents a positive correlation between the number of covenants in a debt contract and the timely recognition of losses using the BASU conservatism measure. Under the contracting explanation, covenants govern the transfer of decision-making and control rights from shareholders to bondholders when a company approaches financial distress, and thereby limit

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[26] Shareholder litigation and accounting regulation implicitly involve contracts between managers and stakeholders and are therefore addressed within the corporate governance aspect of contracts. The taxation explanation for accounting conservatism has been largely ignored in the literature; thus, this paper does not include papers addressing the taxation explanation for accounting conservatism.

managers' abilities to expropriate bondholder wealth. Covenants are expected to constrain

managerial opportunism; however, only if the accounting system recognizes economic losses in

earnings in a timely fashion. Thus, the demand for timely loss recognition should increase with a

contract's reliance on covenants. Consistent with this conjecture, he finds evidence that reliance

on covenants in public debt contracts is positively associated with the degree of timely loss

recognition.

Ahmed et al. (2002) used both the BTM and NACC measures of conservatism to

determine whether conservatism is effective in mitigating conflicts of interest between

bondholders and shareholders over dividend policy. Ahmed et al. (2002) report that

conservatism increases with firm characteristics that proxy for greater bondholder-shareholder

conflicts over dividend policy using both levels and changes model specifications. Conservatism

was also found to be associated on average with a lower cost of debt. Firms that face more

severe conflicts over dividend policy were found to be more positively associated with the use of

conservative accounting. This finding implies that firms that choose to build a reputation on

conservative accounting may reap greater economic benefits.

Additional support comes from Zhang (2008), who examines the ex post and ex ante

benefits of accounting conservatism (measured using BASU) to lenders and borrowers in the

debt contracting process. It is expected that conservatism will benefit lenders ex post through the

timely signaling of default risk, as manifested by accelerated covenant violations, and it will

benefit borrowers ex ante through lower initial interest rates. Consistent with these expectations,

Zhang (2008) finds that more conservative borrowers are more likely to violate debt covenants

following a negative price shock, and that lenders offer lower interest rates to more conservative

borrowers.

However, Gigler, Kanodia, Sapra, and Venugopalan (2009) find that accounting

conservatism (measured by BASU) decreases the efficiency of debt contracts. They suggest that

efficiency is obtained by explicitly examining the tradeoffs that determine the simultaneous

optimality of the implicit interest rate and the debt covenants. Their analysis does not support

the positive relationship between accounting conservatism and the efficiency of debt contracting.

While Gigler et al. (2009) suggest that debt contracts are not optimally efficient, the research still

supports the fact that financial reporting conservatism exists because of lenders' demand for

information. Thus, conservative financial reporting has a contractual benefit for lenders in that it

elicits timely information about bad news from managers.

Conservatism and Compensation Contracts

Iyengar and Zampelli (2009) investigate the compensation contracting explanation of

conservatism by examining the link between conservative accounting practices and the

sensitivity of executive pay to accounting performance. They use the NACC and ATCFO as

measures of accounting conservatism. They estimate an econometric model of CEO

compensation that incorporates the interaction of accounting conservatism and accounting

performance. Consistent with optimal contracting theory, they find that the sensitivity of

executive pay to accounting performance is higher for firms that report conservative accounting

earnings. These results support the hypothesis that accounting conservatism, by limiting

earnings management opportunities and improving the reliability of accounting performance

measures, allows firms to formulate contracts that tie executive compensation more closely to

accounting performance.

Similarly, Chen et al. (2007) theoretically model the role of conservative accounting

standards in alleviating earnings management. Accounting conservatism serves dual roles that

consist of valuation and stewardship. Their model shows that the current owner of a firm has an incentive to engage in earnings manipulation activities to boost the market price of the firm. By employing conservative accounting methods, the manager can reduce noise and bias and restore a more efficient equilibrium outcome. However, they find that accounting conservatism also introduces additional noise in the accounting report, which reduces the stewardship value of accounting data and increases the cost of motivating the manager. Thus, conservative accounting choices play a crucial role in reducing earnings management. Furthermore, the noise introduced by the conservative choice can be more than offset by the reduction in overall earnings management.

<div align="center">Conservatism and Corporate Governance</div>

Kwon (2005) suggests that two sources of agency costs exist under moral hazard: (1) distortions in incentive contracts and (2) implementation of suboptimal decisions. While the relation between conservative accounting and distortions in contracts has received considerable attention, little appears to be known about the effects of accounting conservatism on implementation of suboptimal decisions. The purpose of Kwon (2005) is to model a principal-agent setting in which the principal motivates the agent to expend effort using accounting earnings. The study shows that accounting earnings become more useful for reducing agency costs of suboptimal decisions when measured conservatively than when measured aggressively. In an earlier paper, Kwon et al. (2001) analytically demonstrate that the agency cost of distortions in incentive contracts decreases with accounting conservatism. Combined, these analyses suggest that conservative accounting enhances the incentive value of accounting signals with respect to both types of agency costs.

Hui, Matsunaga, and Morse (2009) investigate the empirical relation between a firm's accounting conservatism and management's issuance of quantitative earnings forecasts. Using three measures of conservatism (BTM, NACC, and CSCORE), they find a negative association between conservatism and the frequency, specificity, and timeliness of management forecasts. Overall, these results suggest that accounting conservatism acts as a substitute for management forecasts by decreasing information asymmetry in the market and reducing potential litigation through the timely reporting of bad news.

LaFond and Roychowdhury (2008) examine the effect of managerial ownership on financial reporting conservatism, as measured by BASU. Separation of ownership and control gives rise to agency problems between managers and shareholders. Financial reporting conservatism is one potential mechanism to address these agency problems. They find that conservatism, as measured by the asymmetric timeliness of earnings, declines with managerial ownership. This provides evidence of a demand for conservatism from the firm's shareholders.

In empirical analysis, Francis and Martin (2010) investigate whether timely loss recognition is associated with acquisition-investment decisions. Using the BASU conservatism measure, they find that firms with more timely incorporation of economic losses into earnings make more profitable acquisitions, measured by the bidder's announcement returns and by changes in post-acquisition operating performance. These firms are also less likely to make post-acquisition divestitures (consistent with better ex ante investment decisions), but act more quickly to divest. They also find that the positive association between timely loss recognition and acquisition profitability is more pronounced for firms with higher ex ante agency costs.

Recent studies regarding accounting conservatism and potential fraud occurrence have examined the asymmetric timeliness of former Arthur Andersen clients after the firm's downfall.

Krishnan (2005) found that operating accruals of Arthur Andersen's Houston clients were less effective in accelerating the timely recognition of bad news than those of a matched control sample of Houston-based clients audited by other Big 6 auditors. The less conservative earnings of Arthur Andersen's clientele suggest that systematic problems existed in the Houston office, compared to Arthur Andersen as a whole. The results also were robust after testing Atlanta versus Houston clients in that the rate of reversal for negative earnings changes (a proxy for conservative accounting) was greater for non-Andersen versus Andersen clients, and operating accruals of Andersen clients were less effective than the operating accruals of non-Anderson clients in accelerating conservatism.

Similarly, Cahan and Zhang (2006) found that successor auditors of former Arthur Andersen clients required more conservative accounting (measured here as abnormal accruals) in order to minimize their litigation risk. Andersen clients reported lower levels of abnormal accruals under their new auditors than when they were clients of Arthur Andersen. Cahan and Zhang (2006) argue that lower abnormal accruals suggest evidence of a higher use of conservatism. This suggests that accounting conservatism is used to mitigate earnings manipulation. Overall, the evidence suggests that clients of Arthur Andersen engaged in aggressive accounting practices and delayed reporting asymmetric timeliness of information.

Conservatism has been shown to act as a governance mechanism that assists directors in reducing agency costs. For example, Ahmed and Duellman (2007) document that the percentage of inside directors is negatively related to conservatism, as measured by BASU, NACC, and BTM. They also note the percentage of outside directors' shareholdings is positively related to conservatism, measured by the same conservatism proxies. Overall, their results suggest that

accounting conservatism acts as a governance mechanism that assists directors in reducing deadweight losses arising from agency conflicts.

Kwon et al. (2006) examined systematic differences in accounting conservatism between high-tech and low-tech firms. While high-tech firms are generally perceived to be more aggressive in reporting earnings, they find that, overall, high-tech firms are more conservative than low-tech firms. Results based on several proxies for conservatism, including the BASU, skewness and standard deviation of ROA, cash flow from operating activities, total accruals, net operating assets, and discretionary accruals indicate that, on average, high-tech firms use more conservative accounting practices. High-tech firms also were found to have higher growth opportunities and increased risk because of volatile stock prices that make them more susceptible to shareholder litigation. They state that the threat of litigation causes high-tech firms to institute more conservative accounting practices. Kwon et al. (2006) suggest that these firms may engage in accounting conservatism to generate favorable accounting numbers to attract external capital. Kwon et al. (2006) conclude that since high-tech firms are affected by accounting conservatism, their high value multiples do not necessarily indicate overpricing.

4. Conservatism and FSA

As noted above, the conservative contracting literature is the most well developed stream of the conservatism literature, and much of the prior literature has focused on the contracting explanations for conservatism and benefits of conservatism in contracting environments. However, recent literature has focused on conservatism's effect on financial statement analysis (FSA). This FSA conservatism literature can be placed into two categories. While some papers may fall into both categories, generally these studies can be classified by the effect of conservatism on (1) earnings and (2) the relationship among earnings, cash flows, and returns.

In Section 4.1, I analyze the literature that investigates the conservatism's effect on earnings and earnings quality. In Section 4.2, I discuss conservatism's effect on the relationship among earnings, cash flows, and returns. Many of the FSA conservatism studies will make contributions in both categories, similar to Ball and Shivakumar (2006).

The Effect of Conservatism on Earnings

As discussed in detail below, this literature has documented that conservatism (defined as the asymmetric timeliness of recording gains and losses) affects earnings persistence, the occurrence of reported losses and special items, and the time-series structure of non-operating accruals. Conservatism's effect on the modeling of accruals and its effect on future earnings also have been investigated. Several studies have considered the role of conservative accounting and future accounting earnings, as well as conservatism's effect on several observed market anomalies.

Since much of the early conservatism literature (Watts 2003a) proposed contracting as an explanation for conservatism, it is not surprising to find that Basu (1997) motivated his study by relying on the definition of conservatism supplied by this literature, specifically the asymmetrical timeliness of recording gains and losses. Basu (1997) then used this conservatism framework to examine earnings persistence. Focusing on earnings changes rather than levels, Basu (1997) finds that positive earnings changes are more persistent than negative earnings changes.

Givoly and Hayn (2000) investigate the relationship among earnings, cash flows, accruals, and accounting conservatism. Specifically, Givoly and Hayn (2000) explore whether changes in the time-series properties of earnings, cash flows, and accruals can explain the increased accounting conservatism previously noted. They find a decrease in profitability not

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associated with a decline in cash flows but rather to an increase in non-operating accruals. The sign and magnitude of accumulated accruals and consistent negative accruals over time are measures of accounting conservatism. Accordingly, Givoly and Hayn (2000) find a positive correlation between the accumulation of non-operating accruals and market-to-book ratios.

Allowing conservatism to be defined as the accounting bias described in Ohlson (1995), the price-to-book ratio (i.e. accounting conservatism) represents a measure of accumulated conservatism. However, other interpretations of the price-to-book ratio are well documented in literature. For example, Fama and French (1992, 1993, and 1995) suggest that the price-to-book ratio can be used as a proxy for growth in firm value. Evidence suggesting that the price-to-book ratio can be used a measure of growth in firm value can be observed in the value-growth anomaly (Lakonishok, Shliefer, and Vishny 1994). However, even with these alternative uses of the price-to-book ratio, Penman (1996) finds the price-to-book ratio can be used to make inferences about future earnings and residual income.

In this framework, Klein and Marquardt (2006) report that the annual percentage of losses for U.S. firms is positive and significantly related to accounting conservatism. Alternate measures of accounting conservatism were used, which consisted of the BASU, BTM, and NACC measures. The differences in the conservatism metrics are consistent with Givoly et al. (2007), who find distinctions among the conservatism metrics relative to capturing different aspects of financial reporting. However, although significant, conservatism appears to play only a small role in determining the frequency of losses as evident by the change in explanatory power when other non-accounting variables such as firm size and three proxies for business cycle variables are added to the model. In robustness tests comparing nonoperating assets to the

BASU and BTM measures, their results indicate that each of the accounting conservatism measures captures different aspects of financial reporting.

Callen, Segal, and Hope (2010) extend this literature by creating a conservatism ratio based on the ratio of the current earnings shock to earnings news. Ranking firms on this conservatism ratio, Callen et al. (2010) find that, consistent with the literature investigating the relationship between conservatism and earnings, more conservative firms are more likely to have losses and have higher volatility of earnings and accruals.

<center>(INSERT TABLE 2 ABOUT HERE)</center>

The Impact of Conservatism on the Relationship among Earnings, Cash Flows, and Returns

This stream of FSA and conservatism literature has investigated the impact of conservatism on the coefficient from an annual returns-earnings regression. The impact of conservatism on the value-relevance of accounting earnings has also been scrutinized.

Basu (1997) was one of the first to examine how conservative accounting affects the return-earnings relationship by specifically focusing on conservatism's effect on the earnings coefficients from an annual returns-earnings regression. Specifically, Basu (1997) finds a higher earnings coefficient in an annual returns-earnings regression for positive earnings changes as compared to negative earnings changes. While Basu's definition of accounting conservatism as a "a higher degree of verification to recognize good news as gains than to recognize bad news as losses" is similar to that used in a contracting context, the evaluation of earnings persistence and earnings coefficients led to numerous FSA conservatism studies. For example, it is easy to see the relationship between Basu's (1997) conservatism, which is related to the *degree* of verification, and Ball and Shivakumar's (2006) accounting conservatism study, which relies on the asymmetrical *timeliness* of recording gains and losses.

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Several studies (Collins, Maydew, and Weiss, 1997; Francis and Schipper 1999; Lev and Zarowin, 1999, and Ryan and Zarowin, 2003) have identified a decline in the earnings coefficient in a returns-earnings regression. An increase in accounting conservatism often is given as the source of the decline in the earnings coefficient. These studies provide samples in which conservative accounting affected earnings and then documented the longitudinal change in the earnings coefficient through time.

Collins, Maydew, and Weiss (1997) attribute the asymmetrical timing of losses (and one-time items) and gains (growing importance of intangible assets) to the decrease in value-relevance of the annual returns-earnings regression (measured as a reduction in the adjusted R^2 through time). Lev and Zarowin (1999) attribute the decrease in the return-earnings relationship to changing economics which has steadily increased intangible assets. They attribute the time-series increase in losses and special items as a result of changing economics (increase in intangible assets) rather than the cause of increased conservatism

At this point, it was yet to be shown mathematically how conservatism may affect the earnings coefficient. Easton, Shroff, and Taylor (2000) evaluate the effect of (1) permanent and transitory items and (2) accounting conservatism (which they describe as accounting recognition lag) on the earnings coefficients from an annual returns-earnings regression. They demonstrate how both of these items will affect the earnings coefficient. Using a simple model with some simplifying assumptions, they demonstrate that accounting recognition lag will reduce the earnings coefficient from an annual returns-earnings regression. Interestingly, Easton, Shroff, and Taylor (2000) show that the effect of permanent earning changes (an upward bias in the earnings coefficient) is stronger than the effect of accounting conservatism in intangible industries (a downward bias in the earnings coefficient) in an annual returns-earnings

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regression. It is important to note that Easton, Shroff, and Taylor (2000) demonstrate that since accounting conservatism related to one-time losses and the degree of permanence both have downward biases on the earnings coefficient, it is not possible to attribute the decrease in the earnings coefficient until it is possible to empirically differentiate between these two effects.

An important point noted in Givoly and Hayn (2000) is that the changes in accounting conservatism must be considered when using accounting benchmarks such as historical book-to-market ratios and price-to-earnings ratios to argue that equity prices are overvalued. Givoly and Hayn (2002) document the effect that conservatism may have on the market-to-book and price-to-earnings anomalies. Specifically, Givoly and Hayn (2000) show that including the degree of conservatism with the market-to-book and price-to-earnings ratios increases the abnormal returns associated with these anomalies by approximately 25 percent.

In addition, Ball and Shivakumar (2006) find that a non-linear accrual model increases the ability of current period earnings to predict future period cash flows. Using accruals as a way to incorporate changes in future expected cash flows into current period earnings and the asymmetrical timeliness of losses relative to gains, Ball and Shivakumar (2005 and 2006) hypothesize that accruals will improve the ability of earnings to predict future cash flows and that the predictive ability should be further improved during loss years. Ball and Shivakumar (2005) provide preliminary evidence supporting these hypotheses using UK data. Using U.S. data, Ball and Shivakumar (2006) provide more extensive support for these hypotheses. Ball and Shivakumar (2006) provide substantive evidence that using a linear versus a non-linear accruals model understates the ability of earnings to predict future cash flows. In addition, Ball and Shivakumar (2006) are able to show that the predictive ability of earnings is greater during

loss years. Taken together, these results support the asymmetric timeliness of gains and losses as one potential definition of accounting conservatism.

(INSERT TABLE 3 ABOUT HERE)

5. Conservatism and International Accounting

The worldwide trend toward integration of capital markets heightens the debate on whether international accounting standards (IAS) and US generally accepted accounting principles (GAAP) are equivalent accounting regimes for cross-border listings. Historically, the Securities and Exchange Commission (SEC) operated from the premise that IAS fell below the threshold and mandated reconciliation from IAS to US GAAP.

As the world approaches international convergence of accounting standards, a substantial amount of research has been generated regarding differences in conservatism among countries, political systems, and accounting standard setting bodies. For example, Ball et al. (2000, 2003) note that differences in conservatism measures exist between common law countries and code law countries. They note that this is likely attributable to common law countries' use of published financial statements. Information asymmetries among firms in code law countries are settled through private internal communication channels and family-type networks. Kang (2003) supports this notion by examining the effects of legal regime on the patterns of stock returns surrounding the earnings announcements of American Depositary Receipt (ADR) programs. His results indicate that the market reacts significantly to the earnings announcements of the ADR programs from common law countries whose accounting earnings are known to be more conservative and timely, but not to those of the ADR programs from code law countries where the earnings are known to be less conservative and timely.

Additionally, Bushman and Piotroski (2006) explore financial reporting incentives created by an economy's institutional structure. The underlying premise of their analysis is that a country's legal/judicial system, securities laws, and political economy create incentives that influence the behavior of corporate executives, investors, regulators, and other market participants. Further, such incentives ultimately shape the properties of reported accounting numbers. They analyze relations among key characteristics of country-level institutions and the asymmetric recognition of economic gains and losses into earnings (i.e., conditional conservatism). They also provide evidence about channels through which specific institutions manifest their influence on observed conservatism.

Finally, Ndubizu and Sanchez (2006) examine the valuation properties of accounting earnings and book value of equity derived from contracts and financial statements prepared under US generally accepted accounting principles (GAAP) in Chile and international accounting standards (IAS) in Peru for the period 1995–1999. They find that when stock price is regressed on earnings for loss firms (similar to Basu 1997), the coefficient on US GAAP earnings is significant and negative for Chilean firms. However, when stock price is regressed on earnings prepared under IAS for loss firms in Peru, the coefficient on IAS earnings is insignificant.

The results suggest that the US GAAP is more timely in recognizing economic losses than IAS (income conservatism). Both US GAAP and IAS earnings–returns regressions have coefficients on negative returns that exceed their counterparts on positive returns. However, the US GAAP coefficient on negative returns exceeds the IAS coefficient. Therefore, US GAAP in Chile appears to be more value relevant and has more timely recognition of economic losses than IAS in Peru.

The conservatism research in an international accounting context now is summarized according to the classifications presented earlier, which are debt contracts, compensation contracts, corporate governance, and financial statement analysis:

International Conservatism and Debt Contracts

Ball, Robin, and Sadka (2008) hypothesize that debt markets rather than equity markets drive the demand for conservatism. They use international data, because single-country studies operate under a homogeneous reporting regime. They find that debt markets demand timeliness and conservatism using the BASU conservatism measure. They suggest that debt markets demand conservatism because debt contracts and their underlying covenants use reported numbers.

Gassen, Fulbier, and Sellhorn (2006) examine whether two earnings attributes, specifically, unconditional conservatism and income smoothing, explain the cross-country differences in institutional regimes and conditional conservatism. They find that these attributes are predictably correlated with conditional conservatism using a measure of conditional conservatism based on the standard Basu (1997)-type regression. They find that income smoothing explains a significant portion of international differences in conditional conservatism. They document that conditional conservatism increases with the importance of debt financing, which is consistent with the contracting explanation of conservatism.

International Conservatism and Compensation Contracts

While executive compensation has been of great importance to the media and researchers in the United States, very little research exists regarding the relationship between conservatism and compensation contracts from an international perspective. O'Connell (2006) hypothesizes that UK CEO cash compensation exhibits a stronger sensitivity to accounting earnings in good

news firm-years. He defines good news as positive market adjusted returns for the year. His findings are consistent with the hypothesis and support the notion that UK compensation committees appear to consider the impact of accounting conservatism when awarding earnings-based compensation.

International Conservatism and Corporate Governance

Lubberink and Huijgen (2006) examine UK cross-listed firms and found that firms that raise equity capital have more conservative earnings (as measured by BASU) than comparable firms that do not raise equity capital. They suggest that accounting conservatism is a reflection of high quality reporting that meets the needs of financial intermediaries and litigation threats that surround equity raising activities. They also find that firms with equity issues are more conservative than firms raising funds solely from debt markets.

Also using UK data, Ball and Shivakumar (2005) indicate that UK private firms display more conservative earnings in the years before their initial public offering. They assert that investors face higher information asymmetry with a firm going public than with private firm investors.

Herrmann, Pornupatham, and Vichitsarawong (2008) examine differences in conservatism (BASU) between companies audited by Big 4 and non-Big 4 auditors during the financial crisis and post-crisis periods in Thailand. The results indicate a significant increase in conservatism following the Asian financial crisis. Moreover, Big 4 audit clients were more sensitive to bad news than non-Big 4 audit clients, particularly during the crisis period. In the post-crisis period, both Big 4 and non-Big 4 audit clients reported more conservative earnings. However, they found no significant difference in conservatism between Big 4 and non-Big 4 auditors in the post-crisis period, which they suggest may be attributable to the adoption of

International Accounting Standards, more stringent control by regulatory bodies, and improvements in corporate governance in Thailand.

Similarly, Vichitsarawong, Eng and Meek (2010) examine conservatism and timeliness of earnings in the period surrounding the 1997 Asian financial crisis in Hong Kong, Malaysia, Singapore, and Thailand. After the crisis, these four countries implemented corporate governance measures to stabilize their financial systems and improve regulation and supervision. They find that conservatism and timeliness of earnings during the crisis period were low, but improved in the post-crisis period. More importantly, conservatism and timeliness in the post-crisis period are even greater than in the pre-crisis period. They measure conservatism using BASU and NACC measures. The findings from both measures are consistent with an increase in conservatism after the crisis period. Overall, the results indicate that corporate governance reforms in these four countries had a positive impact on conservatism and timeliness of earnings.

Using data from Greece, Dimitropoulos and Asteriou (2008) investigate whether capital markets in Greece display conservative accounting between 1995 and 2004. Their results indicate that conservative accounting, as measured by BASU, exists in the Greek accounting setting. Additionally, they document that disclosure improves earnings informativeness for firms with low conservatism, but not in the case of firms with high timeliness. Overall, the findings suggest that better disclosure may result in more informative stock prices only in instances where conservatism acts as a corporate governance mechanism.

Using French data, Piot and Janin (2007) investigate the effect of various audit quality dimensions (i.e., auditor reputation and tenure, audit committee existence, and independence) on earnings management in France. They use abnormal accruals as a proxy for accounting

conservatism. They find that the presence of an audit committee curbs upward earnings management, but that the presence of a Big Five auditor makes no difference regarding earnings management activities. This finding is consistent with the lower litigation risk offered by the French Civil Code (vs. the US Common Law system).

Barros Kimbro (2005) explores the role of discretionary accruals (DAC) in prospectus information of 691 IPOs in China during the period 1995-2002 and its relationship with market-adjusted returns. The results suggest that in China, firms use income-decreasing accruals (conservative accounting) in prospectus financial statements. This downward manipulation or income "understatement" creates a regulatory setting that could explain initial underpricing and abnormally high IPO returns for A-share class. In addition, the results show that as state ownership (SO) increases, cash flow also increases, exacerbating agency costs and adverse selection problems. These findings may suggest that managers might be using more conservative accounting in prospectus financial data to offset the agency costs related to high cash flow and high SO, by "banking income" and possibly therefore "smoothing" the effects of possible future suboptimal earnings.

International Conservatism and Financial Statement Analysis

Much of the international research on the relationship between conservatism and financial statements has focused on the relationship between conservatism and value relevance of of financial statements. For example, using a sample of German firms, Hung and Subramanyam (2007) investigate the financial statement effects of adopting International Accounting Standards (IAS) during 1998 through 2002. They find that total assets and book value of equity, as well as variability of book value and income, are significantly higher under IAS than under German GAAP (HGB). In addition, book value and income are no more value relevant under IAS than

under HGB, and HGB (IAS) income is highly persistent (transitory). Finally, they find weak evidence that IAS income exhibits greater conditional conservatism (Basu 1997) than HGB income.

Similarly, Kousenidis, Ladas, and Negakis (2009) examine the effects of reporting conservatism (measured by BASU) on the value relevance of accounting earnings for a sample of Greek firms from 1989 to 2003. The results of the paper indicate that conservatism exists in the Greek accounting system and that the level of conservatism has increased after the market crisis of 1999, potentially as a result of the additional regulation imposed by the market authorities during the post-crisis period. Finally, the results indicate that a non-linear association exists between conservative reporting and value relevance of earnings. In particular, value relevance increases when moving from low-conservative firms to medium-conservative firms, and decreases when moving further to high-conservative firms. Overall, the results of the paper lend empirical support to Watts (2003a), who suggests that excessive conservative reporting may be a potential cause of the distortion of the earnings-returns relation.

Brown, He and Teitel (2006) use a sample consisting of firms from 20 countries to investigate whether conditional conservatism affects the value relevance of accounting earnings. They discover that the association of conditional conservatism with the value relevance of accounting earnings depends on the country-specific level of accrual intensity. That is, in countries with higher accrual intensity, conditional conservatism is positively associated with the value relevance of earnings. They note that this effect is incremental to that of shareholder protection on the value relevance of accounting earnings. These results are consistent with conditional conservatism serving an efficient contracting role to reduce managers' opportunistic

behavior in the use of accruals. However, results also indicate that the benefits of conditional conservatism are contextual and are lost in countries with lower accrual intensity.

Jindrichovska and Mcleay (2005) investigate the impact of losses on earnings response coefficients and the asymmetric timeliness of income recognition in the Czech market. Their findings indicate that the Czech market is similar to more developed markets, in that profits are more persistent than losses. However, there is no evidence of earnings conservatism in the Czech market. These results are most probably attributable to the influence of restrictive tax regulations that mitigate any tendency toward conservatism. A further reason is likely to be that the regulatory environment in the Czech Republic is close to the kind of stakeholder corporatism that is described by Ball et al. (2000), who show that conservatism tends to be less pronounced in such regimes where there are fewer managerial incentives to bias current earnings.

Other research has investigated the relationship between accounting conservatism and the cost of equity capital. For example, Chan, Lin, and Strong (2009) use a sample of firms in the UK to investigate the relationship between accounting conservatism and equity investors' required rates of return. The cost of equity capital estimates are based on the Ohlson and Juettner-Nauroth (2000) model. The findings indicate that unconditional conservatism is associated with higher quality of accounting information and lower costs of equity capital and that conditional conservatism is associated with lower quality of accounting information and higher costs of equity capital. The results imply that conservative accounting signals information to investors about the quality of a firm's current and future earnings. Investors' required rates of returns may be higher for conservative reporting firms that are more susceptible to opportunistic management discretion.

Similarly, Espinosa and Trombetta (2007) provide evidence on the relationship between disclosure and the cost of equity capital using a sample of Spanish firms from 1999 to 2002. They adopt the ex-ante approach to measure the cost of equity capital, taking analysts' predictions as a proxy for expected earnings. As an explanatory variable they use an index measuring annual report disclosure quality. This measure of disclosure is combined with a proxy for the accounting policy choice of the firm. They measure firms' conservatism using the BASU measure. The results confirm that the relationship between disclosure and cost of capital is affected by the choice of accounting policy.

Lai and Taylor (2008) provide evidence about the conservatism in Australian financial reporting. They derive a firm-year-specific measure of conservatism employed by Khan and Watts (2007). The results indicate that conservatism is a salient feature of the Australian financial reporting environment. Conservatism is positively associated with stock return volatility, investment cycle length and prior period conservatism, and it is negatively associated with firm age, firm size and leverage.

Further research has focused on the changing properties of accounting income as a result of accounting conservatism on an international level. Grambovas, Giner, and Christodoulou (2006) compare earnings conservatism between the European Union (EU) and the United States (U.S.). Their findings indicate that accounting has become more conservative not only in the U.S., but also in the EU when taken as a whole, and little evidence exists of marked differences in the asymmetric timeliness of earnings between the two. Indeed, any changes in this property of earnings are likely to be attributable to a common factor that influences firms similarly in both locations, and not necessarily to the process of economic convergence that has taken place in the EU.

Finally, Ding and Stolowy (2006) investigate the changes in the properties of accounting income published by French listed companies during the 1990s. It also analyzes the impact of certain corporate characteristics such as size, international financing, and audit firm, on changes in properties of accounting income. Their results show that, in French companies, good news has a delayed impact on earnings, as accountants allow the effect of such news to be recognized only gradually in the earnings measure. Conversely, bad news is reflected rapidly in earnings. The results confirm a general upward trend in the degree of conservatism of accounting earnings over the period as a whole. However, except for firm size, none of the corporate characteristics examined can predict a company's accounting earnings properties.

6. Conclusion

The early conservatism literature focused on the reason that conservative accounting exists. This was primarily investigated via a theory of contracts. This literature determined that conservatism as a contracting mechanism helps protect the suppliers of capital (both debt and equity) to align management's incentives with the suppliers of capital. A substantial amount of research has been generated investigating the role of conservatism as a contracting mechanism.

In this paper, I have provided a review of the recent conservatism literature investigating conservatism as a contracting mechanism. In addition, I propose another stream of research, specifically, financial statement analysis, that has emerged examining the consequences of accounting conservatism. While the contracting literature focuses on conservative accounting as a means to minimize management's opportunistic behavior, the FSA literature focuses on the "quality" of the earnings number produced by the accounting system and its relation to returns, cash flow, and price. In essence, this second stream of literature is interested in determining the quality of earnings reported from a conservative accounting system.

Finally, I have discussed the growing amount of international literature regarding accounting conservatism from a contracting and a financial statement perspective. As capital markets become more globalized, more opportunities for research will be available in the international conservatism area.

References

Ahmed, A. S., K. Billings Bruce, R. M. Morton, and M. Stanford-Harris. 2002. The role of accounting conservatism in mitigating bondholder-shareholder conflicts over dividends policy and in reducing debt costs. *The Accounting Review* 77(4), 867-890.

Ahmed, A., and S. Duellman. 2007. Accounting conservatism and board of director characteristics: An empirical analysis. *Journal of Accounting & Economics 43*(2/3), 411.

Ball, R., S. P. Kothari, and A. Robin. 2000. The effect of international institutional factors on properties of accounting earnings. *Journal of Accounting & Economics 29*(1), 1-51.

Ball, R., A. Robin, and J. S. Wu. 2003. Incentives versus standards: properties of accounting income in four East Asian countries. *Journal of Accounting & Economics 36*(1-3), 235-270.

Ball, R., and L. Shivakumar, 2005. Earnings quality in UK private firms: Comparative loss recognition timeliness, *Journal of Accounting & Economics* 39(1), 83–128.

Ball, R. and L. Shivakumar. 2006. The role of accruals in asymmetrically timely gain and loss recognition. *Journal of Accounting Research* 44(2): 207-242.

Ball, R., A. Robin, and G. Sadka. 2008. Is financial reporting shaped by equity markets or by debt markets? An international study of timeliness and conservatism. *Review of Accounting Studies 13*(2-3), 168-205.

Barros Kimbro, M. 2005. Managing underpricing? The case of pre-IPO discretionary accruals in China. *Journal of International Financial Management and Accounting* 16 (3), 229-262.

Basu, S. 1997. The conservatism principle and the asymmetric timeliness of earnings. *Journal of Accounting & Economics* 24(1), 3-37.

Beaver, W. H. and S. G. Ryan. 2000. Biases and lags in book value and their effects on the ability of the Book-to-Market ratio to predict book return on equity. *Journal of Accounting Research* 38(1), 127-148.

Bliss, J.H., 1924. Management through accounts. The Ronald Press Co., New York.

Brown, W. D., H. He, and K. Teitel. 2006. Conditional conservatism and the value relevance of accounting earnings: An international study. *European Accounting Review* 15(4): 605 - 626.

Bushman, R. M., and D. Piotroski. 2006. Financial reporting incentives for conservative accounting: The influence of legal and political institutions. *Journal of Accounting & Economics 42*(1/2), 107.

Cahan, S. F., and W. Zhang. 2006. After Enron: Auditor conservatism and ex-Andersen clients. *The Accounting Review* 81 (1): 49–82.

Callen, J., D. Segal, and O. Hope. 2010. The pricing of conservative accounting and the measurement of conservatism at the firm-year level. *Review of Accounting Studies* 15 (1), 145-178.

Chan, A. L.C., S. Lin, and N. Strong. 2009. Accounting conservatism and the cost of equity capital: UK evidence. *Managerial Finance* 2009: 35(4), 325-345

Chen, Q., T. Hemmer, and Y. Zhang. 2007. On the relation between conservatism in accounting standards and incentives for earnings management. *Journal of Accounting Research 45*(3), 541-565.

Cohen, D., A. Dey, and T. Lys. 2008. Real and accrual-based earnings management in the pre- and post-Sarbanes-Oxley periods. *The Accounting Review 83*(3), 757-787.

Collins, D., W, E. Maydew, and I. Weiss. 1997. Changes in the value-relevance of earnings and book values over the past forty years. *Journal of Accounting & Economics 24*(1), 39-67.

Dimitropoulos, P., and D. Asteriou. 2008. Timeliness, conservatism and financial transparent firms under the Greek accounting setting. *Review of Accounting and Finance 7*(3), 252-269.

Ding, Y. and H. Stolowy. 2006. Timeliness and conservatism: Changes over time in the properties of accounting income in France. *Review of Accounting and Finance* 5 (2), 92.

Easton, P., P. Shroff and G. Taylor. 2000. Permanent and transitory earnings, accounting recording lag, and the earnings coefficient. *Review of Accounting Studies*, (5)4, 281-300.

Espinosa, M., and M. Trombetta. 2007. Disclosure interactions and the cost of equity capital: Evidence from the Spanish continuous market. *Journal of Business Finance & Accounting* 34 (9/10), 1371.

Fama, E., and K. French. 1992. The cross section of expected stock returns. *Journal of Finance* 47, 427-465.

Fama F. F., and K. R. French. 1993. Common risk factors in the returns on stock and bonds. *Journal of Financial Economics* 33(1): 3-36.

Fama, E,, and K. French. 1995. Size and book-to-market factors in earnings and returns. *The Journal of Finance* 50 (1), 131.

Feltham, G., and J. Ohlson. 1995. Valuation and clean surplus accounting for operating and financial activities. *Contemporary Accounting Research* 11(2), 689-731.

Francis, J., and X. Martin. 2010. Acquisition profitability and timely loss recognition. *Journal of Accounting & Economics* 49 (1/2), 161.

Francis, J., and K. Schipper. 1999. Have financial statements lost their relevance? *Journal of Accounting Research* 37 (2), 319-352.

Gassen, J., R. Fülbier, and T. Sellhorn. 2006. International differences in conditional conservatism - The role of unconditional conservatism and income smoothing, *European Accounting Review* 15 (4), 527- 564

Gigler, F., C. Kanodia, H. Sapra, and R. Venugopalan. 2009. Accounting conservatism and the efficiency of debt contracts. *Journal of Accounting Research 47*(3), 767-797.

Givoly, D. and C. Hayn. 2000. The changing time-series properties of earnings, cash flows andaccruals: Has financial reporting become more conservative? *Journal of Accounting & Economics* 29(3): 287-320.

Givoly, D. and C. Hayn. 2002. Rising conservatism: Implications for financial analysis. *Financial Analysts Journal* 58(1), 56-74.

Givoly, D., C. Hayn, and A. Natarajan. 2007. Measuring reporting conservatism. *The Accounting Review* 82(1), 65-106.

Grambovas, C., B. Giner, and D. Christodoulou. 2006. Earnings conservatism: panel data evidence from the European Union and the United States. *Abacus* 42 (3/4), 354.

Guay, W. (2008). Conservative financial reporting, debt covenants and the agency costs of debt. *Journal of Accounting & Economics 45*(2/3), 175.

Guay, W., and R. Verrecchia. 2006. Discussion of an economic framework for conservative accounting and Bushman and Piotroski (2006). *Journal of Accounting & Economics* 42(1/2), 149-165.

Herrmann, D., S. Pornupatham, and T. Vichitsarawong. 2008. The Impact of the Asian Financial Crisis on Auditors' Conservatism. *Journal of International Accounting Research, 7*(2), 43-63.

Hui, K., S. Matsunaga and D. Morse. 2009. The impact of conservatism on management earnings forecasts. *Journal of Accounting & Economics 47*(3), 192.

Hung, M., and K R Subramanyam. 2007. Financial statement effects of adopting international accounting standards: The case of Germany. *Review of Accounting Studies* 2007. 12 (4), 623-657.

Iliev, P. 2010. The effect of SOX Section 404: Costs, earnings quality, and stock prices. *The Journal of Finance* 65(3), 1163.

Iyengar, R., and E. Zampelli. 2010. Does accounting conservatism pay? *Accounting and Finance 50*(1), 121.

Jindrichovska, I., and S McIeay. 2005. Accounting for good news and accounting for bad news: Some empirical evidence from the Czech Republic. *European Accounting Review* 14 (3), 635-655.

Kahn, M., and R. L. Watts. 2007. Estimation and validation of a firm-year measure of conservatism. *Working paper: Massachusetts Institute of Technology.*

Kang, T. 2003. The effects of legal regime on the patterns of stock returns surrounding ADR earnings announcements. *The International Journal of Accounting 38*(3), 315-328.

Klein, A., and C. Marquardt. 2006. Fundamentals of accounting losses. *The Accounting Review* 81 (1), 179-206.

Kousenidis, D., A. Ladas, and C. Negakis. 2009. Value relevance of conservative and non-conservative accounting information. *The International Journal of Accounting 44*(3), 219.

Krishnan, G. 2005. The association between big 6 auditor industry expertise and the asymmetric timeliness of earnings. *Journal of Accounting, Auditing, and Finance 20 (3)*, 209-228.

Kwon, Y., P. Newman, and Y. S. Suh. 2001. The demand for accounting conservatism for management control. *Review of Accounting Studies 6*(1), 29.

Kwon, S., Q. J. Yin and J. Han. 2006. The effect of differential accounting conservatism on the "over-valuation" of high-tech firms relative to low-tech firms. *Review of Quantitative Finance and Accounting* 27 (2), 143.

Kwon, Y. 2005. Accounting conservatism and managerial incentives. *Management Science* 51 (11) 1626-1632.

LaFond, R., and S. Roychowdhury. 2008. Managerial ownership and accounting conservatism. *Journal of Accounting Research 46*(1), 101-135.

LaFond, R., and R. Watts 2008. The information role of conservatism. *The Accounting Review* 83 (2) 447-478.

Lai, C., and S. Taylor. 2008. Estimating and validating a firm-year-specific measure of conservatism: Australian evidence. *Accounting and Finance 48*(4), 673.

Lakonishok, J., A. Shleifer, and R. Vishny. 1994. Contrarian investment, extrapolation, and risk. *Journal of Finance* 49, 1541-1578.

Lev, B., and P. Zarowin. 1999. The boundaries of financial reporting and how to extend them. *Journal of Accounting Research* 37 (1999): 353–85.

Lubberink, M., and C. Huijgen. Earnings Conservatism and Equity Raisings of Cross-Listed Firms (December 17, 2006). Available at SSRN: http://ssrn.com/abstract=952221

Ndubizu, G., and M. Sanchez. 2006. The valuation properties of earnings and book value prepared under US GAAP in Chile and IAS in Peru. *Journal of Accounting and Public Policy 25*(2), 140-170.

Nikolaev, V. 2010. Debt covenants and accounting conservatism. *Journal of Accounting Research 48*(1), 51-89.

O'Connell, V. 2006. The impact of accounting conservatism on the compensation relevance of UK earnings. *European Accounting Review* 15 (4), 627-649

Ohlson, J. 1995. Earnings, book values, and dividends in equity valuation. *Contemporary Accounting Research* 11(2), 661-688.

Ohlson, J., and B. Juettner-Nauroth. 2005. Expected EPS and EPS growth as determinants of value. *Review of Accounting Studies* 10 (2-3), 349-365.

Penman, S. 1996. The articulation of price-earnings ratios and market-to-book ratios and the evaluation of growth. *Journal of Accounting Research* 34(2), 235-259.

Penman, S., and X. Zhang. 2002. Accounting conservatism, the quality of earnings, and stock returns. *The Accounting Review* 77(2), 237-264.

Piot, C., and R. Janin. 2007. External auditors, audit committees and earnings management in France. *European Accounting Review 16*(2), 429-454.

Qiang, X. 2007. The effects of contracting, litigation, regulation, and tax costs on conditional and unconditional conservatism: Cross-sectional evidence at the firm level. *The Accounting Review*, 82(3), 759-796.

Ryan, S., and P. Zarowin. 2003. Why has the contemporaneous linear returns-earnings relation declined? *The Accounting Review* 78: 523–53.

Vichitsarawong, T., L. Eng, and G. Meek. 2010. The impact of the Asian financial crisis on conservatism and timeliness of earnings: Evidence from Hong Kong, Malaysia, Singapore, and Thailand. *Journal of International Financial Management & Accounting* 21(1): 32-61.

Wang, R., C. Hógartaigh, and T. van Zijl. 2009. Measures of accounting conservatism: A construct validity perspective. *Journal of Accounting Literature* 28.

Watts, R. 2003a. Conservatism in accounting part I: Explanations and implications. *Accounting Horizons* 17(3), 207-221.

Watts, R. 2003b. Conservatism in accounting part II: Evidence and research opportunities. *Accounting Horizons* 17(4), 287-301.

Zhang, J. 2008. The contracting benefits of accounting conservatism to lenders and borrowers. *Journal of Accounting & Economics 45*(1), 27.

Table 1
Measures of Conservatism

Author	Title	Measure of Conservatism	Abbreviation
Ball and Shivakumar (2005)	*Earnings quality in UK private firms: comparative loss recognition timeliness*	Regression of accruals on cash flows separately for 'good news' and 'bad news' firm years.	ACFTA
Basu (1997)	*The conservatism principle and the asymmetric timeliness of earnings*	Regression of accounting earnings rate on stock returns separately for 'good news' and 'bad news' firm years.	BASU
Beaver and Ryan (2000)	*Biases and lags in book value and their effects on the ability of the book-to-market ratio to predict book return on equity*	Regression of BM on a series of six lagged stock returns	BTM
Givoly and Hayn (2000)	*The changing time-series properties of earnings, cash flows and accruals: Has financial reporting become more conservative?*	A firm specific average accrual over a long time period. Defined as: net income before extraordinary items and discontinued operations plus depreciation expense less operating cash flows as a proxy for accruals before depreciation. This amount is deflated by total assets and averaged over a five year time-period centered at period t.	NACC
Penman and Zhang (2002)	*Accounting Conservatism, the quality of earnings, and stock returns*	Measure of hidden reserves (LIFO, R&D, and Advertising) scaled by net operating assets.	CSCORE

Table 2
Conservatism and Contracting

Authors	Definition of Conservatism	Sample	Results
Panel A: Debt Contracting			
Qiang (2007)	BTM, NACC	633 companies from 1988-1999 on the 2004 Compustat industry and research file that meet the study's data requirements.	Classifies accounting conservatism into conditional versus unconditional conservatism. Finds that conditional and unconditional conservatism address different contracting needs and are negatively correlated.
Nikolaev (2010)	BASU	5,000 debt issues from 1980 to 2006 that are contained in the Mergent Fixed Investment Securities Database	The reliance on debt covenants in public debt contracts is positively associated with conservatism.
Zhang (2008)	BASU, NACC	A subsample of CRSP firms (314) with at least one month's return less than -30% whose long term debt is greater than 10% of total assets.	Conservative accounting is associated with lower interest rates since borrowers using conservative accounting are more likely to violate debt covenants.
Gigler, Kanodia, and Venugopalan (2009)	Theoretical Model	Analytic Analysis	Accounting conservatism decreases the efficiency of debt contracts, contrary to Watts (2003a) and Zhang (2008)
Panel B: Compensation Contracting			
Iyengar and Zampelli (2009)	NACC, ATCFO	From 1994 – 2003, non-financial and non-utility firms on *ExecuComp.*	The sensitivity of CEO pay to accounting performance is higher for conservative firms.
Chen (2007)	Theoretical Model	Analytic Analysis	Accounting Conservatism can reduce earnings management for managerial gain.

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Kwon (2001)	Theoretical Model	Analytic Analysis	Agency cost of distortions in incentive contracts decreases with accounting conservatism.

Panel C: Corporate Governance

Hui, Matsunaga, and Morse (2009)	BASU, BTM, NACC	Firms that are on both the 2004 Compustat Annual Industrial file and First Call Historical Database	There is a negative association between conservatism and the frequency, specificity and timeliness of management forecasts.
LaFond and Rowchowdhury (2008)	BASU	US Firms listed on both the Standard & Poor's *Execu Comp* database and Center for Research in Security Prices from 1994-2004.	Conditional conservatism is negatively associated with managerial ownership in a firm.
Francis and Martin (2010)	BASU	US firm acquisitions available from the SDC US Mergers and Acquisitions database from 1980 through 2006.	More conservative firms make more profitable acquisition investment decisions
Krishnan (2005)	Abnormal Accruals	U.S. Companies employing a Big 6 auditor from 1989 through 1998.	Operating accruals of Arthur Andersen clients were less effective in accelerating the timely recognition of bad news than other firms audited by Big 6.
Cahan and Zhang (2006)	Abnormal accruals	US Companies audited by Big 4 Audit firms in 2001 and 2002.	Successor auditors of former Arthur Andersen clients required more conservative accounting in order to minimize litigation risk.
Ahmed et al (2002)	BTM, NACC	US Firms in the 1998 Annual Industrial Compustat (Primary, Secondary, and Tertiary) database that have book and market values of equity, returns, and S&P senior debt available for 1993-1998	Conservatism increases when bondholder-shareholder conflicts over dividend policy are greater.

Ahmed and Duellman (2007)	BASU, NACC, BTM	Non-financial S&P 500 firms from 1999-2001.	The percentage of inside directors is negatively related to conservatism
Kwon (2006)	BASU, Abnormal accruals	US technology firms (firms in the computer, electronics, pharmaceutical, and telecommunications industries) listed on CNNFN.COM as of July 20, 2000.	Technology firms use accounting conservatism to minimize litigation risk.
Kwon (2005)	Theoretical Model	Analytic Analysis	Accounting earnings become more useful for reducing agency costs when they are measured conservatively.

Table 3
Conservatism and Financial Statement Analysis

Authors	Definition of Conservatism	Sample	Results
Panel A: Effect of Conservatism on Earnings			
Basu (1997)	BASU	Firm-year observations from 1963 to 1990 with data on the CRSP Monthly files, and with necessary accounting data on the COMPUSTAT database.	Positive earnings changes are more persistent than negative earnings changes.
Givoly and Hayn (2000)	NACC	US firms in the 1999 Compustat database with data from 1968 to 1998	An empirical survey of the historical patterns of US accounting, developing the non-operating accrual measure of conservatism.
Klein & Marquadt (2006)	Accounting losses	All firms in the Compustat database with necessary data from 1951-2001.	Negative non-operating accruals are associated with higher frequency of accounting losses. But accounting losses are determined by other non-accounting factors as well.
Givoly, Hayn and Natarajan (2007)	BASU	All firms in the 2001 Compustat database with earnings per share and returns data from 1962-2001.	An empirical investigation into the validity of the Basu measure, and shows that the Basu AT measure is not reliable.
Callen, Segal and Hope (2010)	Stock returns	All firms included in the annual COMPUSTAT and monthly CRSP files for the years 1962 through 2006.	A new measure of conservatism is developed based on the vector-auto-regressive (VAR) decomposition of stock returns, and is used to test the economic demands for conservatism.
Panel B: Effect of Conservatism on Earnings, Cash Flows, and Returns Relationships			
Ball & Shivakumar (2006)	ATCFO	Non-financial firms with data in the Center for Research in Security	Existing accrual models (e.g. Jones [1991] and others) are extended to incorporate conservatism.

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		Prices (CRSP) and annual Compustat files in the 1987– 2003 period.	
Ball & Shivakumar (2005)	ATCFO	Public and private firms included in the ''Financial Analysis Made Easy'' (FAME) database supplied by Bureau Van Dijk with fiscal years ending between January 1989 and December 1999.	UK private firms have lower reporting quality than do UK public firms, as measured by the degree of accounting conservatism

Table 4
Conservatism and International Accounting

Authors	Measures of Conservatism	Sample	Results
Panel A: Comparison of Conservatism Among Regimes			
Ball, Kothari & Robin (2000)	BASU	Firms with accounting data from 1985-1995 in the Global Vantage Industrial/Commercial (IC) file from Australia, US, UK, Canada, Germany, France, and Japan.	Common law countries are more conservative in their financial reporting practices than code law countries as measured by Basu's asymmetric timeliness measure.
Ball, Robin, Wu (2003)	BASU	Firms from Hong Kong, Malaysia, Singapore and Thailand with annual earnings announcements during 1984–1996 time period on the Global Vantage Industrial/Commercial (IC) file.	In four East-Asia countries, conservatism is affected by several legal, political and institutional factors.
Bushman and Piotroski (2006)	BASU, ACFTA	All firms with accounting and returns data on Global Vantage over the period 1992–2001	Country-level variations in conditional conservatism associated with a variety of legal & political factors.
Ndubizu and Sanchez (2006)	BASU	Chilean and Peruvian firms that were in operation from the period 1994–1999.	US GAAP, used in Chile, is timelier in recognizing economic losses than IAS, which is used in Peru.
Panel B: International Conservatism and Debt Contracts			
Ball, Robin, and Sadka (2008)	BASU	78,949 fiscal-year observations during 1992–2003 from 22 Countries on the Global Vantage Industrial/ Commercial file.	This paper finds that conservatism increased with the relative importance of the debt market in each country.

Gassen, Fulbier, and Sellhorn (2006)	BASU, BTM	Firms with return data, on Datastream for the non- US sample and CRSP for the US sample, and accounting data on Worldscope for the non-US sample and Compustat for the US sample for the period 1990-2003.	Conditional conservatism and income smoothing appear to be distinct concepts, and are only weakly correlated.

Panel C: International Conservatism and Compensation Contracts

O'Connell (2006)	Market-Adjusted Returns	All non-financial firms8 quoted on the London International Stock Exchange over the period 1983–97	UK compensation committees appear to take into account the impact of accounting conservatism in earnings-based compensation.

Panel D: International Conservatism and Corporate Governance

Ball & Shivakumar (2005)	ACFTA	Public and private firms included in the ''Financial Analysis Made Easy'' (FAME) database supplied by Bureau Van Dijk with fiscal years ending between January 1989 and December 1999.	UK private firms have lower reporting quality than do UK public firms, as measured by the degree of accounting conservatism
Barros Kimbro (2005)	Discretionary accruals	691 A-share IPOs in China during the period 1995-2002	Chinese IPO firms use accounting conservatism in prospectus financial statements.
Piot and Janin (2007)	Abnormal Accruals	Companies on the French stock market, specifically the SBF 120 Index companies, for financial years 1999, 2000 and 2001.	The presence of an audit committee is associated with higher earnings conservatism.

Dimitropoulos and Asteriou (2008)	BASU	105 companies listed in the Athens Stock Exchange (ASE), with full annual data of reported earnings and stock prices during the period 1995- 2004.	Conservatism exists in the Greek capital markets.
Vichitsarawong, Eng and Meek (2010)	BASU, NACC	Non-financial companies in Hong Kong, Malaysia, Singapore, and Thailand included in the Global Vantage database (Research Insight) over the period 1995–2004	Conservatism and timeliness of earnings increased following the Asian financial crisis.
Lubberink and Huijgen (2006)	BASU	UK firms cross listed in the US that raised subsequent equity capital in seasoned offerings in the period from 1994 to 2005.	Firms that raise equity capital have more conservative earnings than comparable firms that do not raise equity capital.
Herrmann, Pornupatham, and Vichitsarawong (2008)	BASU	Listed companies in Thailand from 1997-2003.	Big 4 audit clients are more sensitive to bad news than non-Big 4 clients during the Asian Financial Crisis.

Panel E: International Conservatism and Financial Statement Analysis

Chan, Lin, and Strong (2009)	BASU, NACC	UK non-financial firms during the period 1987-1999 with earnings forecast data available on I/B/E/S and accounting data on Datastream.	Unconditional conservatism is associated with a lower cost of equity capital and conditional conservatism is associated with a higher cost of equity capital.
Kousenidis, Ladas, and Negakis (2009)	BASU	Firms listed on the Athens Exchange from 1989-2003.	Value relevance increases when moving from low conservative firms to medium conservative firms in the Greek capital markets.
Hung and Subramanyam (2007)	BASU	80 German industrial firms that adopted IAS for the first time during 1998–2002.	Moderate support for the notion that IAS income is more conservative than HGB (German) income.
Lai and Taylor (2008)	BASU-modified	Australian firms with share price and accounting data on the SIRCA and ASPECT databases, respectively, for the years 1993–2006.	Conservatism exists in Australian capital markets and is associated with firm characteristics.
Espinosa and Trombetta (2007)	BASU	All non-financial companies of the Spanish continuous market with data for years 1998 to 2001.	In Spanish markets, the relationship between disclosure and cost of capital is affected by the choice of accounting policy.
Grambovas, Giner, Christodoulou (2006)	BASU	All non-financial firms from the EU and the U.S. for the period from 1989 to 2004 with accounting data recorded in the Worldscope database	Accounting has become more conservative not only in the U.S. but also in the EU. There is little evidence of marked differences in the asymmetric timeliness of earnings between the two.
Brown, He and Teitel (2006)	BASU, ACFTA, BTM	All non-financial firm-year observations from 1993 to 2004 from 20 countries that meet data requirements and are	For countries with higher accrual levels, some evidence shows that conservatism is associated with a higher level of value-relevance.

		included in the Compustat Global Issues and Industrial/Commercial files.	
Ding and Stolowy (2006)	Stock returns	French listed companies from the Worldscope database over the 10-year observation period 1990-1999.	Good news is incorporated more slowly into earnings than bad news.
Jindrichovska and Mcleay (2005)	BASU	63 industrial companies listed on the Prague Stock Exchange over the period from 1993 to 1999.	Profits are more persistent than losses in the Czech markets. Little evidence of conservatism in Czech markets.

OVERALL CONCLUSION

This dissertation is organized into three essays that examine the relationship between audit committee characteristics and financial reporting quality. The first two essays examine audit committee characteristics and their association with various measures of financial reporting quality. Essay Three summarizes relevant literature regarding conservatism, a measure of financial reporting quality. The results of these studies indicate that accounting expertise on the audit committee is associated with financial reporting quality in certain contexts.

Specifically, Essay One provides evidence that the addition of accounting expertise is positively associated with higher conservatism as measured by the Penman and Zhang (2000) C-Score measure of conservatism for firms with a strong governance structure. For firms with weak governance, the addition of accounting expertise to the audit committee is associated with higher levels of conservatism as measured by the Givoly and Hayn (2000) negative accruals measure of conservatism. Sensitivity analysis suggests that the addition of accounting financial expertise is associated with higher conditional conservatism as measured by the Basu (1997) asymmetric loss recognition measure.

The results from Essay Two indicate that the presence of accounting financial expertise is associated with significantly higher forecast accuracy and significantly lower forecast dispersion. Additionally, I find that the non-accounting financial expertise is significantly associated with higher analyst forecast accuracy and lower forecast dispersion, but nonfinacial expertise is not.