# EARNINGS QUALITY AND CFO

# FINANCIAL EXPERTISE

By

FUAD RAKHMAN

Bachelor Science in Accounting
Gadjah Mada University
Jogjakarta, Indonesia
1999

Master of Science in Accounting
Oklahoma State University
Stillwater, Oklahoma
2002

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Dissertation Approved:

Dr. Don Herrmann

Dissertation Adviser

Dr. Gary Meek

Dr. Sandeep Nabar

Dr. Chanjin Chung

Dr. A. Gordon Emslie

Dean of the Graduate College

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# CHAPTER I

# INTRODUCTION

Financial reporting quality is a central issue in the capital markets. As a means to improve the quality of financial reporting, the Sarbanes-Oxley Act (SOX) section 302, "Corporate Responsibility for Financial Reports," requires the Chief Executive Officer (CEO) and Chief Financial Officer (CFO) of publicly traded firms to certify the appropriateness and fairness of financial reports.[1] This requirement and the increasingly complex reporting environment shaped by SOX have put great pressures on the CFO as the supervisor of corporate financial reporting, and have led to a significant increase in CFO turnover after SOX.[2] With the responsibilities of the CFO in financial reporting oversight having increased under SOX,[3] audit committees are likely to think that CFOs with financial expertise (e.g. professional certification, financial background and experience) are more desirable and better able to carry out the tasks of current CFOs:[4]

[1] Research finds that managers' incentives are one determinant of financial reporting quality (e.g. Healy (1985) for CEO incentives; Geiger and North (2006) for CFO incentives). The certification requirement is intended to curb managerial opportunistic behavior by holding them personally responsible for their company's financial reports.

[2] The pressures also come from the increased amount of time and resources necessary for SOX compliance and from the increased costs of misreporting (such as criminal penalties for accounting fraud). A report in *Business Wire* on May 22, 2006 indicates that CFO turnover of Fortune 500 companies has increased from 13 percent in 2003 to 16 percent in 2004 and to 19 percent in 2005 (in *Business Wire* 2006; Leone 2006).

[3] The increase in the responsibilities and risks associated with a CFO position is followed by an increase in CFO compensation incremental to other executives (Wang 2007).

[4] The Blue Ribbon Committee (1999, p. 25) defines financial expertise as related to past employment experience in accounting, professional certification in accounting, or any other comparable experience or background which results in the individual's financial sophistication.

financial expertise has become more essential for competent CFOs and with financial expertise, CFOs potentially have a greater ability to improve the quality of financial reporting.[5]

By contrast, a CFO's lack of financial expertise, especially with respect to accounting knowledge, potentially increases the likelihood of errors in his/her reporting judgments, reducing financial reporting quality. Lynn E. Turner, a former chief accountant of the Security and Exchange Comission (the SEC), in his letter to the SEC in 2005, expresses his concerns about the lack of understanding of accounting principles by many financial executives:[6]

*"A concern we have as users of financial statements, is the number of times we have spoken with CFOs or controllers who have expressed that they do not have sufficient expertise to properly prepare the financial statements and fulfill the basic requirements of the securities laws." p. 9.*

As CFOs are expected to oversee corporate financial reporting processes, CFO financial expertise potentially plays a significant role in shaping the quality of financial reporting in general, and the quality of earnings in particular. However, empirical evidence for the association between the quality of financial reporting and CFO financial expertise is surprisingly scarce. Most studies of financial expertise focus on audit committee financial expertise (e.g. Abbott et al. 2004, Davidson et al. 2004, DeFond et al. 2005, Krishnan 2005, Zhang et al. 2007), presumably triggered by the recent

[5] The importance of accounting qualification as one criterion for competent CFOs has triggered some concerned individuals to request that the SEC Chairman establish a rule to require CFOs of public companies to have a CPA or CMA credential (*CPA Journal* 1996).
[6] The full letter from Lynn E. Turner may be viewed at the following SEC website: http://www.sec.gov/spotlight/soxcomp/soxcomp-turner.pdf.

regulatory requirement to disclose the presence of financial experts on audit committees. Ge et al. (2008) examine the effects of CFO styles on financial reporting strategies, which are categorized into earnings-related strategies and disclosure-related strategies. They identify CFO turnovers and test whether the same CFO tends to take the same reporting strategies when he or she becomes a CFO of a different company (i.e. CFO fixed effect). Their study finds that CFOs' individual characteristics have a significant influence on financial reporting decisions – the adjusted R-squares increased even after controlling for CEO fixed effects. They also find that older CFOs are usually more conservative while those with undergraduate degrees tend to be more aggressive in financial reporting decisions. Some independent variables in Ge et al. are similar to those in this study. However, this study uses a different set of dependent variables and samples. Further, the focus of this study is on the effects of CFO financial expertise on earning quality while their study focuses on CFO fixed effects on financial reporting practices. Another recent study by Matsunaga and Yeung (2008) examines whether the financial experience of a CEO improves financial reporting quality, where financial experience is defined as having previously served as a CFO. They find that financial experience is associated with more income-decreasing accruals (i.e. more conservative earnings). However, the study does not address the role of CFO financial expertise in financial reporting. Therefore, whether or not the presence of a CFO with financial expertise improves the quality of earnings remains an open question.

The purpose of this study is to examine whether there are systematic differences in the quality of earnings associated with having a CFO with financial expertise. On the effect of CFO financial expertise on reporting quality, Aier et al. (2005) find that the

presence of a CFO with financial expertise is associated with a lower probability of financial restatement. However, Aier et al. do not specifically examine whether CFO financial expertise improves the quality of earnings. CFO financial expertise potentially improves earnings quality through better judgments and helps CFOs produce more accurate accounting estimates (McNichols 2002, p. 61) and thus reduces noise in earnings because earnings numbers are a product of estimations involving judgments. Further, in this dramatically changing reporting environment, having financial executives with sufficient accounting and financial expertise is preferable, as they potentially know better how to comply with accounting standards and how to guard the integrity and quality of accounting numbers.[7]

Examining whether CFO financial expertise affects the quality of earnings is important for several reasons. First, there has been evidence in the years following SOX that more firms hire CFOs with financial expertise. O'Sullivan (2004) finds that many firms are seeking financial executives with a better understanding of accounting. This claim is supported in a study by Spencer Stuart, an executive search consulting firm, which finds that between 2003 and 2005, the proportion of financial executives with a CPA designation among Fortune 1000 firms increased from 20 percent to 35 percent (Durfee 2005). Bralver et al. (2006), in another study, observed a greater share of CPA and MBA credentials for CFO positions, suggesting an increasing demand for CFOs with more financial expertise. One possible explanation of the trend is that it indicates the eagerness of audit committees to have CFOs who understand how to guard the integrity of financial reporting and minimize the possibility of misreporting. Second, despite the

[7] A survey conducted in Australia revealed that 81 percent of the public would have more confidence if the CFO of the company has an accounting qualification (*Australian CPA* 2003).

fact that CFOs have different levels of financial expertise across firms, prior research (e.g. Geiger and North 2006) implicitly assumes that CFOs have similar influence on the quality of earnings. The role of financial expertise becomes more critical under the complex reporting environment following SOX. In addition to increased regulatory requirements, the growing complexity in financial transactions, especially in the last decade, is likely to contribute to a greater need for CFOs with financial expertise. In complex tasks, the presence of expertise has a higher probability to make a difference (Abdolmohammadi & Wright 1987). Teets (2002) posits that the quality of earnings depends upon the existing accounting standards and managerial accounting choices and judgments. Little is known about the role of financial expertise in accounting method choices and the quality of experts' judgments in financial reporting. This study helps fill the gap by examining whether the presence of a CFO with financial expertise affects the quality of financial reporting.

CFO financial expertise potentially affects the attributes of accounting numbers as the input for investors' valuation processes. This study focuses on the financial expertise of CFOs for the following reasons. First, although firms may have lower-level accounting staff with expertise, the staff is less likely to have the authority to select accounting methods. Final reporting decisions, which determine reporting quality, still lie with the CFOs and their supervisor. Second, the current rules require CFOs to certify financial reports prior to their submission, making them the most responsible individuals for the quality of the reports and for any possible accounting errors and fraud. This suggests that the financial expertise of a CFO potentially has stronger effects on reporting quality than does the expertise of other accounting staff in the firm.

Another purpose of the study is to examine whether the association between CFO financial expertise and earnings quality can be explained by existing theories. The effects of CFO financial expertise on financial reporting may be viewed from two different perspectives: the demand hypothesis and the opportunistic behavior hypothesis.[8] Following a series of accounting scandals (e.g. Worldcom, Enron, Tyco, among others) that shattered investor confidence, capital market participants and regulators demanded higher quality financial reporting. The government responded by enacting SOX to enforce accurate and reliable financial reporting and to restore investor confidence. SOX has forced financial executives to pay more attention to details of financial reporting and spend more time on compliance with new regulations. Under the demand hypothesis, more firms hire CFOs with financial expertise as expertise is necessary to meet investor and regulatory demands for higher reporting quality. Financial expertise potentially benefits investors through accounting numbers that better reflect the value of the firm, and through higher compliance with reporting standards and rules. On the other hand, under the opportunistic behavior hypothesis, when more financial expertise is placed in the hands of managers with self-serving behavior, it potentially widens the information asymmetry and can be exploited to orchestrate earnings management and conceal it from principals, and thus reduce earnings quality. In the current environment characterized by stronger corporate governance structures, increased costs of misreporting, and investors' increased awareness of financial reporting quality, earnings management may require a higher degree of sophistication on the part of managers. Motivated by increasing demands for earnings quality and for CFOs with financial expertise following SOX, this

[8] Givoly et al. (2007) use these hypotheses to predict the association between public ownership and earnings quality.

study investigates whether the recent trend towards hiring CFOs with more financial expertise supports or hinders earnings quality.

The descriptive statistics reveal a pattern in how firms of different sizes hire their CFO. The study provides evidence that large firms are more likely to hire CFOs with an advanced degree in business or an MBA degree, while small firms are more likely to hire those with a CPA designation. Being a CFO of a large, more complex firm presumably requires a broader set of business knowledge and skills, which could be obtained through graduate education in business. Hiring a CFO with an MBA degree meets this requirement. The data show that recently appointed CFOs are more likely to hold a CPA or to have an MBA degree, which might indicate an increase in demand for CFOs with financial reporting expertise. Further, CFOs with a CPA are relatively younger compared to those with an advanced degree in business.

This study contributes to the accounting literature by providing direct evidence related to the effects of CFOs with financial expertise on the quality of reported earnings, and extends the discussions on the association between the characteristics of financial executives and financial reporting quality (such as those by Aier et al. 2005, Li et al. 2008, Matsunaga and Yeung 2008, and Ge et al. 2008). Using cross-sectional data, this study finds that CFO financial expertise, at least partially, affects the attributes of earnings. The results show that CPA improves CFOs' ability to reduce errors in accrual estimations, and thus improve accruals quality, as they gain longer CFO experience. Firms whose CFO holds a CPA license are also associated with higher earnings persistence. Further tests indicate that the variables MBA, CFO experience, and CFO age are associated with more conservative earnings while CPA is associated with less

conservative earnings. Lastly, this study presents evidence that investors react more strongly to earnings when the financial reports are certified by a CFO with a CPA and less strongly when certified by a CFO with an advanced degree in business.

The remainder of the dissertation is organized as follows. Chapter 2 discusses the literature on earnings quality and financial expertise and presents the hypotheses. Chapter 3 discusses research methodologies used to test the hypotheses. Chapter 4 provides the results including the descriptive statistics and the hypothesis testing, and Chapter 5 summarizes the dissertation.

# CHAPTER II

# PRIOR RESEARCH AND DEVELOPMENT OF HYPOTHESES

## 2.1. The role of financial expertise in financial reporting

The importance of financial expertise under SOX has increased as implied in the requirement to have a financial expert on the board of directors and the certification of financial statements by the CEO/CFO. The SEC requirement of having at least one member with financial expertise in audit committees is consistent with the self-serving view of managerial behavior in that the presence of a board member with expertise increases the ability of boards of directors to observe actions taken by management (i.e. monitoring) and to interpret reports on the outcome of the actions, and thus reduces information asymmetry. The roles of audit committee financial expertise in financial reporting have been studied extensively (see e.g. Davidson et al. 2004 and DeFond et al. 2005, among others) and are discussed in the next section.

### 2.1.1. *Audit committee financial expertise*

The New York Stock Exchange (NYSE) and the National Association of Securities Dealers (NASD) established a blue ribbon committee (BRC) in September 1998 to make recommendations for improving the effectiveness of audit committees in

overseeing corporate financial reporting practices. The committee was created to respond to SEC Chairman Arthur Levitt's concerns about the adequacy of the oversight of the audit process by boards of directors.[9] One of the BRC's recommendations points out the necessity to require firms with a market capitalization above $200 million to have at least three members on the audit committee, each of whom is financially literate (Blue Ribbon Committee 1999).[10]

A large number of corporate governance studies on audit committees support the recommendations. Such studies show empirically that favorable audit committee characteristics (e.g. size, independence, and expertise) reduce the probability of earnings management (Klein 2002), are negatively associated with accounting restatement (Abbott et al. 2004), are positively associated with higher external audit fees (a proxy for higher audit quality) (Carcello et al. 2002), are more effective in shielding auditors from dismissal following the issuance of new going-concern reports (Carcello and Neal 2003), are less likely to be associated with internal control problems (Krishnan 2005), and improve the perceived quality of financial reporting (Felo et al. 2003). McDaniel et al. (2002) examine whether judgments by financial experts in evaluating financial reporting quality are different from those by financial literates.[11] The study shows that in evaluating financial reporting quality, financial experts are more likely to make assessments based on the characteristics described in Statement of Financial Accounting Concept No. 2 (e.g. relevance) than are financial literates.

[9] The concerns were documented in Levitt (1998).
[10] The Blue Ribbon Committee defines financial literacy as the ability to read and understand basic financial statements (BRC 1999, p. 26). Thus, a financial literate is an individual who has the ability to read and understand basic financial statements.
[11] The definition of financial expertise in McDaniel et al. (2002) follows that of the Blue Ribbon Committee (1999, p. 25). See footnote no. 4.

In line with the BRC recommendations, SOX requires public firms to disclose the presence of financial experts on audit committees and if there are none, explain why not.[12] Motivated by SOX, DeFond et al. (2005) find that the appointment of audit committee members with financial expertise is valued by investors. Interestingly, a significant market reaction is observed when financial expertise is defined narrowly to include only accounting expertise. An earlier study by McMullen and Raghunandan (1996) suggests that having at least one CPA on the audit committee is associated with a significantly lower probability of accounting problems, as indicated by SEC enforcement actions or material restatement of quarterly earnings. Audit committee members with financial expertise may be perceived as having a better set of skills to guard the quality and integrity of financial reports. Xie et al. (2003) find that board and audit committee members with financial backgrounds are associated with a lower probability of earnings management. In another study, Agrawal and Chadha (2005) find that having an independent financial expert on the audit committee is associated with a lower probability of restatement.

### 2.1.2. *Financial expertise of CFOs*

CFO financial expertise potentially affects the quality of financial reporting. There are at least two different views on the importance of accounting expertise for the CFO position. The first view suggests that accounting expertise is decreasing in

[12] In its final version, the SEC defines an audit committee financial expert as a person who a) understands GAAP and financial statements, b) is able to assess the general application of GAAP in connection with the accounting for estimates, accruals and reserves, c) has experience in preparing, auditing, analyzing or evaluating financial statements, d) understands internal controls and procedures for financial reporting, and e) understands the functions of audit committees (SEC 2003).

relevance. The roles of CFOs have expanded to include a broader set of strategic tasks such as chief information officer, partner to the CEO, or head of investor relations. Consequently, the emphasis on the role of a CFO as an accounting officer has diminished, resulting in a reduced importance for basic accounting knowledge and accounting qualifications. In the 1980s, most CFOs had an accounting qualification (Bedell 2000). By the 1990s and beyond, however, a growing number of CFOs have lacked an accounting background due to a shift in emphasis towards CFOs' strategic skills (Heffes and Millman 2005). On July 6, 2002, *The Economist* reported that only 20 percent of CFOs at Fortune 500 companies were CPAs (*Economist* 2002). Aier et al. (2005) conjecture that the sharp increase in accounting restatements may be associated with these changes in the background of CFOs.

The second view sees accounting expertise as becoming increasingly fundamental for a CFO position. Following the passage of SOX, many firms looking for a new CFO reportedly preferred candidates with a CPA designation (O'Sullivan 2004). The presence of a CFO with financial expertise should add confidence to top management and to investors, especially in the current environment, which is characterized by growing public expectations as to the quality of financial reporting and by increased potential costs of misreporting. Pressure from regulators and boards of directors regarding the quality of accounting numbers has intensified, and CFOs' ignorance of basic accounting models potentially brings serious legal consequences.

Supporting the importance of financial expertise for a CFO position is the claim that financial transactions have become increasingly complex in recent years (Liesman 2002). The complexity of business transactions potentially adds noise to management's

accounting forecasts and increases the magnitude of errors in estimates (Palepu et al. 2000), and thus reduces the quality of financial reporting. Accounting treatments for some transactions have not yet been prescribed by accounting standards (Ng 2004). The role of a CFO with financial expertise is to grasp the concept underlying complex transactions and to apply the most appropriate choices in order to generate the accounting numbers that best represent the effects of the transactions on the company's wealth, or to supervise a controller with this expertise.

## 2.2. The demand hypothesis and the opportunistic behavior hypothesis

This study investigates the roles of financial executives with expertise on earnings quality. Predictions of the association between financial expertise and earnings quality are developed based on the demand hypothesis and the opportunistic behavior hypothesis.

### *2.2.1 Financial expertise and the demand hypothesis*

SOX represents a manifestation of a public demand for better financial reporting quality. Previous studies document that firms respond to market demands for earnings quality. On the effect of SOX, Lobo and Zhou (2006) show that following the requirement for CEO/CFO certification, there is an increase in conservatism in financial reporting, through lower discretionary accruals and quicker recognition of losses than gains. Using UK firms, Ball and Shivakumar (2005) find that even though private and public firms face roughly equivalent regulations on auditing, accounting standards, and taxes, financial reporting of public companies is of higher quality due to greater market demand for quality. Similar results are documented by Burghstahler et al. (2006) in the

European Union. They find that higher demand promotes better reporting quality. This is consistent with the view that financial reporting is the means to communicate and to resolve information asymmetry with outside parties (Watts and Zimmermann 1986).

Since financial reporting requires a great deal of judgment, the financial expertise of the preparers (i.e. CFOs) potentially plays a significant role in shaping the attributes of accounting numbers, especially under more complex regulations post-SOX. Feng et al. (2008) document evidence that many CFOs are involved in earnings manipulation because they succumb to the pressure of the CEO. Financial expertise potentially plays a greater role when CFOs are under pressure from their supervisor (i.e. the CEO) to misreport results.[13] Guan et al. (2005) find that CFO resignation is associated with income increasing accruals in the year of resignation. They suggest that it is very likely that when asked by top management to alter earnings reports, many CFOs choose to resign instead of complying with the request. The income increasing accruals in the year of resignation indicate that top management is successful in pressuring the new CFO to manage earnings.

CFOs with a better understanding of accounting are more likely to refuse such requests since they have stronger arguments for doing so. For instance, CFOs with financial expertise potentially have a greater appreciation for the economic and legal consequences of errors in reporting. The demand hypothesis suggests that firms hire CFOs with financial expertise and accounting qualifications to improve earnings quality.

[13] According to a survey by *CFO Magazine* reported in 1998, 45 percent of CFOs in the sample have been asked by business executives to misrepresent results; 38 percent of that group did so. Another survey by *Business Week Magazine* found that about two-thirds of CFOs have been asked by their colleagues to misrepresent results; 55 percent fought it off, while 12 percent complied with the request (Barr 1998, Fink 1998). This fact is also recognized by regulators. Lynn E. Turner, then the SEC Chief Accountant, in his speech on September 29, 2000 pointed out that many CFOs are under significant pressure to misrepresent financial results (SEC 2000).

This is consistent with the findings in Aier et al. (2005) that CFO financial expertise lowers the probability of financial restatement. In another study, Li et al. (2008) find that for companies receiving an adverse SOX 404 opinion on internal control quality, hiring a CFO with accounting qualification (i.e. CPA) increases the probability of receiving a clean opinion in the following year. Thus, financial expertise provides firms with economic benefits as it reduces the probability of having to pay the costs of misreporting (e.g. investor litigations, stock price decreases due to restatements or SEC investigations). Logically, financial expertise should be valued by the labor market. Consistent with this argument, Hoitash et al. (2007) find that CFOs are paid a higher salary if they are a former audit partner.

*2.2.2 Financial expertise and the opportunistic behavior hypothesis.*

Agency theory suggests that both managers and shareholders are economically rational and are utility maximizers (Jensen and Meckling 1976). Since managers' interests are not necessarily aligned with those of the shareholders, opportunistic managers are likely to maximize their own welfare instead of firm value. Empirical evidence of self-serving behavior in financial reporting practice is presented by Lewellen et al. (1996), who find that the industry and peer-company stock return benchmarks selected by management are downward biased, overstating the relative performance of the firms. In another study, Barton and Mercer (2005) find that managers often blame a firm's poor performance on external factors to manipulate market perceptions of management's credibility and the firm's outlook.

Moe (2005) argues that agents' expertise is one of the sources of information asymmetry. In an agency setting, managers' financial expertise potentially increases the magnitude of an existing information asymmetry between managers and owners, and widens moral hazard problems. With expertise, managers are able to generate more information and more accurately assess the value of the firm, so they are better informed compared to shareholders. However, managers with financial expertise have a greater opportunity, not only to improve the quality of financial reporting but also to engineer more sophisticated earnings manipulations in order to outsmart internal control systems and board of director monitoring and reap personal economic gains. Under SOX, CFOs are currently dealing with boards of directors with increased financial expertise, tougher legal consequences for accounting fraud, increased market awareness of financial reporting, and higher shareholder expectation of earnings quality. As a consequence, managing earnings may require rational managers to possess a higher degree of sophistication. Given a certain level of monitoring by owners, improved financial expertise provides apparatus for self-serving managers to conduct earnings management and thus reduce earnings quality.

### 2.3. Measures of earnings quality

Earnings quality is contextual; that is, different interest groups define it differently (Dechow and Schrand 2004). In a broad sense, earnings quality is commonly defined as the extent to which reported earnings reflect the true or unbiased earnings, where greater alignment suggests higher-quality earnings (e.g. Pratt 2000). As true or unbiased earnings are not observable, various proxies have been employed by accounting researchers to

infer earnings quality. The literature suggests that higher quality earnings possess high accruals quality (Francis et al. 2004, Francis et al. 2005, Aboody et al. 2005, Jenkins et al. 2006, Ball and Shivakumar 2006a, Chan et al. 2006, Wang 2006), are more persistent (Penman and Zhang 2002, Schipper and Vincent 2003, Francis et al. 2004, Skinner 2004, Richardson et al. 2005), are more predictable (Lipe 1990, Francis et al. 2004, Graham et al. 2005), are smoother (Francis et al. 2004, Tucker and Zarowin 2006), show a greater return-earnings relationship (Vafeas 2000, Wang 2006, Jenkins et al. 2006), are more conservative (Watts 2003, Wang 2006) and are more timely (Bushman et al. 2004, Francis et al. 2004). Some studies (e.g. Dechow et al. 1995, Caskey and Hanlon 2005) use SEC enforcement actions as an indication of a lack of earnings quality.

Predictions of the effect of CFO financial expertise on earnings quality are developed under the demand hypothesis and the opportunistic behavior hypothesis. On one hand, the demand hypothesis argues that firms need to hire CFOs with financial expertise to improve financial reporting, suggesting a positive association between expertise and earnings quality. On the other hand, agency theory assumes that managers behave opportunistically (see Jensen and Meckling 1976) and thus will use their expertise to maximize their economic utility through earnings management, suggesting a negative association between expertise and earnings quality. The use of an agency framework implies that earnings quality measures should capture managerial opportunism generated by asymmetric information between managers and owners.

Earnings quality measures in this study are based on Francis et al. (2004). They present a comprehensive set of earnings attributes and their effects on the cost of equity. The attributes include accruals quality, persistence, predictability, smoothness, value

relevance, timeliness, and conservatism; the first four are characterized as accounting-based, while the last three are market-based attributes. The attributes have been widely used in earnings quality studies. In this study, three of Francis et al.'s (2004) earnings attributes are used to measure earnings quality: accruals quality, persistence, and conservatism. The other four attributes (i.e. predictability, smoothness, value relevance, and timeliness) are not included because of data limitations. The computation of the other four attributes requires time-series data which cannot be applied in this study since this study uses cross-sectional data. For example, the computation of Lipe's (1990) measure of earnings predictability requires ten years of observations, which means that only firms whose CFO already had ten years of CFO experience are included in the sample. Since the average length of CFO experience is less than five years, the use of time series data to compute the other four attributes will reduce the number of unique firms significantly. Thus, the inability to use earnings quality measures which require longer time-series data is one of the limitations of this study. Another earnings quality measure used in Fan and Wong (2002) and Wang (2006), earnings informativeness, is included to capture earnings-return relationships in cross sectional studies. Discussions of each of these measures are the following.

2.3.1. *Accruals quality and financial expertise*

SOX section 404 suggests that firms' internal control is one of the determinants of financial reporting quality. Consistent with the requirement to disclose internal control problems, Doyle et al. (2007) find that internal control weaknesses increase errors in accrual estimation, reducing the quality of accruals. In another study, Li et al. (2008) also

find that CFOs with financial expertise (i.e. CPA) are more effective in fixing internal control problems. The findings of the two studies combined suggest that empirically, CFOs with financial expertise and a better understanding of accounting procedures are more capable of putting controls over financial reporting in place, which will potentially improve accruals quality.

Another determinant of accruals quality is firm characteristics (Dechow and Dichev 2002).[14] Firm characteristics (e.g. sales volatility, transaction complexity) may introduce uncertainty and add error into managers' accounting estimates, reducing the accruals-cash flow relationship. The findings by Dechow and Dichev (2002) open the door for an alternative explanation, such that high accruals quality does not necessarily mean low earnings management; it could be the result of better judgments and more precise accounting estimates by the CFO. CFOs with financial expertise have the ability to produce more accurate accounting estimates given the complexity of the transactions and the nature of the business, and thus are capable of reducing estimation errors in accruals.

In contrast, under the framework developed by Jones (1991) and its modified versions (Dechow et al. 1995, Kothari et al. 2005), the majority of studies on accruals assume that a departure from the normal accruals level is mainly due to opportunistic earnings management. Such an assumption is consistent with the self-serving view of managerial behavior. In an agency relationship, financial expertise potentially causes greater information asymmetry between managers and owners and increases moral hazard problems. Expertise in the hands of self-serving managers may be used to help

[14] Dechow and Dichev (2002) define accruals quality as the extent to which working capital accruals map into cash flows realizations.

them manipulate earnings, which reduces accruals quality (i.e. introduces greater estimation errors in accruals) and at the same time conceals the reduction from investors and regulators. Therefore, a non-directional hypothesis on the effect of financial expertise on accruals quality is stated as follows:

*H1*: There is an association between accruals quality and the financial expertise of CFOs.

### 2.3.2. *Persistence and financial expertise*

Kormendi and Lipe (1987) find that earnings innovations with higher persistence are assigned a greater value by investors. Determinants of earnings persistence include firm characteristics such as size, barriers to entry, product type, and capital intensity (see e.g. Lev 1983, Baginski et al. 1999). Another determinant of persistence is managers' use of discretionary accruals. Firms may want to communicate their assessment of future performance by using accruals as a signaling device (see e.g. Tucker and Zarowin 2006), which will increase earnings persistence. The demand hypothesis suggests that since CFOs with expertise make better assessments of firms' future performance, expertise potentially increases the smoothness of the earnings stream and as a consequence, earnings persistence is improved. Alternatively, since compensation committees consider earnings persistence in rewarding executives (Baber et al. 1998), CFOs may face pressure from their supervisor to manage earnings to boost persistence. CFOs also may have their own economic incentive to manage earnings (e.g. Geiger and North 2006). In this case, financial expertise will potentially be used to manage earnings opportunistically to arrive at higher earnings persistence.

Using cross-sectional data, this study is not able to measure firms' "true persistence" of earnings. Instead, this study can only test whether CFO financial expertise variables tend to lead reported earnings to increase or decrease in the following period. Some studies (Burgstahler and Dichev 1997, DeGeorge et al. 1999) argue that firms manage earnings to avoid earnings decreases. Therefore, earnings management could also be accomplished through earnings decreases (i.e. taking a bath) to increase the probability of achieving an earnings target in the following period. However, the incentives to have an increase in earnings in the next period should be more prevalent and outweigh any big bath effects under both the demand and the opportunistic behavior hypothesis. Consistent with this argument, Burgstahler and Dichev (1997) and DeGeorge et al. (1999) find that the number of firms reporting a small increase in earnings is abnormally high while the number of firms reporting a small decrease in earnings is abnormally low. The hypothesis is stated as follows:

*H2*: There is a positive association between earnings persistence and financial expertise of CFOs.

2.3.3. *Conservatism and financial expertise*

Lobo and Zhou (2006) report that firms are more conservative in their financial reports following the requirement for CEO/CFO certification. Post-SOX, reports suggest that more firms hire CFOs with financial expertise. Financial expertise potentially improves a CFO's ability to appreciate the economic and legal consequences of errors created by aggressive accounting. Therefore, CFOs with financial expertise are likely to be more conservative in financial reporting. The demand hypothesis suggests that as the

demand for conservatism increases, CFOs with financial expertise are more likely to deliver more conservative accounting numbers. In the hands of self-serving managers, however, financial expertise may have a negative effect on conservatism. For instance, opportunistic managers may be tempted to recognize revenues too early to achieve a bonus target. Therefore, a non-directional hypothesis on the effect of financial expertise on conservatism is stated as follows:

> *H3*: There is an association between conservatism and financial expertise of CFOs.

### 2.3.4. *Earnings informativeness and financial expertise*

The strength of market reactions to unexpected returns increases with the perceived credibility of earnings information (Fan and Wong 2002). If earnings information is noisy (i.e. possesses high information risks), investors demand a higher rate of return, which will lead to weaker earnings-returns relations (Easton and Zmijewski 1989). Francis et al. (2005) provide evidence that investors incorporate information risk, proxied by accruals quality, along with other types of risk in valuation processes. This evidence suggests that proper accounting method choices combined with more precise accounting estimates potentially improve accruals quality and thus reduce information risk and consequently strengthen market reactions to earnings information. As CFOs with financial expertise are potentially more capable of reducing noise in earnings, financial expertise is expected to improve the credibility of earnings and increase earnings informativeness.

However, if the market believes that CFOs with financial expertise are self-serving, the presence of a CFO with financial expertise may have a negative effect on earnings informativeness because the users of financial reports will be more cautious in digesting accounting numbers. If investors perceive that financial executives with expertise have stronger incentives and the skills to manage earnings, the effects of expertise on earnings informativeness may be reversed or at least have a mixed direction. Therefore, the prediction of the association between earnings informativeness and financial expertise is the following:

*H4*: There is an association between earnings informativeness and financial expertise of CFOs.

In summary, the expected relationships between CFO financial expertise and the four earnings quality measures under both the demand hypothesis and the opportunistic behavior hypothesis are presented in Table 1.

# CHAPTER III

# METHODOLOGY

## 3.1. Explanatory Variables for Financial Expertise

The Blue Ribbon Committee (BRC 1999) suggests that financial expertise may come from past employment experience in accounting or finance, having a professional certification in accounting, or any other experience or background (e.g. education) which results in individuals' financial sophistication. Following this definition, this study employs three variables to capture CFO financial expertise: i) whether the CFO is a CPA, ii) whether the CFO has an advanced degree in business (e.g. MBA, MS in Accounting, or other equivalent degrees), iii) the number of years the officer has been the CFO of the firm. In addition to these variables, I include the age of the CFO as CFO age could proxy for the CFO's past working experience and older CFOs could behave differently from younger ones. Another financial expertise variable in this study is EXPERT, which is defined as a CFO with a CPA license, an MBA degree, and more years of CFO experience than the sample median. CFO age is excluded from this definition and will be treated as one of the control variables. A Pearson's correlation analysis will be employed to test the possibility of multicollinearity problems among the financial expertise variables.

These variables have been used in previous studies. For example, Aier et al. (2005) and Li et al. (2008) used the CPA designation as a proxy for CFO financial expertise. As the certification entails a deep understanding of accounting, auditing, and financial reporting, an executive holding a CPA should possess a certain level of financial reporting expertise. The use of MBA as another measure of financial expertise is based on the premise that such graduate business education provides not only a set of knowledge about general business but also a better understanding of accounting and a degree of financial reporting expertise. This view is supported by Wier et al. (2005), who document that advanced degrees in business contribute to the future success of accounting professionals through better job performance evaluations. With respect to CFO age, some other studies (e.g. by Ge et al. 2008) found that older CFOs tend to be more conservative in selecting financial reporting strategies.

The financial expertise data are gathered from several sources. The starting point of the data collection is the firms' 10-Ks (annual reports submitted to the SEC) to document the name of the principal financial officer who certified the financial report of each firm in the sample, and the number of years the officer had been the CFO of the company.[15] Only a small number of firms in the sample disclose the educational background and professional certification of the officers in their 10-Ks or proxy statements. For most firms in the sample, the financial expertise data of the CFOs were collected from various sources other than 10-Ks or proxy statements. These sources include the *Reference Book of Corporate Management* released by Dun and Bradstreet,

[15] Some firms do not officially have a top executive position with the title "Chief Financial Officer." In this case, an executive with an equivalent position (e.g. Treasurer or Vice President of Finance) acts as the principal financial officer and certifies the financial reports. Regardless of the title, the principal financial officer is the one about which the expertise data are collected.

*Who's Who in Finance and Business*, executive profiles on the company's website, press releases, and other sources on the internet such as *Business Week* online. Additional information such as previous working experience in public accounting, the undergraduate major, and the name of the educational institution from which the CFO acquired the advanced degree in business were also collected.

### 3.2. Proxies for Earnings Quality

The discussions on the models used to compute the four earnings quality measures are the following.

3.2.1. *Accruals quality*

The Dechow and Dichev (2002) model as modified by McNichols (2002) is used to compute accruals. The model is stated as follows:

$$\Delta WC_{it} = \beta_0 + \beta_1 CF_{i,t-1} + \beta_2 CF_t + \beta_3 CF_{i,t+1} + \beta_4 \Delta Sales_{it} + \beta_5 PPE_{it} + \varepsilon_{it} \qquad [1]$$

where for firm i,

$\Delta WC_{it}$ = changes in working capital defined as changes in accounts receivable (item 302) + changes in inventory (item 303) – changes in accounts payable (item 304) – changes in tax payable (item 305) + change in other assets (item 307), deflated by average total assets;[16]

$CF_{i,t-1}$ = cash flows from operation (item 308) at time t – 1, deflated by average total asset;

$CF_{i,t}$ = cash flows from operation (item 308) at time t, deflated by average total asset;

[16] These are the item numbers in the COMPUSTAT database of financial reporting information.

$CF_{i,t+1}$ = cash flows from operation (item 308) at time t + 1, deflated by average total asset;

$\Delta Sales_{it}$ = changes in sales (item 12) at time t deflated by average total assets (item 6);

$PPE_{it}$ = property, plant and equipment at time t deflated by average total assets (data item 6);

$\varepsilon_{it}$ = error term which measures the magnitude of abnormal accruals.

The absolute value of the residuals from Equation [1] is the measure of accruals quality, with a larger value signifying lower accruals quality.

Dechow and Dichev (2002) argue that their model is better specified when applied on a firm-level basis, as reflected by a higher explanatory power. Firm-level analysis requires time-series of observations for each firm. However, since this study uses cross-sectional observations for the independent variables, this study will use industry-specific regressions to compute the accrual estimation error as has been used in Ball and Shivakumar (2006b), followed by Wang (2006). The procedure requires at least 30 observations in each industry.

The absolute value of the residuals from Equation [1] is used as the dependent variable in Equation [2], as a proxy for accruals quality.

$$AB\_ACCR_{it} = \beta_0 + \beta_1 CPA_{it} + \beta_2 MBA_{it} + \beta_3 LENGTH_{it} + \beta_4 CFOAGE_{it} + \beta_5 SIZE_{it} + \beta_6 ROA_{it} + \beta_7 LEV_{it} + \beta_8 LOSS_{it} + \beta_9 GROWTH_{it} + \beta_{10} AUD_{it} + \beta_{11} Fixed\ effects + \varepsilon_{it} \quad [2]$$

where for firm i,

$AB\_ACCR_{it}$ = absolute value of residuals obtained from Equation [1];

$CPA_{it}$ = a dummy variable set to 1 if the CFO is a CPA, 0 otherwise;

$MBA_{it}$ = a dummy variable set to 1 if the CFO has an MBA degree, 0 otherwise;

$LENGTH_{it}$ = the number of years the officer has been the CFO of the firm;

*CFOAGE* = the age of the CFO.

$SIZE_{it}$ = firm size, as measured by the natural log of total assets at year t;

$ROA_{it}$ = net income at year t divided by average total assets at year t;

$LEV_{it}$ = leverage at year t, measured by total liabilities divided by total assets;

$LOSS_{it}$ = a dummy variable set to 1 if net income < 0 at year t, and 0 otherwise;

$GROWTH_{it}$ = growth rate as measured by changes in sales at year t.

$AUD_{it}$ = a dummy variable set to 1 if the auditor is one of the Big-four firms, and 0 otherwise.

*Fixed effects* = industry dummies based on firms' two-digit SIC codes and year dummies.

Following Cheng and Warfield (2005) and Wang (2006), the control variables to test the association between CFO financial expertise and accruals quality include firm size (*SIZE*), profitability (*ROA*), leverage (*LEV*), risk for bankruptcy (*LOSS*), and sales growth (*GROWTH*). Firms usually reduce political costs (as proxied by firm size) and relax debt covenants (as proxied by leverage) through earnings management. Prior research (e.g. Warfield 1995) indicates that riskier and high-growth firms usually have larger abnormal accruals. The model also controls for audit quality (AUD). If the demand hypothesis holds, the regression coefficients $\beta_1$, $\beta_2$, and $\beta_3$, are expected to be negative,

while if the opportunistic behavior hypothesis holds, the coefficients are expected to be positive.

3.2.2. *Persistence*

Following Ali and Zarowin (1992), Sloan (1996), and Francis et al. (2004), I measure earnings persistence as the slope coefficient of the regression of current earnings on lagged earnings. The relationship between current earnings and prior earnings can be expressed as:

$$X_{i,t} = \beta_0 + \beta_1 X_{i,t-1} + \varepsilon_{i,t} \qquad [3]$$

where for firm i,

$X_{i,t}$ = earnings per share before extraordinary items scaled by average total assets at year t,

$X_{i,\,t-1}$ = one year lagged earnings per share scaled by average total assets.

Earnings are more persistent the closer $\beta_1$ in Equation [3] is to 1 and less persistent when it is closer to 0. Lev (1983) and Baginski et al. (1999) point out a set of variables that, according to economic theories, will determine firms' earnings persistence. These variables are barriers-to-entry (*BTE*), capital intensity (*CAP*), and firm size (*SIZE*). I modified the persistence model in Equation [3] to incorporate these three variables. In the modified model, I also control for sales growth (*GROWTH*) and net loss (*LOSS).* Growth firms (usually relatively small firms) are more risky and are likely to have less persistent

earnings. Since earnings are mean reverting, earnings of firms incurring losses are expected to be less persistent. Controlling for these factors, I use the model as follows to test the association between earnings persistence and CFO financial expertise:

$$X_{i,t} = \beta_0 + \beta_1 X_{i,t-1} + \beta_2 X_{i,t-1}*CPA_{i,t} + \beta_3 X_{i,t-1}*MBA_{i,t} + \beta_4 X_{i,t-1}*LENGTH_{i,t} + \beta_5 X_{i,t-1}*CFOAGE_{i,t} + \beta_6 X_{i,t-1}*BTE_{i,t} + \beta_7 X_{i,t-1}*CAP_{i,t} + \beta_8 X_{i,t-1}*SIZE_{i,t-1} + \beta_9 X_{i,t-1}*GROWTH_{i,t} + \beta_{10} X_{i,t-1}*LOSS_{i,t} + \beta_{11} Fixed\ Effects + \varepsilon_{i,t} \quad [4]$$

where for firm i,

$BTE_{i,t}$ = research and development expenses and advertising expenses at year t, deflated by total sales.

$CAP_{i,t}$ = depreciation, depletion, and amortization expense at year t, deflated by total sales.

$SIZE_{i,t}$ = the natural log of the market value of equity at year t.

All other variables have been previously defined. I expect that $\beta_2$, $\beta_3$, $\beta_4$ in Equation [4] will be positive, indicating that CFO financial expertise improves earnings persistence.

3.2.3 *Conservatism*

Basu (1997) finds that earnings are more sensitive to negative returns than to positive returns, indicating the prevalence of conservatism in financial reporting among US firms. The model used in Basu (1997) is stated as follows:

$$X_{it}/P_{i,t-1} = \alpha_0 + \alpha_1 DR_{it} + \beta_0 R_{it} + \beta_1 R_{it}*DR_{it.} \quad [5]$$

where,

$X_i$ = earnings per share for firm i in the fiscal year;

$P_{i,t-1}$ = the price per share at the beginning of the year;

$DR_i$ = a dummy variably set to 1 if $R_i < 0$, and 0 otherwise;

$R_i$ = the stock return for firm i from 9 months before fiscal year-end to three months after fiscal year-end.

In Equation 5, Basu's conservatism is technically defined as $(\beta_0 + \beta_1)/\beta_0$ where a greater number represents a higher degree of conservatism. In this study, Basu's measure of conservatism has been modified to test the association between conservatism and the financial expertise of CFOs by incorporating the financial expertise variables. The modified version of the regression equation is as follows:

$$\begin{aligned} X_i/P_{i,t-1} = {} & \alpha_0 + \alpha_1 DR_i + \beta_0 R_i + \beta_1 R_i*DR_{i.} \\ & + \gamma_0 CPA + \gamma_1 CPA*DR_i + \gamma_2 CPA* R_i + \gamma_3 CPA*R_i*DR_i \\ & + \delta_0 MBA + \delta_1 MBA*DR_i + \delta_2 MBA* R_i + \delta_3 MBA*R_i*DR_i \\ & + \varphi_0 LENGTH + \varphi_1 LENGTH*DR_i + \varphi_2 LENGTH* R_i + \varphi_3 LENGTH*R_i*DR_i \\ & + \mu_0 CFOAGE + \mu_1 CFOAGE*DR_i + \mu_2 CFOAGE*R_i + \mu_3 CFOAGE*R_i*DR_i + v_{i,t} \end{aligned} \quad [6]$$

In Equation [6], $\beta_0$ measures how quickly good news is recognized by CFOs without financial expertise. The corresponding measure for CFOs with a CPA is $\beta_0 + \gamma_2$. If CFOs with a CPA tend to slow recognition of good news (are more conservative), $\gamma_2$ is expected to be negative. Similarly, if CFOs with an MBA, those with more CFO experience, and older CFOs are more conservative, then $\delta_2$, $\varphi_2$, and $\mu_2$ are expected to be negative. The speed of bad news recognition by CFOs without financial expertise is captured by $\beta_1$. The incremental role of the financial expertise variables in bad news recognition is captured by $\gamma_3$, $\delta_3$, $\varphi_3$, and $\mu_3$. If the expertise variables accelerate the recognition of bad news, then $\gamma_3$, $\delta_3$, $\varphi_3$, and $\mu_3$ are expected to be positive.

3.2.4. *Earnings informativeness*

Earnings numbers are informative when there is a change in expectation upon the release of earnings information, as reflected in a change in stock price (see Kormendi and Lipe 1987). In capital market studies, the relation between earnings and returns can be expressed as:

$$RET_{it} = \delta_0 + \delta_1 NI_{it} + \varepsilon_{it} \qquad [7]$$

where for firm i:

$RET_{it}$ = holding period return for 12-months for year t, ending 3 months after the fiscal year end;

$NI_{it}$ = net income before extraordinary items, scaled by the market value of equity at the beginning of the year;

Earnings are considered informative when $\delta_1$ in Equation [7] is statistically different from zero. The association between earnings informativeness and CFO financial expertise is tested by incorporating financial expertise variables into the model. Following Fan and Wong (2002) and Wang (2006), I control for firm size (*SIZE*), market-to-book value (*MB*), leverage (*LEV*) and loss firms (LOSS). I also control for audit quality (*AUD*) as the quality of the audit is likely to improve the credibility of accounting information and potentially strengthen market reactions to the information (e.g. Teoh and Wong 1993). The following equation is used to test the association between earnings informativeness and financial expertise:

$$RET_{it} = \delta_0 + \delta_1 NI_{it} + \delta_2 NI_{it}*CPA_{it} + \delta_3 NI_{it}*MBA_{it} + \delta_4 NI_{it}*LENGTH_{it} + \delta_5 NI_{it}*CFOAGE_{it} + \delta_6 NI_{it}* SIZE_{it} + \delta_7 NI_{it}*LEV_{it} + \delta_8 NI_{it}*MB_{it} + \delta_9 NI_{it}*AUD_{it} + \delta_{10} NI_{it}*LOSS_{it} + \delta_{11} Fixed\ effects + \varepsilon_{it} \quad [8]$$

where for firm i,

$MB_{it}$ = market-to-book ratio at time t;

All other variables have been previously defined. The coefficients of the interaction terms in Equation [8] between net income and CPA, net income and MBA, and net income and LENGTH will show whether there is an association between financial expertise and earnings informativeness. Significant positive (negative) regression coefficients indicate that CFO financial expertise increases (reduces) the informativeness of earnings.

*3.2.5 Additional Tests*

For equations [2], [4], [6], and [8], additional tests will be conducted to examine the effect of individual expertise variables (CPA, MBA, LENGTH, CFOAGE, and EXPERT) on the measures of earnings quality where only one expertise variable is included in each regression model. These tests are performed because there is a possibility that some expertise variables are correlated to each other. The results of these tests are presented in the tables and are referred to as Model 2 through Model 6.

## 3.3. Sample Description

This study uses the Standard and Poor's 1500 (S&P1500) index as the sample firms. The index consists of three groups of firms: the S&P 500, the S&P 400 and the S&P 600, which represents the 500 largest firms, 400 midsize firms, and the 600 smallest firms in terms of market capitalizations. Eliminating financial and utility firms reduces the number of unique firms from 1,500 to 1,116 in the sample. A total of 35 firms with insufficient information about their CFO are excluded from the sample, reducing the number of unique firms to 1,081.[17]

The use of the S&P 1500 firms allows this study to investigate whether the association between earnings quality and CFO financial expertise exists only, or is more prevalent, among firms of a certain size. For example, larger firms are known to be more complex (e.g. with more lines of business, geographic segments) and CFOs of such firms have to deal with more sophisticated reporting tasks and economic transactions. This could mean that to be a competent CFO of a large firm requires a higher degree of

[17] These eliminated firms include firms with more than one CFO at the time of financial report certification and firms who fail to provide information as to how long the CFOs have been holding the position.

financial expertise. However, CFOs of large firms are more likely to be supported by subordinates with financial reporting expertise (e.g. Chief Accounting Officer), weakening the association between CFO financial expertise and earnings quality.

Among small firms, on the contrary, financial reporting is usually less complex and thus the reporting process may require less expertise compared to the process in large firms. A CFO of a smaller firm will have a relatively more direct role in the process of financial reporting, potentially leading to a stronger relationship between the level of CFO financial expertise and the quality of financial reporting. Thus, firm size creates a difference in the reporting environment especially in determining the need for a CFO with financial expertise and the level of the CFO's direct involvement in the process of financial reporting. Examining the effects of CFO financial expertise on the quality of financial reporting under these different settings will cast light on whether the presence and the strength of such a relationship is related to firm size.

Financial and utility firms are excluded from the sample. The year 2005 was selected to allow the inclusion of lead variables in computing some earnings quality measures such as accruals quality. The selection of the year 2005 implies that the CFOs of the S&P 1500 firms whose information was collected are the ones who, together with the CEOs, certified the financial reports of the fiscal year ending in 2005. Included in the analysis are only CFOs who had been with the firm for at least three years as its principal financial officer. This is to make sure that the CFO had been in the current position "long enough" to influence the attributes of financial reporting, thus reinforcing the relationship between earnings quality and CFO financial expertise. Moreover, such a procedure is necessary to eliminate the effect of CFO turnover (which was prevalent after SOX

became effective in 2002) and, if not accounted for, would weaken the relationship between the independent and the dependent variables in this study. Thus, interim CFOs and those who did not certify all of the firm's financial reports for at least three years are excluded from the sample. Most CFOs are hired in the middle of a fiscal year, which implies that it is very likely that during the first year of the new CFO tenure, the financial reports are influenced by both the old and the new CFO, creating some noise in the model. Another argument is that the "big bath phenomenon" is not only associated with the appointment of new CEOs; the study by Geiger and North (2006) shows that companies that appoint a new CFO often reduce reported earnings by reducing discretionary accruals in their initial years to increase the probability of performance improvement in the subsequent years. Since most of the earnings quality measures in this study are accounting based, the reversals of accruals around the appointment of new CFOs will create noise that will reduce the reliability of the tests. Therefore, in an effort to minimize such noise, CFOs are included in the hypothesis tests only after they certified financial reports for at least the third time, at the cost of a reduction in the number of unique firms.

To increase the number of observations, the year 2004 was also used on the condition that a CFO had at least three years of CFO experience in the firm in each of those years. For example, Roger Plank had been the CFO of Apache Corp. since 1997 and so in 2004 he had been the CFO of the firm for seven years. Therefore he is included in the sample for the years 2004 and 2005. However, in the year 2005, Edmund P. Segner, III had been the CFO of EOG Resources, Inc. for only three years. He is only included in the sample for the year 2005, not for 2004, since in 2004 he had been the

CFO of the firm for only two years and therefore did not meet the minimum requirement of three years of CFO experience.

The earnings quality measures and the control variables are computed using financial reporting data obtained from the COMPUSTAT database, and stock price information gathered from the CRSP database.

# CHAPTER IV

# RESULTS

## 4.1. Descriptive Statistics of the Initial Sample

Appendix A presents the list of the sample firms classified by the two-digit SIC code and by the S&P classification. As shown in Panel A of Appendix A, the industry with the largest number of observations is Business Services (135 firms), followed by Electronic & Other Electronic Equipment (120 firms), Chemical & Allied Products (96 firms), Instruments & Related Products (83 firms), Industrial Machinery (77 firms), Oil and Gas Extraction (44 firms), Transportation Equipment (41 firms), and Wholesale Trade-Durable Goods (35 firms). Panel B of Appendix A describes the initial sample in this study, with the S&P 500 represented by 348 unique firms, while the S&P 400 and the S&P 600 have 282 and 451 unique firms in the sample, respectively.

### *4.1.1 CFO Financial Expertise and the S&P Classification*

Table 2 presents the descriptive statistics of the financial expertise background of CFOs of the S&P 1500 firms in the sample. The average CFO tenures among the S&P 500, the S&P 400, and the S&P 600 firms are 4.14 years, 4.44 years, and 4.65 years, respectively. This is consistent with the result of a survey reported by Durfee (2005).[18]

[18] A study by Spencer and Stuart suggests that the average CFO tenure for the Fortune 1000 companies is 4.3 years (Durfee 2005).

The average age of CFOs overall firms is 50.04 years with those among the S&P 500, the S&P 400, and the S&P 600 firms 50.85, 49.53, and 49.68 years, respectively. Overall, 453 or 41.90 percent of 1,081 CFOs in the sample hold a CPA while 464 or 42.92 percent of 1081 CFOs have an advanced degree in business.[19] This is also roughly similar to the survey reported in Durfee (2005) who found that among the Fortune 1,000 companies, 45 percent of the CFOs hold a CPA and 41 percent of them have an MBA. On average, CFOs of smaller firms have a slightly longer experience in the current position, which might indicate that CFO turnover is more prevalent among large firms. The data show that around 30% of the CFOs have had previous work experience in at least one of the Big-five accounting firms.[20]

Among CFOs who hold an advanced degree in business in this study, the most likely alma maters are Harvard University and the University of Chicago (each with 34 CFOs), the University of Pennsylvania (30 CFOs), and Northwestern University (24 CFOs). The full list of the academic institutions where the CFOs attended and obtained their advanced degree in business is presented in Appendix B, which includes a total of 138 academic institutions.[21] The data failed to disclose the alma mater of six CFOs in the sample.

[19] The terms "advanced degree in business" and MBA are used interchangeably in this study. Among the types of advanced degrees in business obtained by CFOs in the sample, MBA is the most common, with more than 95%. The remaining 5% include MS in Accounting, MS in Finance, MS in Taxation, etc.

[20] A Big-five work experience is defined as having previously served as an employee in one of the Big-five accounting firms (Arthur Andersen, Deloitte & Touché, Ernst & Young, KPMG Peat Marwick, and PricewaterhouseCoopers) or their predecessors. In many occasions, the sources of the information fail to specify whether they served in the audit or in another department, what the most recent position was, and the length of the experience. Although appealing, the information is noisy. Therefore, such information is only presented in the descriptive statistics but is not used in testing the hypotheses.

[21] Even though there is a good reason to believe that some MBA programs are better than others and earning an MBA from the better schools might provide a higher level of financial expertise, I assume that the weight of each MBA degree is the same across CFOs because there is no strong basis for classifying the MBA programs into different groups and weighting them differently.

The proportion of CFOs who hold a CPA and an advanced degree in business varies with the S&P classification. The descriptive statistics reveal an interesting pattern that smaller firms are relatively more likely to have a CFO with a CPA and larger firms are more likely to have a CFO with an advanced degree in business. Among the S&P 500 firms, the S&P 400 firms, and the S&P 600 firms, the proportions of CFOs who hold a CPA license are 33.05 percent, 42.9 percent, and 48.35 percent, respectively.[22] By contrast, larger firms are relatively more likely to hire a CFO with an advanced degree in business. The proportion of CFOs with an advanced degree in business is 53.44 percent, 41.49 percent, and 34.73 percent among the S&P 500 firms, the S&P 400 firms, and the S&P 600 firms, respectively. This finding suggests that compared to large firms, smaller firms provide more emphasis on the importance of a CPA designation when hiring a CFO. Larger firms, on the contrary, emphasize general and strategic skills more, as reflected in the high proportion of CFOs with an advanced degree in business (53.44 percent) among the S&P 500 firms. A likely explanation of this pattern is that the complex nature of large firms requires their CFO to acquire a broader expertise, which can be obtained through graduate education in business.

A total of 153, or 14.15 percent, of 1081 CFOs are CPAs and have an advanced degree in business. A further examination reveals that the probability of a CFO's holding both a CPA and an advanced degree in business decreases with firm size. Among the S&P 500 firms, the proportion of CFOs who hold both a CPA license and an advanced

[22] There are 23 CFOs with a Certified Management Accountant (CMA) license in the sample. However, 17 of the CFOs with a CMA also hold a CPA, leaving only 6 observations of CFOs with only a CMA. I do not use CMA as part of CFO financial expertise variables in this study since there is not enough variability and thus including CMA is not expected to generate significantly different results.

degree in business is only 10.92 percent, while among the S&P 400 and the S&P 600 firms the proportion increases to 14.89 percent and 16.19 percent, respectively.

Besides a CPA designation and graduate education in business, another possible source of financial expertise is CFOs' work experience in public accounting. The statistics suggest that the CFOs of small and midsize firms are more likely to have had Big-five work experience. The proportion of CFOs who have previously served in one or more of the Big-five accounting firms (or their predecessors) among the S&P 500 firms is only 23.85 percent while among the S&P 400 and the S&P 600 firms, 33.69 percent and 34.60 percent of CFOs have had such experiences. This could further mean that it is more prevalent among small firms to hire their financial executives from accounting firms. Consistent with this result is a study by Dowdell and Krishnan (2003) which finds that firms employing their former external audit personnel in financial executive positions are usually smaller than the firms in the control sample.

It is expected that individuals who choose a career in public accounting are more likely and more motivated to acquire a CPA license to support their career. The descriptive statistics support this view. The majority (78.48 percent) of CFOs with Big-five work experience hold a CPA, indicating a high correlation between having such experience and holding professional accounting certification.

### *4.1.2 CFO Financial Expertise and Industry Classification*

Among 1,081 unique firms in the initial sample, ten industries (based on two-digit SIC codes) have more than 30 observations.[23] Table 3 presents the descriptive statistics of

[23] The accruals quality test is conducted at the industry-level, which includes only firms in the industry with at least 30 observations.

CFO financial expertise data by industry classifications. The statistics show that Transportation Equipment is the industry with, on average, the oldest CFOs (52.20 years) while Business Services has the youngest CFOs (47.92 years). The industry with the highest proportion of CFOs holding a CPA is Instruments & Related Products (50.60 percent) while the one with the lowest proportion is Food and Kindred Products (30.56 percent). The Transportation Equipment industry has the highest proportion of CFOs with an MBA (56.10 percent) while Wholesale Trade-Durable Goods has the lowest one (31.42 percent). Further, Wholesale Trade-Durable Goods also has CFOs with the longest experience (5.34 years) while Industry Machinery & Equipment has the shortest (3.48 years). Lastly, similar to CPA, the industry having the CFOs with the highest proportion of Big-five work experience is Instruments & Related Products while the one with the lowest proportion is Food and Kindred Products. This finding further strengthens the previous result that there is a high correlation between CPA certification and working experience with Big-five accounting firms.

### *4.1.3 Characteristics of the Sample*

The descriptive statistics for the sample to test H1 are presented in Table 4. The average value of absolute accruals (*ABSACC*) is 0.0240 for the overall sample (N=1251) with the S&P 500 firms (N=373) having the smallest ABSACC and the S&P 600 firms (N=556) having the largest average *ABSACC*. This suggests that the quality of accruals is higher among larger firms. The average annual sales growth (*GROWTH*) is 16.38 percent of the overall sample and decreases with firm size (*SIZE*), suggesting that small firms are more likely to exhibit growth. The table shows that larger firms tend to have higher

leverage (*LEV*) characteristics and have better earnings performance (*ROA*). Roughly 96 percent of the firms in the sample are audited by one of the Big-five accounting firms (*AUD*), and larger firms are more likely to be audited by a Big-five accounting firm. Lastly, larger firms are less likely to report losses (*LOSS*).

The descriptive statistics for the sample in the analysis of earnings persistence (H2) are presented in Table 5. Firms (N=1297) have an average net income (*X*) of 0.0716 and larger firms tend to have higher net income (*NI*). The average capital expenditure (*CAP*) and the average barrier to entry (*BTE*) are 0.051 and 0.067, respectively. There is no clear pattern on the relationship between these two variables and firm size (*SIZE*).

The descriptive statistics for the sample to test H3 are presented in Table 6. The average earnings per share (*NI*) for the whole sample (N=1137) is 0.047 and, similar to the data in Table 5, larger firms tend to have a higher earnings per share. The average return (*RET*) of the overall sample is16.94 percent and is negatively correlated with firm size (*SIZE*). The S&P 500, the S&P 400 and the S&P 600 have average returns of 13.95 percent, 15.60 percent, and 19.95 percent, respectively. This is expected and is consistent with Fama and French (1995) who find that small firms tend to outperform larger firms. The proportion of firms with a negative return (*DR*) is 32.98 percent and these firms are distributed somewhat evenly among the three groups of the S&P classification.

Table 7 presents the descriptive statistics of the sample for the analysis of earnings informativeness (H4). The mean return (*RET*) of the overall sample (N=1312) is 16.5 percent while the average net income (*NI*) is 0.050. Consistent with the data in Table 4, the statistics suggest that the S&P 500 firms have the lowest returns (*RET*) at 14.64 percent, while the S&P 400 and the S&P 600 firms earn 15.31 percent and 18.66 percent,

respectively. Further, Table 7 shows that larger firms tend to have a higher leverage (*LEV*), a lower book-to-market (*BM*) ratio, a higher probability of being audited by a Big-five firm (*AUD*), and a lower probability of incurring a loss (*LOSS*).

### 4.2. Correlation Analysis

Tables 8 through 11 present the correlations among the CFO financial expertise variables and other variables used in the study for each individual hypothesis. For each table, Pearson correlations are presented above the diagonal while Spearman correlations are presented below the diagonal. The correlation tables indicate no multicorrelation problems among the financial expertise variables. Consistent with the descriptive statistics discussed earlier, the financial expertise variable CPA is negatively correlated with MBA. The negative correlation between CPA and MBA implies that in general CFOs with a CPA are less likely to have an advanced degree in business, and vice versa. A possible explanation for this pattern is that there are two (or more) different populations of CFOs. In the first population are CFOs who started their career in public accounting and are more likely to have acquired a CPA, and saw little necessity to obtain advanced education and training in business to support their career. Such CFOs are more likely to be hired by smaller, less complex firms. CFOs in the second population are the ones that have received an advanced degree in business administration and did not start their career in public accounting, and thus are relatively less motivated to acquire a CPA license. Large firms are more likely to hire these CFOs, who supposedly have a broader set of business knowledge and skills.

Interestingly, a CPA license is negatively correlated with the length of CFO experience (*LENGTH*). The negative correlation indicates that recently appointed CFOs are more likely to hold a CPA license than those who have been in the position relatively longer. Recently appointed CFOs are also more likely to have an advanced degree in business, as indicated by the negative correlation between MBA and LENGTH. These findings are consistent with claims that the recent trend is for more firms to hire CFOs with a better understanding of accounting (e.g. O'Sullivan 2004, Durfee 2005). Firm size (*SIZE*) is positively correlated with MBA and is negatively correlated with CPA, confirming earlier findings that small firms place more emphasis on a CPA designation while large firms emphasize a graduate education in business when hiring a CFO.

CFOs with an advanced degree in business and those with more CFO experience tend to be older as reflected by the positive correlation between the variable CFOAGE and the variables MBA and LENGTH. By contrast, CFO's age is negatively correlated with CPA, indicating that CFOs with a CPA are usually younger than those without the certification.

### 4.3. Accruals Quality

Table 12 presents the results on the association between accruals quality and CFO financial expertise (H1) under Model 1, which assumes no interactions among the financial expertise variables. The model (N=1251) is significant at a *p*-value of < 0.0001 with an R-square of 7.08 percent. After controlling for fixed effects (i.e. industry and year), all regression coefficients on the financial expertise variables for the pooled sample appear to be insignificant, suggesting that CFO financial expertise is not associated with

the extent to which working capital accruals map into cash flow realizations. The coefficients of all control variables turn out to be as expected and most are significant. Firms of larger size (*SIZE*) are associated with higher accruals quality at a *p*-value of < 0.0001 because large firms are operationally more predictable and more stable, results which leads to lower estimation errors in accruals (Dechow and Dichev 2002). Firms with a positive sales growth (*GROWTH*) have lower accruals quality (at a *p*-value of 0.0046), which are also consistent with Dechow and Dichev (2002). As expected, firms' leverage (*LEV*) is negatively associated with accruals quality (at a *p*-value of 0.0174), while firms' audit quality (*AUD*) improves accruals quality (at a *p*-value of 0.0340).

Further examination of the association between financial expertise and accruals quality by the S&P classification generates partially significant results. The data show that only CFO age (*CFOAGE*) increases the quality of accruals among the S&P 500 firms (*p*-value = 0.0744), while the length of CFO experience (*LENGTH*) improves accruals quality among the S&P 400 firms (*p*-value = 0.070). The variables CPA and MBA do not show any significant effects on accruals quality among the S&P 500, the S&P 400, or the S&P 600 firms.

Regression Model 2 was developed to further examine the association between financial expertise variables and accruals quality by investigating possible interaction effects between the length of CFO experience and the variables CPA and MBA. Table 13 presents the results of the regression analysis under this model. The results reveal a significant interaction effect between the variable CPA and the length of CFO experience on the quality of accruals (at a *p*-value of 0.0056) among the pooled sample firms. This suggests that the longer an officer with a CPA serves as a firm's CFO, the better his/her

ability to reduce errors in estimating accruals. While CFOs with a CPA seem to gain knowledge from experience that helps them improve the quality of accruals over time, a similar result is not observed for CFOs with an advanced degree in business. The analysis shows no significant interaction effect between MBA and length of experience under the model.

Regression results by the S&P classification show no interaction effect between LENGTH and the variables CPA and MBA among the S&P 500 firms. A significant interaction effect between CPA and LENGTH on accruals quality exists only among small firms or the S&P 600 firms (*p*-value = 0.0012). Interestingly, a negative and significant interaction effect on accruals quality between MBA and LENGTH is observed among the S&P 400 firms (*p*-value = 0.0276). This may suggest that CFOs of midsize firms with an advance degree in business are more likely to manage earnings as they gain more experience as the firm's CFO.

Table 14 presents the regression analysis (Model 3-7) using individual financial expertise variables. However, none of the variables turn out to significantly affect the quality of accruals.

### 4.4. Earnings Persistence

Table 15 reports the effect of CFO financial expertise on earnings persistence from regressions of current earnings on past earnings. In the pooled regression (N=1297), the model yields an *F*-value of 79.37 with an R-square of 49.80 percent. The coefficient on net income (*X*) is significant (*p*-value < 0.0001). As expected, sales growth (*GROWTH*) and firms' capital expenditures positively affect earnings persistence (both at

a *p*-value < 0.0001). A net loss (*LOSS*) strongly reduces a firm's earnings persistence (at $p < 0.0001$), indicating that in general firms experiencing losses will generate positive income in the following period. After controlling for fixed effects, among the CFO expertise variables, only CPA significantly improves the persistence of earnings at *p*-values of 0.0439, while MBA, CFO experience, and CFO age do not have a significant incremental effect on earnings persistence. This could be interpreted as that firms whose CFO is a CPA tend to have an increase in net income the following period. Unfortunately, the test in this study is unable to further examine whether the increase in persistence comes from the CFOs' ability to improve firms' economic performance with the help of their professional certification or whether it is merely a reporting strategy through the use of discretionary accruals either to inform investors about future performance or to maximize their own personal benefits (see e.g. Baber et al. 1998).

A further examination reveals that most CFO expertise variables are not associated with earnings persistence in the regressions by the S&P classification. Only MBA affects earnings persistence among the S&P 600 firms and the effect is negative (*p*-value = 0.0166). Among the S&P 500 firms (N=420), no expertise variable is observed to have a significant influence on persistence.

Table 16 presents the effects of individual expertise variables on earnings persistence (Model 2-6). The result is similar to the previous pooled regression where only CFOs with a CPA significantly improve the persistence of earnings (*p*-value of 0.0283). Additionally, firms with expert CFOs tend to have higher earnings persistence (*p*-value of 0.0053).

### 4.5. Earnings Conservatism

The regression results on the association between CFO expertise and earnings conservatism are summarized in Table 17. The pooled regression (N=1137) is significant at *p*-value < 0.0001 with an R-square of 11.59 percent. The results show that CFOs with an advanced degree in business are generally more conservative than their counterparts. The variable MBA significantly improves conservatism through both slowing down the recognition of good news (*p*-value = 0.00011) and accelerating the recognition of bad news (*p*-value < 0.0001). The results also indicate that, surprisingly, the variable CPA reduces earnings conservatism, as CFOs with a CPA tend to delay the recognition of bad news (*p*-value = 0.0434). The length of CFO experience and CFO age do no significantly affect earnings conservatism.

Regressions by the S&P classification further reveal that among large firms (the S&P 500 firms), only the variable MBA affects conservatism: CFOs with an advanced degree in business are more conservative in reporting earnings. The evidence shows that MBA postpones the recognition of good news (p-value = 0.0347) and accelerates the recognition of bad news (*p*-value of 0.003). Among the S&P 400, CFOs with longer CFO experience tend to be less conservative, as they accelerate the recognition of good news (*p*-value = 0.0082). The variable MBA also improves earnings conservatism among the S&P 600 firms through slow recognition of good news (*p*-value = 0.0089) and accelerated recognition of bad news (*p*-value = 0.0026). Further, CFOs with more CFO experience and older CFOs tend to delay the recognition of good news (*p*-values = 0.0106 and 0.0811, respectively) and thus improve earnings conservatism.

Table 18 presents the results of the regression analysis for each individual expertise variable. The results are relatively similar to the findings in Table 17. The variables MBA, LENGTH, and CFOAGE significantly improve earnings conservatism while CPA is the only variable that reduces conservatism. Further, the variable EXPERT does not seem to affect the conservatism of earnings.

### 4.6. Earnings Informativeness

Table 19 presents the results associated with H4. I exclude the one percent of extreme observations in each tail of the variables returns (*RET*) and net income (*NI*). After controlling for industry and year fixed effects (not shown in the table), the pooled regression analysis (N=1312) indicates that investors react more strongly to earnings information when the firm's CFO holds a CPA license (*p*-value = 0.0522). On the other hand, firms whose CFO has an advanced degree in business have relatively less informative earnings (*p*-value = 0.0501). Neither CFO age nor the length of CFO experience significantly affect the informativeness of earnings. As expected, earnings informativeness decreases with firm size, book-to-market ratio, leverage, and negative earnings.

Among the S&P 500 firms, earnings informativeness is improved when the firm's CFO has a CPA license (*p*-value = 0.0479) and is reduced the longer the officer has been the firm's CFO (*p*-value = 0.0697). The other two expertise variables, CFO age and MBA, do not significantly affect earnings informativeness. A possible explanation of this result is that among large firms, investors react relatively more strongly to earnings announcements when the financial reports are certified by CFOs with a CPA or by more-

recently-appointed CFOs. Among the S&P 400 firms, no expertise variable significantly affects the informativeness of earnings. Lastly, among the S&P 600 firms, CPA improves the informativeness of earnings and the coefficient is significant at a *p*-value of 0.0809. The coefficient on MBA is negative and significant among the S&P 600 firms at a *p*-value 0.0218. This suggests that among the S&P 600 firms, investors' reactions to earnings information are strengthened when a firm's CFO holds a CPA while reactions are weakened when the CFO has an advanced degree in business. In other words, investors perceive that earnings information is more (less) reliable when the CFO of the reporting firm is a CPA (holds an advanced degree in business).

The effects of individual expertise variables are presented in Table 20. The results show that CPA improves earnings informativeness (*p*-value = 0.0483) while MBA and EXPERT reduce the informativeness of earnings (*p*-value = 0.0507 and 0.0731, respectively).

# CHAPTER V

# CONCLUSIONS

Reports suggest that public firms are hiring CFOs with more financial expertise. Through their knowledge of accounting and internal control over financial reporting, CFOs with financial expertise potentially have a significant influence over the quality of financial reporting. Because the demand for financial reporting quality has increased, this study investigates whether CFO financial expertise strengthens firms' financial reporting practices and improves earnings quality. The increase in the responsibilities of CFOs in financial reporting oversight, as implied in the CFO certification requirement, suggests that financial expertise is essential for competent CFOs. The demand hypothesis predicts that CFOs with financial expertise will increase the quality earnings. Alternatively, the opportunistic behavior hypothesis suggests that CFO financial expertise could increase the probability of misreporting for the CFOs' personal gain. With investors, boards of directors, and regulators becoming more vigilant and with financial reporting under the microscope, rational managers will only manage earnings opportunistically when they have the expertise to do so.

This study finds that larger firms are relatively more likely to hire a CFO with an advanced degree in business while smaller firms are more likely to have a CFO with a

CPA license. The data also show that recently appointed CFOs are more likely to be a CPA and/or have an advanced degree in business, suggesting an increasing demand for CFOs with financial expertise. CFOs of small firms (S&P 600 firms) are the most likely to have served in one of the Big-five accounting firms. This finding provides insight as to how public companies develop criteria in choosing their CFO under the current environment characterized by stronger regulations and oversight.

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This study provides mild results about the association between CFO financial expertise and the quality of earnings. Using industry-specific regressions to compute the measure of accruals quality, this study finds that CFO financial expertise is not associated with the quality of accruals for the pooled sample and for each of the S&P classifications. Further investigation finds that when combined with the length of CFO experience, CFOs with a CPA have a greater ability to minimize errors in accrual estimation, and thus improve the quality of accruals. As far as earnings persistence, the pooled regression shows that the variables CPA and EXPERT are associated with increased earnings persistence, while other variables are not. Using pooled regression, the variable MBA

improves conservatism by accelerating the recognition of bad news and/or delaying the recognition of good news. The presence of CFOs with a CPA surprisingly reduces earnings conservatism. Finally, this study finds that for the overall sample, earnings informativeness increases when the CFO is a CPA while it decreases when the CFO has an advanced degree in business or when the CFO is an "expert." CPA improves informativeness among the S&P 500 and the S&P 600 firms. Table 21 summarizes the results of the multivariate regression analyses.

This study improves our understanding of the effects of the presence of CFOs with financial expertise on earnings quality. Researchers have put great effort into discovering the determinants of financial reporting quality to strengthen investor protection. This study contributes to the accounting literature by showing that the appointment of CFOs with financial expertise and certain characteristics affects the attributes of earnings.

Since the study use two years of data (2004 and 2005), there is an issue of firm and CFO fixed effects where one firm, with the same CFO, could be counted as two different observations. This issue is not addressed in the study and is considered one of the limitations of the study. Another limitation of the study is the inability to use longer time-series observations, which are necessary to compute some other earnings quality measures.

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**Table 1**
**The Expected Relationship between CFO Financial Expertise and Earnings Quality**

| Earnings Quality Measures | Expected Signs | |
|---|---|---|
| | Demand Hypothesis | Opportunistic Behavior Hypothesis |
| Accruals Quality | + | - |
| Persistence | + | + |
| Conservatism | + | - |
| Informativeness | + | - |

A positive (+) sign indicates that CFO financial expertise increases earnings quality while a negative (-) sign indicates that CFO financial expertise reduces earnings quality.

**Table 2**
**Descriptive Statistics: Financial Expertise of CFOs among the S&P 1500 Firms**

**Panel A: Pooled Sample**

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| CFOAGE | 1081 | 49.9953 | 6.4312 | 45 | 50 | 54 |
| CPA | 1081 | 0.4190 | 0.4936 | 0 | 0 | 1 |
| MBA | 1081 | 0.4292 | 0.4952 | 0 | 0 | 1 |
| LENGTH | 1081 | 4.4320 | 4.4340 | 1 | 4 | 6 |
| Big-5 | 1081 | 0.3089 | 0.4622 | 0 | 0 | 1 |

**Panel B: S&P 500 Firms**

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| CFOAGE | 348 | 50.8477 | 5.8425 | 47 | 50 | 55 |
| CPA | 348 | 0.3305 | 0.4711 | 0 | 0 | 1 |
| MBA | 348 | 0.5345 | 0.4995 | 0 | 1 | 1 |
| LENGTH | 348 | 4.1408 | 4.1873 | 1 | 3 | 6 |
| Big-5 | 348 | 0.2385 | 0.4268 | 0 | 0 | 0 |

**Panel C: S&P 400 Firms**

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| CFOAGE | 282 | 49.5280 | 6.4074 | 45 | 49 | 54 |
| CPA | 282 | 0.4291 | 0.4958 | 0 | 0 | 1 |
| MBA | 282 | 0.4149 | 0.4936 | 0 | 0 | 1 |
| LENGTH | 282 | 4.4468 | 4.3379 | 1 | 4 | 7 |
| Big-5 | 282 | 0.3369 | 0.4735 | 0 | 0 | 1 |

**Panel D: S&P 600 Firms**

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| CFOAGE | 451 | 49.6297 | 6.8172 | 45 | 49 | 54 |
| CPA | 451 | 0.4812 | 0.5002 | 0 | 0 | 1 |
| MBA | 451 | 0.3570 | 0.4796 | 0 | 0 | 1 |
| LENGTH | 451 | 4.6474 | 4.6688 | 1 | 4 | 6 |
| Big-5 | 451 | 0.3459 | 0.4762 | 0 | 0 | 1 |

Notes:
*CFOAGE* = the age of the CFO.
*CPA* = a dummy variable set to 1 if the CFO hold a CPA license, and 0 otherwise.
*MBA* = a dummy variable set to 1 if the CFO has an advanced degree in business, and 0 otherwise.
*Length* = the number of years the individual has been the CFO of the firm.
*Big-5* = a dummy variable set to 1 if the CFO has previously worked for at least one of the Big-5 accounting firms or their predecessors.

**Table 3**
**Descriptive Statistics: Financial Expertise of CFOs by Industry**

Panel A: Pooled Sample

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| CFOAGE | 1081 | 49.9954 | 6.4312 | 45 | 50 | 54 |
| CPA | 1081 | 0.4191 | 0.4936 | 0 | 0 | 1 |
| MBA | 1081 | 0.4292 | 0.4952 | 0 | 0 | 1 |
| LENGTH | 1081 | 4.4320 | 4.4338 | 1 | 4 | 6 |
| Big-5 | 1081 | 0.3090 | 0.4623 | 0 | 0 | 1 |

Panel B: Oil and Gas Extraction

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| CFOAGE | 44 | 49.2045 | 5.8492 | 45.5 | 49 | 53 |
| CPA | 44 | 0.3636 | 0.4866 | 0 | 0 | 1 |
| MBA | 44 | 0.4545 | 0.5037 | 0 | 0 | 1 |
| LENGTH | 44 | 4.7500 | 5.6078 | 0.5 | 3 | 6 |
| Big-5 | 44 | 0.2500 | 0.4380 | 0 | 0 | 0.5 |

Panel C: Food and Kindred Products

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| CFOAGE | 36 | 50.5556 | 4.8252 | 47.5 | 50 | 53 |
| CPA | 36 | 0.3056 | 0.4672 | 0 | 0 | 1 |
| MBA | 36 | 0.4444 | 0.5040 | 0 | 0 | 1 |
| LENGTH | 36 | 4.8889 | 4.4515 | 1 | 4 | 7.5 |
| Big-5 | 36 | 0.1667 | 0.3780 | 0 | 0 | 0 |

Panel D: Chemicals and Allied Products

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| CFOAGE | 96 | 50.4792 | 6.4742 | 46 | 50.5 | 55.5 |
| CPA | 96 | 0.4583 | 0.5009 | 0 | 0 | 1 |
| MBA | 96 | 0.5313 | 0.5016 | 0 | 1 | 1 |
| LENGTH | 96 | 4.5521 | 3.7944 | 2 | 4 | 7 |
| Big-5 | 96 | 0.3333 | 0.4739 | 0 | 0 | 1 |

Panel E: Industrial Machinery & Equipment

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| CFOAGE | 77 | 51.1039 | 6.3590 | 46 | 51 | 56 |
| CPA | 77 | 0.3247 | 0.4713 | 0 | 0 | 1 |
| MBA | 77 | 0.5584 | 0.4998 | 0 | 1 | 1 |
| LENGTH | 77 | 3.4805 | 3.8886 | 1 | 2 | 5 |
| Big-5 | 77 | 0.2597 | 0.4414 | 0 | 0 | 1 |

**Table 3 (Continued)**
**Descriptive Statistics: Financial Expertise of CFOs by Industry**

Panel F: Electronic & Other Electronic Equipment

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| CFOAGE | 120 | 50.1500 | 6.7720 | 46 | 50 | 55 |
| CPA | 120 | 0.4083 | 0.4936 | 0 | 0 | 1 |
| MBA | 120 | 0.3917 | 0.4902 | 0 | 0 | 1 |
| LENGTH | 120 | 4.7083 | 4.7197 | 1 | 4 | 7.5 |
| Big-5 | 120 | 0.3417 | 0.4763 | 0 | 0 | 1 |

Panel G: Transportation Equipment

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| CFOAGE | 41 | 52.1951 | 7.5803 | 47 | 53 | 59 |
| CPA | 41 | 0.3902 | 0.4939 | 0 | 0 | 1 |
| MBA | 41 | 0.5610 | 0.5024 | 0 | 1 | 1 |
| LENGTH | 41 | 5.0244 | 5.5610 | 1 | 3 | 8 |
| Big-5 | 41 | 0.2439 | 0.4348 | 0 | 0 | 0 |

Panel H: Instruments & Related Products

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| CFOAGE | 83 | 50.1205 | 5.9457 | 46 | 50 | 55 |
| CPA | 83 | 0.5060 | 0.5030 | 0 | 1 | 1 |
| MBA | 83 | 0.4910 | 0.5030 | 0 | 0 | 1 |
| LENGTH | 83 | 4.2771 | 4.4703 | 0 | 4 | 6 |
| Big-5 | 83 | 0.3494 | 0.4797 | 0 | 0 | 1 |

Panel I: Wholesale Trade-Durable Goods

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| CFOAGE | 35 | 49.6000 | 6.5449 | 46 | 49 | 54 |
| CPA | 35 | 0.4857 | 0.5071 | 0 | 0 | 1 |
| MBA | 35 | 0.3143 | 0.4710 | 0 | 0 | 1 |
| LENGTH | 35 | 5.3429 | 5.1845 | 1 | 4 | 6 |
| Big-5 | 35 | 0.2857 | 0.4583 | 0 | 0 | 1 |

Panel J: Business Services

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| CFOAGE | 135 | 47.9185 | 6.8022 | 44 | 47 | 52 |
| CPA | 135 | 0.4519 | 0.4995 | 0 | 0 | 1 |
| MBA | 135 | 0.4444 | 0.4988 | 0 | 0 | 1 |
| LENGTH | 135 | 4.0370 | 4.2592 | 0 | 3 | 6 |
| Big-5 | 135 | 0.3333 | 0.4732 | 0 | 0 | 1 |

**Table 4**
**Descriptive Statistics: Accruals Quality Sample**

Panel A: Pooled Sample (N=1251)

| Variable | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|
| ABSACC | 0.0240 | 0.0279 | 0.0079 | 0.0163 | 0.0320 |
| SIZE | 7.1523 | 1.4889 | 6.1529 | 6.9011 | 8.0123 |
| LEV | 0.4625 | 0.2127 | 0.3017 | 0.4650 | 0.6004 |
| GROWTH | 0.1639 | 0.2247 | 0.0550 | 0.1168 | 0.2253 |
| ROA | 0.0662 | 0.0818 | 0.0349 | 0.0674 | 0.1053 |
| AUD | 0.9608 | 0.1941 | 1.0000 | 1.0000 | 1.0000 |
| LOSS | 0.0983 | 0.2979 | 0 | 0 | 0 |
| CPA | 0.3653 | 0.4817 | 0 | 0 | 1.0000 |
| MBA | 0.4005 | 0.4902 | 0 | 0 | 1.0000 |
| LENGTH | 6.7858 | 4.1187 | 4.0000 | 5.0000 | 8.0000 |
| CFOAGE | 51.0935 | 6.2797 | 47.0000 | 51.0000 | 56.0000 |

Panel B: S&P 500 Firms (N=373)

| Variable | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|
| ABSACC | 0.0179 | 0.0158 | 0.0064 | 0.0132 | 0.0249 |
| SIZE | 8.8282 | 1.1098 | 7.9339 | 8.6791 | 9.6081 |
| LEV | 0.5345 | 0.1985 | 0.4051 | 0.5376 | 0.6692 |
| GROWTH | 0.1333 | 0.1602 | 0.0550 | 0.1054 | 0.1772 |
| ROA | 0.0786 | 0.0760 | 0.0494 | 0.0802 | 0.1171 |
| AUD | 0.9946 | 0.0731 | 1.0000 | 1.0000 | 1.0000 |
| LOSS | 0.0563 | 0.2308 | 0 | 0 | 0 |
| CPA | 0.2547 | 0.4363 | 0 | 0 | 1.0000 |
| MBA | 0.5764 | 0.4948 | 0 | 1.0000 | 1.0000 |
| LENGTH | 6.5845 | 4.1880 | 4.0000 | 5.0000 | 8.0000 |
| CFOAGE | 52.4531 | 5.2154 | 49.0000 | 52.0000 | 56.0000 |

Panel C: S&P 400 Firms (N=322)

| Variable | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|
| ABSACC | 0.0245 | 0.0260 | 0.0076 | 0.0170 | 0.0326 |
| SIZE | 7.1472 | 0.7957 | 6.5859 | 7.1330 | 7.7756 |
| LEV | 0.4788 | 0.2345 | 0.3071 | 0.5038 | 0.6112 |
| GROWTH | 0.1701 | 0.2398 | 0.0548 | 0.1263 | 0.2268 |
| ROA | 0.0638 | 0.0757 | 0.0338 | 0.0619 | 0.1029 |
| AUD | 0.9752 | 0.1559 | 1.0000 | 1.0000 | 1.0000 |
| LOSS | 0.0994 | 0.2996 | 0 | 0 | 0 |
| CPA | 0.3913 | 0.4888 | 0 | 0 | 1.0000 |
| MBA | 0.3447 | 0.4760 | 0 | 0 | 1.0000 |
| LENGTH | 6.6584 | 3.3509 | 4.0000 | 6.0000 | 9.0000 |
| CFOAGE | 49.6801 | 6.2213 | 46.0000 | 49.5000 | 54.0000 |

**Table 4 (Continued)**
**Descriptive Statistics: Accruals Quality Sample**

Panel D: S&P 600 Firms (N=556)

| Variable | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|
| ABSACC | 0.0279 | 0.0340 | 0.0090 | 0.0179 | 0.0366 |
| SIZE | 6.0309 | 0.8086 | 5.4667 | 6.1435 | 6.6425 |
| LEV | 0.4048 | 0.1917 | 0.2578 | 0.4114 | 0.5264 |
| GROWTH | 0.1808 | 0.2496 | 0.0552 | 0.1281 | 0.2535 |
| ROA | 0.0592 | 0.0880 | 0.0257 | 0.0599 | 0.0969 |
| AUD | 0.9299 | 0.2556 | 1.0000 | 1.0000 | 1.0000 |
| LOSS | 0.1259 | 0.3320 | 0 | 0 | 0 |
| CPA | 0.4245 | 0.4947 | 0 | 0 | 1.0000 |
| MBA | 0.3147 | 0.4648 | 0 | 0 | 1.0000 |
| LENGTH | 6.9946 | 4.4582 | 4.0000 | 5.0000 | 9.0000 |
| CFOAGE | 51.0000 | 6.7669 | 46.0000 | 51.0000 | 56.0000 |

Notes:
*ABSACC* = the absolute value of residuals from Equation [1]
*SIZE* = the natural log of the firm's total asset.
*LEV* = the firm's total liability divided by total assets.
*GROWTH* = growth rate as measured by changes in total sales.
*ROA* = net income divided by the average total asset.
*AUD* = a dummy variable set to 1 if the financial report was audited by one of the Big-4 auditors, and 0 otherwise.
*LOSS* = a dummy variable set to 1 if the net income is negative, and 0 otherwise.

Other variables have been previously defined.

**Table 5**
**Descriptive Statistics: Earnings Persistence Sample**

**Panel A: Pooled Sample**

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| $X_{t-1}$ | 1297 | 0.0645 | 0.0784 | 0.0306 | 0.0638 | 0.1029 |
| Xt | 1297 | 0.0716 | 0.0795 | 0.0382 | 0.0702 | 0.1082 |
| CPA | 1297 | 0.3840 | 0.4865 | 0 | 0 | 1.0000 |
| MBA | 1297 | 0.4056 | 0.4912 | 0 | 0 | 1.0000 |
| LENGTH | 1297 | 6.1534 | 4.1706 | 3.0000 | 5.0000 | 8.0000 |
| CFOAGE | 1297 | 50.8234 | 6.1989 | 47.0000 | 50.0000 | 55.0000 |
| BTE | 1297 | 0.0665 | 0.1249 | 0.0018 | 0.0244 | 0.0862 |
| CAP | 1297 | 0.0510 | 0.0529 | 0.0230 | 0.0371 | 0.0582 |
| SIZE | 1297 | 7.5953 | 1.4657 | 6.4927 | 7.3625 | 8.5120 |
| GROWTH | 1297 | 0.1719 | 0.2383 | 0.0592 | 0.1256 | 0.2365 |
| LOSS | 1297 | 0.1018 | 0.3025 | 0 | 0 | 0 |

**Panel B: S&P 500 Firms**

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| $X_{t-1}$ | 420 | 0.0726 | 0.0705 | 0.0423 | 0.0738 | 0.1065 |
| Xt | 420 | 0.0878 | 0.0701 | 0.0505 | 0.0834 | 0.1196 |
| CPA | 420 | 0.2881 | 0.4534 | 0 | 0 | 1.0000 |
| MBA | 420 | 0.5571 | 0.4973 | 0 | 1.0000 | 1.0000 |
| LENGTH | 420 | 5.6952 | 4.0158 | 3.0000 | 4.0000 | 7.0000 |
| CFOAGE | 420 | 51.7571 | 5.4657 | 48.0000 | 51.0000 | 56.0000 |
| BTE | 420 | 0.0719 | 0.1002 | 0.0076 | 0.0340 | 0.1046 |
| CAP | 420 | 0.0512 | 0.0511 | 0.0253 | 0.0384 | 0.0567 |
| SIZE | 420 | 9.2412 | 1.0613 | 8.4985 | 9.0608 | 9.7431 |
| GROWTH | 420 | 0.1377 | 0.1610 | 0.0532 | 0.1039 | 0.1865 |
| LOSS | 420 | 0.0643 | 0.2456 | 0 | 0 | 0 |

**Panel C: S&P 400 Firms**

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| $X_{t-1}$ | 326 | 0.0638 | 0.0750 | 0.0318 | 0.0634 | 0.1029 |
| Xt | 326 | 0.0653 | 0.0730 | 0.0372 | 0.0633 | 0.1037 |
| CPA | 326 | 0.4233 | 0.4948 | 0 | 0 | 1.0000 |
| MBA | 326 | 0.3681 | 0.4830 | 0 | 0 | 1.0000 |
| LENGTH | 326 | 6.4172 | 3.8171 | 4.0000 | 5.0000 | 9.0000 |
| CFOAGE | 326 | 50.1994 | 6.2806 | 46.0000 | 50.0000 | 55.0000 |
| BTE | 326 | 0.0604 | 0.1377 | 0 | 0.0150 | 0.0547 |
| CAP | 326 | 0.0573 | 0.0653 | 0.0225 | 0.0378 | 0.0648 |
| SIZE | 326 | 7.5581 | 0.5754 | 7.1494 | 7.5887 | 7.9825 |
| GROWTH | 326 | 0.1915 | 0.2775 | 0.0676 | 0.1458 | 0.2456 |
| LOSS | 326 | 0.1043 | 0.3061 | 0 | 0 | 0 |

**Table 5 (Continued)**
**Descriptive Statistics: Earnings Persistence Sample**

**Panel D: S&P 600 Firms**

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| $X_{t-1}$ | 551 | 0.0588 | 0.0854 | 0.0234 | 0.0558 | 0.0980 |
| $X_t$ | 551 | 0.0631 | 0.0877 | 0.0281 | 0.0630 | 0.1023 |
| CPA | 551 | 0.4338 | 0.4960 | 0 | 0 | 1.0000 |
| MBA | 551 | 0.3122 | 0.4638 | 0 | 0 | 1.0000 |
| LENGTH | 551 | 6.3466 | 4.4556 | 3.0000 | 5.0000 | 8.0000 |
| CFOAGE | 551 | 50.4810 | 6.5928 | 46.0000 | 50.0000 | 55.0000 |
| BTE | 551 | 0.0660 | 0.1336 | 0.0021 | 0.0233 | 0.0865 |
| CAP | 551 | 0.0471 | 0.0452 | 0.0205 | 0.0352 | 0.0556 |
| SIZE | 551 | 6.3628 | 0.6459 | 5.9442 | 6.4118 | 6.8120 |
| GROWTH | 551 | 0.1865 | 0.2594 | 0.0622 | 0.1342 | 0.2605 |
| LOSS | 551 | 0.1289 | 0.3353 | 0 | 0 | 0 |

Notes:
*X* = income before extraordinary items deflated by average total assets.
*CAP* = capital expenditure as measured by the amount of depreciation, depletion, and amortization, deflated by total sales.
*BTE* = the barrier to entry as measured by the research and development expenses and advertising expenses, deflated by total sales.

All other variables have been previously defined.

**Table 6**
**Descriptive Statistics: Conservatism Sample**

**Panel A: Pooled Sample**

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| NI | 1137 | 0.0469 | 0.0578 | 0.0301 | 0.0491 | 0.0656 |
| DR | 1137 | 0.3298 | 0.4704 | 0 | 0 | 1.0000 |
| R | 1137 | 0.1694 | 0.3542 | -0.0595 | 0.1041 | 0.3250 |
| CPA | 1137 | 0.3791 | 0.4854 | 0 | 0 | 1.0000 |
| MBA | 1137 | 0.3782 | 0.4851 | 0 | 0 | 1.0000 |
| LENGTH | 1137 | 6.8883 | 4.0816 | 4.0000 | 5.0000 | 9.0000 |
| CFOAGE | 1137 | 51.2938 | 6.2372 | 47.0000 | 51.0000 | 56.0000 |

**Panel B: S&P 500 Firms**

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| NI | 353 | 0.0522 | 0.0641 | 0.0356 | 0.0517 | 0.0656 |
| DR | 353 | 0.3097 | 0.4630 | 0 | 0 | 1.0000 |
| R | 353 | 0.1395 | 0.2954 | -0.0372 | 0.0863 | 0.2492 |
| CPA | 353 | 0.2756 | 0.4474 | 0 | 0 | 1.0000 |
| MBA | 353 | 0.5426 | 0.4989 | 0 | 1.0000 | 1.0000 |
| LENGTH | 353 | 6.5313 | 3.9576 | 4.0000 | 5.0000 | 8.0000 |
| CFOAGE | 353 | 52.4006 | 5.3131 | 49.0000 | 52.0000 | 57.0000 |

**Panel C: S&P 400 Firms**

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| NI | 302 | 0.0430 | 0.0434 | 0.0276 | 0.0469 | 0.0642 |
| DR | 302 | 0.3377 | 0.4737 | 0 | 0 | 1.0000 |
| R | 302 | 0.1559 | 0.3220 | -0.0583 | 0.1006 | 0.3143 |
| CPA | 302 | 0.4205 | 0.4945 | 0 | 0 | 1.0000 |
| MBA | 302 | 0.3245 | 0.4690 | 0 | 0 | 1.0000 |
| LENGTH | 302 | 7.0430 | 3.6529 | 4.0000 | 6.0000 | 9.0000 |
| CFOAGE | 302 | 50.3907 | 6.2718 | 46.0000 | 50.0000 | 55.0000 |

**Panel D: S&P 600 Firms**

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| NI | 483 | 0.0455 | 0.0606 | 0.0282 | 0.0472 | 0.0660 |
| DR | 483 | 0.3395 | 0.4740 | 0 | 0 | 1.0000 |
| R | 483 | 0.1995 | 0.4070 | -0.0793 | 0.1242 | 0.4000 |
| CPA | 483 | 0.4286 | 0.4954 | 0 | 0 | 1.0000 |
| MBA | 483 | 0.2919 | 0.4551 | 0 | 0 | 1.0000 |
| LENGTH | 483 | 7.0518 | 4.4033 | 4.0000 | 5.0000 | 9.0000 |
| CFOAGE | 483 | 51.0518 | 6.7159 | 46.0000 | 51.0000 | 56.0000 |

Notes:
*NI* = EPS from continuing operation deflated by stock price at the beginning of the period.
*R* = holding period return for 12-months for year t, ending 3 months after the fiscal year end.
*DR* = a dummy variable set to 1 if RET < 0, and 0 otherwise.
All other variables have been previously defined.

**Table 7**
**Descriptive Statistics: Informativeness Sample**

**Panel A: Pooled Sample**

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| R | 1312 | 0.1650 | 0.3413 | -0.0582 | 0.1063 | 0.3228 |
| NI | 1312 | 0.0502 | 0.0542 | 0.0340 | 0.0515 | 0.0686 |
| SIZE | 1312 | 7.3990 | 1.4531 | 6.3821 | 7.1912 | 8.3080 |
| LEV | 1312 | 0.4706 | 0.2012 | 0.3221 | 0.4796 | 0.6004 |
| BM | 1312 | 0.4057 | 0.2202 | 0.2503 | 0.3672 | 0.5280 |
| AUD | 1312 | 0.9566 | 0.2039 | 1.0000 | 1.0000 | 1.0000 |
| LOSS | 1312 | 0.0739 | 0.2618 | 0 | 0 | 0 |
| MBA | 1312 | 0.3963 | 0.4893 | 0 | 0 | 1.0000 |
| CPA | 1312 | 0.3887 | 0.4876 | 0 | 0 | 1.0000 |
| LENGTH | 1312 | 6.1829 | 4.1643 | 3.0000 | 5.0000 | 8.0000 |
| CFOAGE | 1312 | 50.9253 | 6.2241 | 47.0000 | 51.0000 | 56.0000 |

**Panel B: S&P 500 Firms**

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| R | 421 | 0.1464 | 0.2967 | -0.0335 | 0.0898 | 0.2566 |
| NI | 421 | 0.0593 | 0.0462 | 0.0400 | 0.0533 | 0.0685 |
| SIZE | 421 | 8.9463 | 1.1061 | 8.1020 | 8.8616 | 9.6466 |
| LEV | 421 | 0.5352 | 0.1925 | 0.4096 | 0.5376 | 0.6616 |
| BM | 421 | 0.3273 | 0.1822 | 0.2018 | 0.2900 | 0.4316 |
| AUD | 421 | 0.9929 | 0.0842 | 1.0000 | 1.0000 | 1.0000 |
| LOSS | 421 | 0.0190 | 0.1367 | 0 | 0 | 0 |
| MBA | 421 | 0.5534 | 0.4977 | 0 | 1.0000 | 1.0000 |
| CPA | 421 | 0.2874 | 0.4531 | 0 | 0 | 1.0000 |
| LENGTH | 421 | 5.7150 | 3.9999 | 3.0000 | 5.0000 | 7.0000 |
| CFOAGE | 421 | `51.9335 | 5.4507 | 48.0000 | 52.0000 | 56.0000 |

**Panel C: S&P 400 Firms**

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| R | 341 | 0.1531 | 0.3187 | -0.0577 | 0.1013 | 0.3143 |
| NI | 341 | 0.0450 | 0.0496 | 0.0315 | 0.0502 | 0.0663 |
| SIZE | 341 | 7.3396 | 0.7438 | 6.7595 | 7.3056 | 7.9157 |
| LEV | 341 | 0.4821 | 0.2097 | 0.3223 | 0.5057 | 0.6202 |
| BM | 341 | 0.3869 | 0.1942 | 0.2494 | 0.3610 | 0.5027 |
| AUD | 341 | 0.9736 | 0.1605 | 1.0000 | 1.0000 | 1.0000 |
| LOSS | 341 | 0.0792 | 0.2704 | 0 | 0 | 0 |
| MBA | 341 | 0.3607 | 0.4809 | 0 | 0 | 1.0000 |
| CPA | 341 | 0.4164 | 0.4937 | 0 | 0 | 1.0000 |
| LENGTH | 341 | 6.4457 | 3.7995 | 4.0000 | 5.0000 | 9.0000 |
| CFOAGE | 341 | 50.2053 | 6.2773 | 46.0000 | 50.0000 | 55.0000 |

**Table 7 (Continued)**
**Descriptive Statistics: Informativeness Sample**

**Panel D: S&P 600 Firms**

| Variable | N | Mean | Std Dev | 25th Pct | Median | 75th Pct |
|---|---|---|---|---|---|---|
| R | 550 | 0.1866 | 0.3835 | -0.0771 | 0.1258 | 0.3809 |
| NI | 550 | 0.0464 | 0.0613 | 0.0298 | 0.0501 | 0.0708 |
| SIZE | 550 | 6.2515 | 0.7789 | 5.7192 | 6.3133 | 6.8059 |
| LEV | 550 | 0.4141 | 0.1860 | 0.2733 | 0.4094 | 0.5360 |
| BM | 550 | 0.4774 | 0.2386 | 0.2995 | 0.4461 | 0.6131 |
| AUD | 550 | 0.9182 | 0.2743 | 1.0000 | 1.0000 | 1.0000 |
| LOSS | 550 | 0.1127 | 0.3165 | 0 | 0 | 0 |
| MBA | 550 | 0.2982 | 0.4579 | 0 | 0 | 1.0000 |
| CPA | 550 | 0.4491 | 0.4979 | 0 | 0 | 1.0000 |
| LENGTH | 550 | 6.3782 | 4.4699 | 3.0000 | 5.0000 | 8.0000 |
| CFOAGE | 550 | 50.6000 | 6.6458 | 46.0000 | 50.0000 | 56.0000 |

**Table 8**
**Spearman\Pearson Correlation Matrix – Accruals Quality**

| | ABSACC | SIZE | LEV | GROWTH | ROA | AUD | LOSS | CPA | MBA | LENGTH | CFOAGE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **ABSACC** | 1 | -0.171 | -0.033 | 0.059 | -0.08 | -0.071 | 0.063 | 0.056 | -0.036 | -0.002 | -0.041 |
| | | (0.0000) | (0.1955) | (0.0214) | (0.0019) | (0.0058) | (0.0143) | (0.0293) | (0.1608) | (0.9445) | (0.1149) |
| **SIZE** | -0.181 | | 0.481 | -0.166 | -0.016 | 0.176 | -0.098 | -0.16 | 0.234 | -0.006 | 0.160 |
| | (0.0000) | | (0.0000) | (0.0000) | (0.5298) | (0.0000) | (0.0000) | (0.0000) | (0.0000) | (0.8273) | (0.0000) |
| **LEV** | -0.054 | 0.503 | | -0.099 | -0.246 | 0.101 | 0.114 | -0.069 | 0.118 | -0.094 | 0.054 |
| | (0.0374) | (0.0000) | | (0.0000) | (0.0000) | (0.0000) | (0.0000) | (0.0075) | (0.0000) | (0.0003) | (0.0357) |
| **GROWTH** | 0.082 | -0.153 | -0.167 | | 0.196 | -0.074 | -0.124 | -0.013 | 0.016 | -0.03 | -0.096 |
| | (0.0015) | (0.0000) | (0.0000) | | (0.0000) | (0.0041) | (0.0000) | (0.6060) | (0.5256) | (0.2427) | (0.0002) |
| **ROA** | 0.026 | -0.043 | -0.296 | 0.308 | | -0.068 | -0.632 | -0.02 | -0.016 | 0.018 | 0.019 |
| | (0.3126) | (0.0977) | (0.0000) | (0.0000) | | (0.0084) | (0.0000) | (0.4340) | (0.5488) | (0.4751) | (0.4680) |
| **AUD** | -0.056 | 0.177 | 0.107 | -0.05 | -0.044 | | 0.016 | -0.059 | 0.023 | -0.065 | 0.017 |
| | (0.0296) | (0.0000) | (0.0000) | (0.0506) | (0.0892) | | (0.5332) | (0.0214) | (0.3830) | (0.0116) | (0.5142) |
| **LOSS** | 0.05 | -0.095 | 0.092 | -0.175 | -0.521 | 0.016 | | 0.018 | 0.001 | -0.031 | -0.046 |
| | (0.0557) | (0.0002) | (0.0004) | (0.0000) | (0.0000) | (0.5332) | | (0.4852) | (0.9861) | (0.2262) | (0.0780) |
| **CPA** | 0.057 | -0.148 | -0.55 | 0.005 | -0.036 | -0.059 | 0.018 | | -0.156 | -0.057 | -0.147 |
| | (0.0266) | (0.0000) | (0.0346) | (0.8519) | (0.1682) | (0.0214) | (0.4852) | | (0.0000) | (0.0270) | (0.0000) |
| **MBA** | -0.05 | 0.209 | 0.116 | 0.006 | -0.029 | 0.023 | 0.001 | -0.156 | | -0.087 | 0.118 |
| | (0.0521) | (0.0000) | (0.0000) | (0.8099) | (0.2695) | (0.3830) | (0.9861) | (0.0000) | | (0.0008) | (0.0000) |
| **LENGTH** | -0.04 | -0.031 | -0.086 | 0.007 | 0.014 | -0.06 | -0.025 | -0.077 | -0.118 | | 0.320 |
| | (0.1638) | (0.2273) | (0.0009) | (0.7968) | (0.5818) | (0.0203) | (0.3311) | (0.0030) | (0.0000) | | (0.0000) |
| **CFOAGE** | -0.045 | 0.146 | 0.071 | -0.099 | -0.009 | -0.002 | -0.052 | -0.145 | 0.1267 | 0.270 | |
| | (0.0557) | (0.0000) | (0.0057) | (0.0000) | 0.7145 | 0.9328 | (0.0449) | (0.0000) | (0.0000) | (0.0000) | |

**Table 9**
**Spearman\Pearson Correlation Matrix - Persistence**

| | $X_t$ | $X_{t+1}$ | CPA | MBA | LENGTH | CFOAGE | SIZE | CAP | BTE | GROWTH | LOSS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **$X_t$** | | 0.679 | -0.052 | 0.012 | 0.027 | 0.070 | 0.28 | -0.199 | -0.213 | 0.0156 | -0.61 |
| | | *(0.0000)* | *(0.0286)* | *(0.6279)* | *(0.2590)* | *(0.0034)* | *(0.0000)* | *(0.0000)* | *(0.0000)* | *(0.5139)* | *(0.0000)* |
| **$X_{t+1}$** | 0.736 | | -0.08 | 0.032 | 0.032 | 0.079 | 0.32 | -0.127 | -0.228 | 0.112 | -0.376 |
| | *(0.0000)* | | *(0.0008)* | *(0.1789)* | *(0.1868)* | *(0.0010)* | *(0.0000)* | *(0.0000)* | *(0.0000)* | *(0.0000)* | *(0.0000)* |
| **CPA** | -0.057 | -0.077 | | -0.157 | -0.069 | -0.161 | -0.118 | -0.046 | 0.048 | 0.022 | 0.017 |
| | *(0.0172)* | *(0.0012)* | | *(0.0000)* | *(0.0039)* | *(0.0000)* | *(0.0000)* | *(0.0507)* | *(0.0460)* | *(0.3617)* | *(0.4646)* |
| **MBA** | 0.026 | 0.036 | -0.157 | | -0.112 | 0.116 | 0.184 | 0.073 | 0.097 | -0.006 | 0.006 |
| | *(0.2693)* | *(0.1304)* | *(0.0000)* | | *(0.0000)* | *(0.0000)* | *(0.0000)* | *(0.0022)* | *(0.0000)* | *(0.7893)* | *(0.8144)* |
| **LENGTH** | 0.067 | 0.052 | -0.088 | -0.138 | | 0.307 | -0.023 | -0.027 | -0.047 | 0.041 | -0.033 |
| | *(0.0047)* | *(0.0304)* | *(0.0002)* | *(0.0000)* | | *(0.0000)* | *(0.3311)* | *(0.2570)* | *(0.0510)* | *(0.0862)* | *(0.1638)* |
| **CFOAGE** | 0.103 | 0.100 | -0.158 | 0.124 | 0.247 | | 0.086 | -0.055 | -0.069 | -0.100 | -0.035 |
| | (0.0000) | (0.0000) | (0.0000) | (0.0000) | (0.0000) | | (0.003) | (0.0213) | (0.0040) | (0.0000) | (0.1432) |
| **SIZE** | 0.387 | 0.398 | -0.132 | 0.205 | -0.014 | 0.092 | | -0.004 | -0.004 | -0.017 | -0.223 |
| | *(0.0000)* | *(0.0000)* | *(0.0000)* | *(0.0000)* | *(0.5623)* | *(0.0000)* | | *(0.8694)* | *(0.8633)* | *(0.4638)* | *(0.0000)* |
| **CAP** | -0.287 | -0.244 | -0.02 | 0.002 | 0.03 | -0.105 | -0.005 | | 0.263 | 0.062 | 0.228 |
| | *(0.0000)* | *(0.0000)* | *(0.4051)* | *(0.9332)* | *(0.2065)* | *(0.0000)* | *(0.8247)* | | *(0.0000)* | *(0.0090)* | *(0.0000)* |
| **BTE** | -0.263 | -0.3 | 0.001 | 0.072 | -0.009 | -0.044 | 0.038 | 0.289 | | -0.022 | 0.163 |
| | *(0.0000)* | *(0.0000)* | *(0.9712)* | *(0.0025)* | *(0.6994)* | *(0.0642)* | *(0.1075)* | *(0.0000)* | | *(0.3661)* | *(0.0000)* |
| **GROWTH** | 0.023 | 0.158 | 0.021 | 0.002 | -0.008 | -0.076 | -0.058 | 0.168 | 0.198 | | -0.013 |
| | *(0.3412)* | *(0.0000)* | *(0.3748)* | *(0.9178)* | *(0.7419)* | *(0.0011)* | *0.0156* | *(0.0000)* | *(0.0000)* | | *(0.5747)* |
| **LOSS** | -0.62 | -0.424 | 0.017 | 0.006 | -0.017 | -0.037 | -0.213 | 0.221 | 0.232 | -0.074 | |
| | *(0.0000)* | *(0.0000)* | *(0.4646)* | *(0.8144)* | *(0.4750)* | *(0.1233)* | *(0.0000)* | *(0.0000)* | *(0.0000)* | *(0.0018)* | |

**Table 10**
**Spearman/Pearson Correlation Matrix - Conservatism**

| | NI | DR | R | SIZE | CPA | MBA | LENGTH | CFOAGE |
|---|---|---|---|---|---|---|---|---|
| NI | | -0.197 | 0.213 | 0.159 | -0.039 | -0.020 | 0.052 | 0.047 |
| | | *(0.0000)* | *(0.0000)* | *(0.0000)* | *(0.1360)* | *(0.4512q)* | *(0.0478)* | *(0.0768)* |
| DR | -0.256 | | -0.651 | -0.057 | 0.033 | -0.037 | 0.004 | 0.014 |
| | *(0.0000)* | | *(0.0000)* | *(0.0312)* | *(0.2146)* | *(0.1567)* | *(0.8709)* | *(0.5852)* |
| R | 0.280 | -0.815 | | -0.027 | 0.021 | -0.002 | 0.027 | -0.005 |
| | *(0.0000)* | *(0.0000)* | | *(0.3111)* | *(0.4161)* | *(0.9416)* | *(0.2770)* | *(0.8576)* |
| SIZE | 0.244 | -0.079 | 0.002 | | -0.141 | 0.213 | -0.011 | 0.1375 |
| | *(0.0000)* | *(0.0027)* | *(0.3255)* | | *(0.0000)* | *(0.0000)* | *(0.6684)* | *(0.0000)* |
| CPA | -0.038 | 0.033 | -0.001 | -0.124 | | -0.162 | -0.076 | -0.152 |
| | *(0.1455)* | *(0.2146)* | *(0.8322)* | *(0.0000)* | | *(0.0000)* | *(0.0037)* | *(0.0000)* |
| MBA | -0.006 | -0.037 | -0.006 | 0.195 | -0.162 | | -0.131 | 0.079 |
| | *(0.8275)* | *(0.1567)* | *(0.8157)* | *(0.0000)* | *(0.0000)* | | *(0.0000)* | *(0.0026)* |
| LENGTH | 0.048 | 0.004 | 0.024 | -0.011 | -0.090 | -0.157 | | 0.343 |
| | *(0.0660)* | *(0.8828)* | *(0.3604)* | *(0.6755)* | *(0.0007)* | *(0.0000)* | | *(0.0000)* |
| CFOAGE | 0.074 | 0.011 | -0.015 | 0.1366 | -0.1533 | 0.08182 | 0.307 | |
| | (0.0049) | (0.6657) | (0.5792) | (0.0000) | (0.0000) | (0.0019) | (0.0000) | |

**Table 11**
**Spearman / Pearson Correlation Matrix – Earnings Informativeness**

| | R | NI | SIZE | LEV | BM | AUD | LOSS | CPA | MBA | LENGTH | CFOAGE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| R | | 0.234 | -0.040 | -0.021 | -0.196 | -0.038 | -0.129 | 0.019 | -0.023 | 0.034 | -0.003 |
| | | *(0.0000)* | *(0.1278)* | *(0.4143)* | *(0.0000)* | *(0.1531)* | *(0.0000)* | *(0.4650)* | *(0.3884)* | *(0.1925)* | *(0.0238)* |
| NI | 0.345 | | 0.175 | 0.011 | -0.047 | 0.018 | -0.639 | -0.025 | -0.024 | 0.055 | 0.056 |
| | *(0.0000)* | | *(0.0000)* | *(0.5550)* | *(0.0718)* | *(0.4899)* | *(0.0000)* | *(0.3450)* | *(0.3636)* | *(0.0376)* | *(0.0333)* |
| SIZE | 0.029 | 0.2353 | | 0.452 | -0.074 | 0.172 | -0.157 | -0.141 | 0.212 | -0.013 | 0.138 |
| | *(0.2724)* | *(0.0000)* | | *(0.0000)* | *(0.0050)* | *(0.0000)* | *(0.0000)* | *(0.0000)* | *(0.0000)* | *(0.6170)* | *(0.0000)* |
| LEV | 0.001 | 0.204 | 0.483 | | -0.116 | 0.089 | 0.078 | -0.042 | 0.097 | -0.078 | 0.059 |
| | *(0.9790)* | *(0.0000)* | *(0.0000)* | | *(0.0000)* | *(0.0007)* | *(0.0031)* | *(0.1095)* | *(0.0002)* | *(0.0031)* | *(0.0242)* |
| BM | -0.19 | 0.014 | -0.076 | -0.068 | | -0.088 | 0.175 | 0.072 | -0.023 | 0.063 | 0.064 |
| | *(0.0000)* | *(0.5958)* | *(0.0039)* | *(0.0101)* | | *(0.0008)* | *(0.0000)* | *(0.0050)* | *(0.3888)* | *(0.0167)* | *(0.0146)* |
| AUD | -0.025 | 0.004 | 0.181 | 0.093 | -0.067 | | -0.001 | -0.048 | 0.028 | -0.112 | -0.020 |
| | *(0.3425)* | *(0.8925)* | *(0.0000)* | *(0.0004)* | *(0.0103)* | | *(0.9746)* | *(0.0695)* | *(0.2872)* | *(0.0000)* | *(0.4392)* |
| LOSS | -0.174 | -0.479 | -0.16 | 0.056 | 0.133 | -0.001 | | 0.047 | 0.005 | -0.074 | -0.028 |
| | *(0.0000)* | *(0.0000)* | *(0.0000)* | *(0.0333)* | *(0.0000)* | *(0.9746)* | | *(0.0750)* | *(0.8590)* | *(0.0049)* | *(0.2831)* |
| CPA | -0.006 | -0.038 | -0.129 | -0.035 | 0.071 | -0.048 | 0.047 | | -0.156 | -0.077 | -0.157 |
| | *(0.8142)* | *(0.1530)* | *(0.0000)* | *(0.1775)* | *(0.0071)* | *(0.0071)* | *(0.0750)* | | *(0.0000)* | *(0.0033)* | *(0.0000)* |
| MBA | -0.002 | -0.011 | 0.194 | 0.097 | -0.029 | 0.028 | 0.005 | -0.158 | | -0.128 | 0.081 |
| | *(0.9343)* | *(0.6775)* | *(0.0000)* | *(0.0002)* | *(0.2762)* | *(0.2872)* | *(0.8598)* | *(0.0000)* | | *(0.0000)* | *(0.0020)* |
| LENGTH | 0.026 | 0.058 | -0.015 | -0.063 | 0.031 | -0.084 | -0.071 | -0.092 | -0.152 | | 0.342 |
| | *(0.3274)* | *(0.0272)* | *(0.5749)* | *(0.0159)* | *(0.2327)* | *(0.0014)* | *(0.0073)* | *(0.0005)* | *(0.0000)* | | *(0.0000)* |
| CFOAGE | *-0.011* | *0.076* | *0.137* | *0.076* | *0.059* | *0.007* | *-0.039* | *-0.158* | *0.084* | *0.306* | |
| | *(0.6795)* | *(0.0039)* | *(0.0000)* | *(0.0038)* | *(0.0239)* | *(0.7776)* | *(0.1377)* | *(0.0000)* | *(0.0013)* | *(0.0000)* | |

**Table 12**
**Multivariate Analysis of Accruals Quality and CFO Financial Expertise (Model 1)**

Model: $AB\_ACCR_{it} = \beta_0 + \beta_1 CPA_{it} + \beta_2 MBA_{it} + \beta_3 LENGTH_{it} + \beta_4 CFOGE_{it} + \beta_5 SIZE_{it} + \beta_6 ROA_{it} + \beta_7 LEV_{it} + \beta_8 LOSS_{it} + \beta_9 GROWTH_{it} + \beta_{10} AUD_{it} + \varepsilon_{it}$

**Panel A: Pooled Regression**

| Independent Variable | Expected Signs | Parameter Estimate | Standard Error | t Value | Pr > \|t\| |
|---|---|---|---|---|---|
| Intercept | ? | 0.0342 | 0.0085 | 4.02 | **<.0001** |
| CPA | ? | 0.0007 | 0.0017 | 0.41 | 0.6848 |
| MBA | ? | -.0018 | 0.0017 | -1.09 | 0.2751 |
| LENGTH | ? | 0.0001 | 0.0002 | 0.68 | 0.4943 |
| CFOAGE | ? | 0.0002 | 0.0001 | 1.30 | 0.1947 |
| SIZE | - | -.0029 | 0.0006 | -4.65 | **<.0001** |
| ROA | ? | 0.0006 | 0.0125 | 0.05 | 0.9623 |
| LEV | + | 0.0103 | 0.0043 | 2.38 | **0.0174** |
| LOSS | + | 0.0035 | 0.0034 | 1.03 | 0.3052 |
| GROWTH | + | 0.0108 | 0.0035 | 3.06 | **0.0022** |
| AUD | - | -.0086 | 0.0041 | -2.12 | **0.0340** |

N=1251 R-square= 0.0708

**Panel B: S&P 500 Firms**

| Independent Variable | Expected Signs | Parameter Estimate | Standard Error | t Value | Pr > \|t\| |
|---|---|---|---|---|---|
| Intercept | ? | 0.0317 | 0.0165 | 1.91 | **0.0563** |
| CPA | ? | 0.0007 | 0.0021 | 0.34 | 0.7345 |
| MBA | ? | -.0026 | 0.0019 | -1.35 | 0.1788 |
| LENGTH | ? | 0.0002 | 0.0002 | 1.06 | 0.2884 |
| CFOAGE | ? | -.0003 | 0.0002 | -1.79 | **0.0744** |
| SIZE | - | -.0011 | 0.0009 | -1.29 | 0.1981 |
| ROA | ? | 0.0215 | 0.0150 | 1.44 | 0.1511 |
| LEV | + | -.0005 | 0.0049 | -0.09 | 0.9254 |
| LOSS | + | 0.0027 | 0.0048 | 0.57 | 0.5721 |
| GROWTH | + | -.0063 | 0.0054 | -1.16 | 0.2451 |
| AUD | - | 0.0131 | 0.0115 | 1.14 | 0.2552 |

N=373 R-square = 0.0440

**Table 12 (Continued)**
**Multivariate Analysis of Accruals Quality and CFO Financial Expertise (Model 1)**

Model: $AB\_ACCR_{it} = \beta_0 + \beta_1 CPA_{it} + \beta_2 MBA_{it} + \beta_3 LENGTH_{it} + \beta_4 CFOAGE_{it} + \beta_5 SIZE_{it} + \beta_6 ROA_{it} + \beta_7 LEV_{it} + \beta_8 LOSS_{it} + \beta_9 GROWTH_{it} + \beta_{10} AUD_{it} + \varepsilon_{it}$

**Panel C: S&P 400 Firms**

| Independent Variable | Expected Signs | Parameter Estimate | Standard Error | t Value | Pr > \|t\| |
|---|---|---|---|---|---|
| Intercept | ? | 0.0718 | 0.0207 | 3.46 | **0.0006** |
| CPA | ? | -.0028 | 0.0029 | -0.94 | 0.3466 |
| MBA | ? | -.0009 | 0.0031 | -0.30 | 0.7646 |
| LENGTH | ? | -.0008 | 0.0004 | -1.82 | **0.0700** |
| CFOAGE | ? | -.0001 | 0.0002 | -0.25 | 0.8064 |
| SIZE | - | -.0019 | 0.0021 | -0.91 | 0.3613 |
| ROA | ? | 0.0508 | 0.0256 | 1.99 | **0.0478** |
| LEV | + | 0.0106 | 0.0069 | 1.54 | 0.1247 |
| LOSS | + | 0.0083 | 0.0062 | 1.35 | 0.1795 |
| GROWTH | + | 0.0063 | 0.0059 | 1.06 | 0.2900 |
| AUD | - | -.0396 | 0.0092 | -4.31 | **<.0001** |

N=322 R-square = 0.1731

**Panel D: S&P 600 Firms**

| Independent Variable | Expected Signs | Parameter Estimate | Standard Error | t Value | Pr > \|t\| |
|---|---|---|---|---|---|
| Intercept | ? | 0.0158 | 0.0170 | 0.92 | 0.3556 |
| CPA | ? | 0.0007 | 0.0029 | 0.24 | 0.8114 |
| MBA | ? | -.0018 | 0.0032 | -0.55 | 0.5813 |
| LENGTH | ? | 0.0004 | 0.0004 | 1.11 | 0.2679 |
| CFOAGE | ? | 0.0004 | 0.0002 | 1.64 | 0.1009 |
| SIZE | - | -.0028 | 0.0023 | -1.21 | 0.2275 |
| ROA | ? | -.0312 | 0.0222 | -1.41 | 0.1600 |
| LEV | + | 0.0084 | 0.0095 | 0.88 | 0.3804 |
| LOSS | + | 0.0024 | 0.0057 | 0.43 | 0.6702 |
| GROWTH | + | 0.0208 | 0.0061 | 3.43 | **0.0006** |
| AUD | - | -.0029 | 0.0058 | -0.50 | 0.6157 |

N=556 R-square = 0.0679

**Table 13**
**Multivariate Analysis of Accruals Quality and CFO Financial Expertise (Model 2)**

Model: $AB\_ACCR_{it} = \beta_0 + \beta_1 CPA_{it} + \beta_2 MBA_{it} + \beta_3 LENGTH_{it} + \beta_4 CFOGE_{it} + \beta_5 CPA*LENGTH_{it} + \beta_6 MBA*LENGTH_{it} + \beta_7 SIZE_{it} + \beta_8 ROA_{it} + \beta_9 LEV_{it} + \beta_{10} LOSS_{it} + \beta_{11} GROWTH_{it} + \beta_{12} AUD_{it} + \varepsilon_{it}$

**Panel A: Pooled Regression**

| Independent Variable | Expected Signs | Parameter Estimate | Standard Error | t Value | Pr > \|t\| |
|---|---|---|---|---|---|
| Intercept | ? | 0.0328 | 0.0087 | 3.78 | **0.0002** |
| CPA | ? | 0.0081 | 0.0031 | 2.59 | **0.0098** |
| MBA | ? | 0.0000 | 0.0030 | 0.01 | 0.9934 |
| LENGTH | ? | 0.0006 | 0.0003 | 2.11 | **0.0349** |
| CFOAGE | ? | 0.0001 | 0.0001 | 0.92 | 0.3579 |
| CPA*LENGTH | ? | -.0011 | 0.0004 | -2.78 | **0.0056** |
| MBA*LENGTH | ? | -.0002 | 0.0004 | -0.59 | 0.5560 |
| SIZE | - | -.0029 | 0.0006 | -4.55 | **<.0001** |
| ROA | ? | 0.0020 | 0.0125 | 0.16 | 0.8703 |
| LEV | + | 0.0102 | 0.0043 | 2.37 | **0.0178** |
| LOSS | + | 0.0035 | 0.0033 | 1.03 | 0.3023 |
| GROWTH | + | 0.0104 | 0.0035 | 2.94 | **0.0034** |
| AUD | - | -.0085 | 0.0041 | -2.08 | **0.0373** |

N=1251 R-square= 0.0767

**Panel B: S&P 500 Firms**

| Independent Variable | Expected Signs | Parameter Estimate | Standard Error | t Value | Pr > \|t\| |
|---|---|---|---|---|---|
| Intercept | ? | 0.0341 | 0.0170 | 2.01 | 0.0456 |
| CPA | ? | 0.0005 | 0.0038 | 0.14 | 0.8907 |
| MBA | ? | -.0055 | 0.0037 | -1.48 | 0.1394 |
| LENGTH | ? | -.0001 | 0.0005 | -0.18 | 0.8558 |
| CFOAGE | ? | -.0003 | 0.0002 | -1.81 | **0.0704** |
| CPA*LENGTH | ? | -.0000 | 0.0005 | -0.04 | 0.9667 |
| MBA*LENGTH | ? | 0.0004 | 0.0005 | 0.93 | 0.3540 |
| SIZE | - | -.0011 | 0.0009 | -1.24 | 0.2150 |
| ROA | ? | 0.0201 | 0.0150 | 1.33 | 0.1827 |
| LEV | + | -.0009 | 0.0049 | -0.19 | 0.8479 |
| LOSS | + | 0.0025 | 0.0048 | 0.52 | 0.6009 |
| GROWTH | + | -.0061 | 0.0054 | -1.12 | 0.2622 |
| AUD | - | 0.0131 | 0.0115 | 1.14 | 0.2570 |

N=373 R-square = 0.0465

**Table 13 (Continued)**
**Multivariate Analysis of Accruals Quality and CFO Financial Expertise (Model 2)**

Model: $AB\_ACCR_{it} = \beta_0 + \beta_1 CPA_{it} + \beta_2 MBA_{it} + \beta_3 LENGTH_{it} + \beta_4 CFOAGE_{it} + \beta_5 CPA*LENGTH_{it} + \beta_6 MBA*LENGTH_{it} + \beta_7 SIZE_{it} + \beta_8 ROA_{it} + \beta_9 LEV_{it} + \beta_{10} LOSS_{it} + \beta_{11} GROWTH_{it} + \beta_{12} AUD_{it} + \varepsilon_{it}$

**Panel C: S&P 400 Firms**

| Independent Variable | Expected Signs | Parameter Estimate | Standard Error | t Value | Pr > \|t\| |
|---|---|---|---|---|---|
| Intercept | ? | 0.0755 | 0.0207 | 3.64 | 0.0003 |
| CPA | ? | -.0006 | 0.0063 | -0.09 | 0.9295 |
| MBA | ? | -.0133 | 0.0064 | -2.08 | **0.0388** |
| LENGTH | ? | -.0013 | 0.0006 | -2.12 | 0.0344 |
| CFOAGE | ? | -.0001 | 0.0002 | -0.26 | 0.7946 |
| CPA*LENGTH | ? | -.0004 | 0.0009 | -0.48 | 0.6303 |
| MBA*LENGTH | ? | 0.0020 | 0.0009 | 2.21 | **0.0276** |
| SIZE | - | -.0020 | 0.0021 | -0.95 | 0.3417 |
| ROA | ? | 0.0545 | 0.0256 | 2.13 | **0.0342** |
| LEV | + | 0.0127 | 0.0069 | 1.83 | **0.0675** |
| LOSS | + | 0.0081 | 0.0061 | 1.32 | 0.1868 |
| GROWTH | + | 0.0059 | 0.0059 | 0.99 | 0.3231 |
| AUD | - | -.0402 | 0.0092 | -4.39 | **<.0001** |

N=322 R-square = 0.1863

**Panel D: S&P 600 Firms**

| Independent Variable | Expected Signs | Parameter Estimate | Standard Error | t Value | Pr > \|t\| |
|---|---|---|---|---|---|
| Intercept | ? | 0.0150 | 0.0171 | 0.88 | 0.3805 |
| CPA | ? | 0.0157 | 0.0055 | 2.88 | **0.0042** |
| MBA | ? | 0.0069 | 0.0059 | 1.17 | 0.2428 |
| LENGTH | ? | 0.0016 | 0.0005 | 3.23 | **0.0013** |
| CFOAGE | ? | 0.0002 | 0.0002 | 0.84 | 0.3990 |
| CPA*LENGTH | ? | -.0022 | 0.0006 | -3.24 | **0.0012** |
| MBA*LENGTH | ? | -.0013 | 0.0008 | -1.63 | 0.1040 |
| SIZE | - | -.0026 | 0.0022 | -1.16 | 0.2452 |
| ROA | ? | -.0280 | 0.0220 | -1.28 | 0.2023 |
| LEV | + | 0.0077 | 0.0095 | 0.81 | 0.4174 |
| LOSS | + | 0.0025 | 0.0057 | 0.44 | 0.6576 |
| GROWTH | + | 0.0203 | 0.0060 | 3.38 | **0.0008** |
| AUD | - | -.0015 | 0.0057 | -0.26 | 0.7986 |

N=556 R-square = 0.0894

**Table 14**
**Multivariate Analysis of Accruals Quality and CFO Financial Expertise (Model 3-7)**

Model: $AB\_ACCR_{it} = \beta_0 + \beta_1 Expertise + \beta_2 SIZE_{it} + \beta_3 ROA_{it} + \beta_4 LEV_{it} + \beta_5 LOSS_{it} + \beta_6 GROWTH_{it} + \beta_7 AUD_{it} + \varepsilon_{it}$

**Pooled Sample**

| Independent Variables | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 |
|---|---|---|---|---|---|
| Intercept | 7.94 | 8.15 | 7.58 | 4.48 | 4.47 |
| | ***<.0001*** | ***<.0001*** | ***<.0001*** | ***<.0001*** | ***<.0001*** |
| CPA | 0.39 | - | - | - | - |
| | *0.6951* | - | - | - | - |
| MBA | - | -1.07 | - | - | - |
| | - | *0.2837* | - | - | - |
| LENGTH | - | - | 1.25 | - | - |
| | - | - | *0.2108* | - | - |
| CFOAGE | - | - | - | 1.52 | 1.53 |
| | - | - | - | *0.1287* | *0.1261* |
| EXPERT | - | - | - | - | -0.21 |
| | | | | | *0.8364* |
| SIZE | -4.74 | -4.5 | -4.89 | -4.97 | -4.97 |
| | ***<.0001*** | ***<.0001*** | ***<.0001*** | ***<.0001*** | ***<.0001*** |
| ROA | 0.04 | 0.05 | 0.06 | 0 | 0.01 |
| | *0.9685* | *0.9635* | *0.9484* | *0.9964* | *0.9918* |
| LEV | 2.32 | 2.34 | 2.44 | 2.29 | 2.30 |
| | ***0.0203*** | ***0.0193*** | ***0.0148*** | ***0.0220*** | ***0.0218*** |
| LOSS | 0.86 | 0.91 | 0.91 | 0.88 | 0.89 |
| | *0.3886* | *0.3644* | *0.3649* | *0.3766* | *0.3747* |
| GROWTH | 2.99 | 3.03 | 3.02 | 3.09 | 3.09 |
| | ***0.0028*** | ***0.0025*** | ***0.0026*** | ***0.0020*** | ***0.0020*** |
| AUD | -2.2 | -2.24 | -2.13 | -2.2 | -2.21 |
| | ***0.0279*** | ***0.0252*** | ***0.0330*** | ***0.0280*** | ***0.0276*** |

**Table 15**
**Multivariate Analysis of Earnings Persistence & CFO Financial Expertise (Model 1)**

Model: $X_{i,t} = \beta_0 + \beta_1 X_{i,t-1} + \beta_2 X_{i,t-1}*CPA_{it} + \beta_3 X_{i,t-1}*MBA_{it} + \beta_4 X_{i,t-1}*LENGTH_{it} + \beta_5 X_{i,t-1}*CFOAGE_{it} + B_6 X_{i,t-1}*BTE_{i,t} + \beta_7 X_{i,t-1}*CAP_{i,t} + \beta_8 X_{i,t-1}*SIZE_{i,t} + \beta_9 X_{i,t-1}*GROWTH_{,t} + \beta_{10} X_{i,t-1}*LOSS_{,t} + Fixed\ Effects + \varepsilon_{i,t}$

**Panel A: Pooled Sample**

| Indep. Var. | Expected Sign | Estimate | Std. Error | t Value | Pr > \|t |
|---|---|---|---|---|---|
| Intercept | ? | 0.0098 | 0.0027 | 3.59 | **0.0003** |
| $X_{i,t-1}$ | + | 0.6171 | 0.1571 | 3.93 | **<.0001** |
| $X_{i,t-1}$*CPA | ? | 0.0686 | 0.0340 | 2.02 | **0.0439** |
| $X_{i,t-1}$*MBA | ? | -0.0164 | 0.0351 | -0.47 | 0.6399 |
| $X_{i,t-1}$*LENGTH | ? | 0.0051 | 0.0044 | 1.16 | 0.2460 |
| $X_{i,t-1}$*CFOAGE | ? | -0.0033 | 0.0028 | -1.17 | 0.2434 |
| $X_{i,t-1}$*BTE | + | -0.1463 | 0.0930 | -1.57 | 0.1158 |
| $X_{i,t-1}$*CAP | + | 1.3198 | 0.3169 | 4.17 | **<.0001** |
| $X_{i,t-1}$*SIZE | + | 0.0335 | 0.0109 | 3.08 | **0.0021** |
| $X_{i,t-1}$*GROWTH | + | 0.2956 | 0.0675 | 4.38 | **<.0001** |
| $X_{i,t-1}$*LOSS | - | -0.6175 | 0.0699 | -8.84 | **<.0001** |

N = 1297 R-square = 0.4980

**Panel B: S&P 500 Firms**

| Indep. Var. | Expected Sign | Estimate | Std. Error | t Value | Pr > \|t |
|---|---|---|---|---|---|
| Intercept | ? | 0.0158 | 0.0046 | 3.45 | **0.0006** |
| $X_{i,t-1}$ | + | 1.0856 | 0.3287 | 3.30 | **0.0010** |
| $X_{i,t-1}$*CPA | ? | -0.0808 | 0.0578 | -1.40 | 0.1629 |
| $X_{i,t-1}$*MBA | ? | -0.0094 | 0.0530 | -0.18 | 0.8589 |
| $X_{i,t-1}$*LENGTH | ? | -0.0032 | 0.0077 | -0.42 | 0.6775 |
| $X_{i,t-1}$*CFOAGE | ? | 0.0006 | 0.0055 | 0.11 | 0.9111 |
| $X_{i,t-1}$*BTE | + | 0.4037 | 0.2724 | 1.48 | 0.1392 |
| $X_{i,t-1}$*CAP | + | 1.8484 | 0.4586 | 4.03 | **<.0001** |
| $X_{i,t-1}$*SIZE | + | -0.0279 | 0.0237 | -1.18 | 0.2402 |
| $X_{i,t-1}$*GROWTH | + | 0.3803 | 0.1624 | 2.34 | **0.0197** |
| $X_{i,t-1}$*LOSS | - | -1.2989 | 0.1318 | -9.85 | **<.0001** |

N=420 R-square = 0.5642

**Table 15 (Continued)**
**Multivariate Analysis of Earnings Persistence & CFO Financial Expertise (Model 1)**

Model: $X_{i,t} = \beta_0 + \beta_1 X_{i,t-1} + \beta_2 X_{i,t-1}*CPA_{it} + \beta_3 X_{i,t-1}*MBA_{it} + \beta_4 X_{i,t-1}*LENGTH_{it} + \beta_5 X_{i,t-1}*CFOAGE_{it} + B_6 X_{i,t-1}*BTE_{i,t} + \beta_7 X_{i,t-1}*CAP_{i,t} + \beta_8 X_{i,t-1}*SIZE_{i,t} + \beta_9 X_{i,t-1}*GROWTH_{,t} + \beta_{10} X_{i,t-1}*LOSS_{,t} + Fixed\ Effects + \varepsilon_{i,t}$

**Panel C: S&P 400 Firms**

| Indep. Var. | Expected Sign | Estimate | Std. Error | t Value | Pr > \|t |
|---|---|---|---|---|---|
| Intercept | ? | 0.0142 | 0.0045 | 3.13 | 0.0019 |
| $X_{i,t-1}$ | + | 0.3190 | 0.5448 | 0.59 | 0.5586 |
| $X_{i,t-1}$*CPA | ? | 0.0731 | 0.0544 | 1.35 | 0.1794 |
| $X_{i,t-1}$*MBA | ? | -.0568 | 0.0603 | -0.94 | 0.3471 |
| $X_{i,t-1}$*LENGTH | ? | -.0045 | 0.0074 | -0.60 | 0.5471 |
| $X_{i,t-1}$*CFOAGE | ? | -.0016 | 0.0051 | -0.31 | 0.7549 |
| $X_{i,t-1}$*BTE | + | 0.4394 | 0.1635 | 2.69 | **0.0076** |
| $X_{i,t-1}$*CAP | + | -.4878 | 0.5135 | -0.95 | 0.3429 |
| $X_{i,t-1}$*SIZE | + | 0.0847 | 0.0562 | 1.51 | 0.1325 |
| $X_{i,t-1}$*GROWTH | + | -.2025 | 0.1354 | -1.50 | 0.1356 |
| $X_{i,t-1}$*LOSS | - | -.0617 | 0.1518 | -0.41 | 0.6846 |

N = 326 R-square= 0.6460

**Panel D: S&P 600 Firms**

| Indep. Var. | Expected Sign | Estimate | Std. Error | t Value | Pr > \|t |
|---|---|---|---|---|---|
| Intercept | ? | 0.0082 | 0.0044 | 1.85 | 0.0645 |
| $X_{i,t-1}$ | + | 0.6401 | 0.3746 | 1.71 | 0.0881 |
| $X_{i,t-1}$*CPA | ? | 0.0894 | 0.0575 | 1.55 | 0.1207 |
| $X_{i,t-1}$*MBA | ? | -.1632 | 0.0679 | -2.40 | **0.0166** |
| $X_{i,t-1}$*LENGTH | ? | 0.0103 | 0.0077 | 1.34 | 0.1821 |
| $X_{i,t-1}$*CFOAGE | ? | -.0020 | 0.0047 | -0.42 | 0.6730 |
| $X_{i,t-1}$*BTE | + | -.6485 | 0.1436 | -4.52 | **<.0001** |
| $X_{i,t-1}$*CAP | + | -.3598 | 0.7182 | -0.50 | 0.6165 |
| $X_{i,t-1}$*SIZE | + | 0.0144 | 0.0488 | 0.30 | 0.7675 |
| $X_{i,t-1}$*GROWTH | + | 0.5989 | 0.1003 | 5.97 | **<.0001** |
| $X_{i,t-1}$*LOSS | - | -.4178 | 0.1189 | -3.52 | **0.0005** |

N=551 R-square = 0.4924

**Table 16**
**Multivariate Analysis of Persistence & CFO Financial Expertise (Model 2-6)**

Model: $X_{i,t} = \beta_0 + \beta_1 X_{i,t-1} + \beta_2 X_{i,t-1}*EXPERTISE_{it} + B_6 X_{i,t-1}*BTE_{i,t} + \beta_7 X_{i,t-1}*CAP_{i,t} + \beta_8 X_{i,t-1}*SIZE_{i,t} + \beta_9 X_{i,t-1}*GROWTH_{,t} + \beta_{10} X_{i,t-1}*LOSS_{,t} + Fixed\ Effects + \varepsilon_{i,t}$

| Independent variables | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|---|---|---|---|---|---|
| Intercept | 3.48 | 3.45 | 3.44 | 3.46 | 3.77 |
| | ***0.0005*** | ***0.0006*** | ***0.0006*** | ***0.0006*** | ***0.0002*** |
| $X_{i,t-1}$ | 5.14 | 6.11 | 5.72 | 4.49 | 4.81 |
| | ***<.0001*** | ***<.0001*** | ***<.0001*** | ***<.0001*** | ***<.0001*** |
| $X_{i,t-1}$*CPA | 2.2 | - | - | - | - |
| | ***0.0283*** | - | - | - | - |
| $X_{i,t-1}$*MBA | - | -1.18 | - | - | - |
| | - | *0.2394* | - | - | - |
| $X_{i,t-1}$*LENGTH | - | - | 1 | - | - |
| | - | - | *0.3194* | - | - |
| $X_{i,t-1}$*CFOAGE | - | - | - | -0.99 | -1.77 |
| | - | - | - | *0.3201* | *0.0764* |
| $X_{i,t-1}$*EXPERT | - | - | - | - | 3.16 |
| | - | - | - | - | ***0.0016*** |
| $X_{i,t-1}$*BTE | -1.53 | -1.5 | -1.47 | -1.51 | -1.21 |
| | *0.1258* | *0.1329* | *0.1428* | *0.1304* | *0.2281* |
| $X_{i,t-1}$*CAP | 4.47 | 4.43 | 4.53 | 4.35 | 4.30 |
| | ***<.0001*** | ***<.0001*** | ***<.0001*** | ***<.0001*** | ***<.0001*** |
| $X_{i,t-1}$*SIZE | 2.94 | 2.71 | 2.54 | 2.66 | 3.14 |
| | ***0.0033*** | ***0.0067*** | ***0.0112*** | ***0.0079*** | ***0.0039*** |
| $X_{i,t-1}$*GROWTH | 4.33 | 4.18 | 3.99 | 4.14 | 4.14 |
| | ***<.0001*** | ***<.0001*** | ***<.0001*** | ***<.0001*** | ***<.0001*** |
| $X_{i,t-1}$*LOSS | -9.07 | -9.12 | -9.1 | -9.27 | -8.99 |
| | ***<.0001*** | ***<.0001*** | ***<.0001*** | ***<.0001*** | ***<.0001*** |

**Table 17**
**Multivariate Analysis of Conservatism and CFO Financial Expertise (Model 1)**

$$X_i/P_{i,t-1} = \alpha_0 + \alpha_1 DR_i + \beta_0 R_i + \beta_1 R_i*DR_i + \gamma_0 CPA + \gamma_1 CPA*DR_i + \gamma_2 CPA* R_i + \gamma_3 CPA*R_i*DR_i + \delta_0 MBA + \delta_1 MBA*DR_i + \delta_2 MBA* R_i + \delta_3 MBA*R_i*DR_i + \varphi_0 LENGTH + \varphi_1 LENGTH*DR_i + \varphi_2 LENGTH* R_i + \varphi_3 LENGTH*R_i*DR_i + \mu_0 CFOAGE + \mu_1 CFOAGE*DR_i + \mu_2 CFOAGE*R_i + \mu_3 CFOAGE*R*DR_i + v_{i,t}$$

**Panel A: Pooled Regression (N = 1137)** **R-square = 0.1159**

| Independent Variables | Expected Signs | Estimate | Std Error | t Value | Pr > \|t\| |
|---|---|---|---|---|---|
| Intercept | ? | 0.0047 | 0.0257 | 0.18 | 0.8547 |
| DR | ? | -.0093 | 0.0498 | -0.19 | 0.8513 |
| R | + | 0.1170 | 0.0546 | 2.14 | **0.0324** |
| R*DR | + | -.2093 | 0.2176 | -0.96 | 0.3365 |
| CPA | ? | -.0085 | 0.0061 | -1.39 | 0.1652 |
| CPA*DR | ? | -.0142 | 0.0115 | -1.23 | 0.2195 |
| CPA*R | ? | 0.0115 | 0.0133 | 0.86 | 0.3899 |
| CPA*R*DR | ? | -.1015 | 0.0502 | -2.02 | **0.0434** |
| MBA | ? | 0.0117 | 0.0061 | 1.93 | **0.0538** |
| MBA*DR | ? | 0.0178 | 0.0118 | 1.51 | 0.1311 |
| MBA*R | ? | -.0445 | 0.0136 | -3.28 | **0.0011** |
| MBA*R*DR | ? | 0.2485 | 0.0532 | 4.67 | **<.0001** |
| LENGTH | ? | 0.0003 | 0.0008 | 0.44 | 0.6617 |
| LENGTH*DR | ? | 0.0018 | 0.0015 | 1.22 | 0.2230 |
| LENGTH*R | ? | -.0023 | 0.0016 | -1.47 | 0.1426 |
| LENGTH*R*DR | ? | 0.0066 | 0.0067 | 0.99 | 0.3214 |
| CFOAGE | ? | 0.0008 | 0.0005 | 1.55 | 0.1208 |
| CFOAGE*DR | ? | -.0001 | 0.0010 | -0.10 | 0.9173 |
| CFOAGE*R | ? | -.0016 | 0.0011 | -1.26 | 0.2077 |
| CFOAGE*R*DR | ? | 0.0042 | 0.0044 | 0.96 | 0.3378 |

**Table 17 (Continued)**
**Multivariate Analysis of Conservatism and CFO Financial Expertise (Model 1)**

$$X_i/P_{i,t-1} = \alpha_0 + \alpha_1 DR_i + \beta_0 R_i + \beta_1 R_i{*}DR_i + \gamma_0 CPA + \gamma_1 CPA{*}DR_i + \gamma_2 CPA{*}R_i + \gamma_3 CPA{*}R_i{*}DR_i + \delta_0 MBA + \delta_1 MBA{*}DR_i + \delta_2 MBA{*}R_i + \delta_3 MBA{*}R_i{*}DR_i + \varphi_0 LENGTH + \varphi_1 LENGTH{*}DR_i + \varphi_2 LENGTH{*}R_i + \varphi_3 LENGTH{*}R_i{*}DR_i + \mu_0 CFOAGE + \mu_1 CFOAGE{*}DR_i + \mu_2 CFOAGE{*}R_i + \mu_3 CFOAGE{*}R{*}DR_i + v_{i,t}$$

| **Panel B: S&P 500 Firms (N=353)** | | **R-square = 0.1175** | | | |
|---|---|---|---|---|---|
| Independent Variables | Expected Signs | Estimate | Std Error | t Value | Pr > \|t\| |
| Intercept | ? | 0.0631 | 0.0596 | 1.06 | 0.2905 |
| DR | ? | -.1114 | 0.1235 | -0.90 | 0.3676 |
| R | + | -.1560 | 0.1527 | -1.02 | 0.3078 |
| R*DR | + | -.5153 | 0.7148 | -0.72 | 0.4714 |
| CPA | ? | -.0130 | 0.0140 | -0.93 | 0.3544 |
| CPA*DR | ? | 0.0027 | 0.0287 | 0.09 | 0.9257 |
| CPA*R | ? | 0.0341 | 0.0376 | 0.91 | 0.3652 |
| CPA*R*DR | ? | -.0437 | 0.1648 | -0.26 | 0.7912 |
| MBA | ? | 0.0170 | 0.0119 | 1.43 | 0.1546 |
| MBA*DR | ? | 0.0452 | 0.0256 | 1.77 | 0.0776 |
| MBA*R | ? | -.0689 | 0.0325 | -2.12 | **0.0347** |
| MBA*R*DR | ? | 0.5073 | 0.1382 | 3.67 | **0.0003** |
| LENGTH | ? | 0.0001 | 0.0015 | 0.07 | 0.9471 |
| LENGTH*DR | ? | 0.0047 | 0.0036 | 1.30 | 0.1946 |
| LENGTH*R | ? | -.0025 | 0.0045 | -0.55 | 0.5808 |
| LENGTH*R*DR | ? | 0.0084 | 0.0182 | 0.46 | 0.6452 |
| CFOAGE | ? | -.0002 | 0.0011 | -0.20 | 0.8397 |
| CFOAGE*DR | ? | 0.0011 | 0.0024 | 0.45 | 0.6497 |
| CFOAGE*R | ? | 0.0039 | 0.0029 | 1.35 | 0.1785 |
| CFOAGE*R*DR | ? | 0.0067 | 0.0132 | 0.51 | 0.6101 |

**Table 17 (Continued)**
**Multivariate Analysis of Conservatism and CFO Financial Expertise (Model 1)**

$$X_i/P_{i,t-1} = \alpha_0 + \alpha_1 DR_i + \beta_0 R_i + \beta_1 R_i{*}DR_i + \gamma_0 CPA + \gamma_1 CPA{*}DR_i + \gamma_2 CPA{*}R_i + \gamma_3 CPA{*}R_i{*}DR_i + \delta_0 MBA + \delta_1 MBA{*}DR_i + \delta_2 MBA{*}R_i + \delta_3 MBA{*}R_i{*}DR_i + \varphi_0 LENGTH + \varphi_1 LENGTH{*}DR_i + \varphi_2 LENGTH{*}R_i + \varphi_3 LENGTH{*}R_i{*}DR_i + \mu_0 CFOAGE + \mu_1 CFOAGE{*}DR_i + \mu_2 CFOAGE{*}R_i + \mu_3 CFOAGE{*}R{*}DR_i + v_{i,t}$$

**Panel C: S&P 400 Firms (N=302)** **R-square = 0.0927**

| Independent Variables | Expected Signs | Estimate | Std Error | t Value | Pr > \|t\| |
|---|---|---|---|---|---|
| Intercept | ? | 0.0360 | 0.0387 | 0.93 | 0.3532 |
| DR | ? | -.0515 | 0.0721 | -0.71 | 0.4757 |
| R | + | -.0137 | 0.0904 | -0.15 | 0.8796 |
| R*DR | + | -.0768 | 0.4184 | -0.18 | 0.8545 |
| CPA | ? | -.0042 | 0.0092 | -0.46 | 0.6464 |
| CPA*DR | ? | -.0057 | 0.0174 | -0.33 | 0.7445 |
| CPA*R | ? | 0.0223 | 0.0231 | 0.97 | 0.3340 |
| CPA*R*DR | ? | -.0929 | 0.0851 | -1.09 | 0.2757 |
| MBA | ? | -.0066 | 0.0101 | -0.65 | 0.5137 |
| MBA*DR | ? | -.0028 | 0.0182 | -0.15 | 0.8800 |
| MBA*R | ? | -.0063 | 0.0267 | -0.24 | 0.8124 |
| MBA*R*DR | ? | -.0165 | 0.0866 | -0.19 | 0.8494 |
| LENGTH | ? | -.0023 | 0.0013 | -1.79 | **0.0751** |
| LENGTH*DR | ? | 0.0042 | 0.0029 | 1.45 | 0.1472 |
| LENGTH*R | ? | 0.0074 | 0.0028 | 2.66 | **0.0082** |
| LENGTH*R*DR | ? | -.0004 | 0.0168 | -0.03 | 0.9799 |
| CFOAGE | ? | 0.0006 | 0.0008 | 0.75 | 0.4512 |
| CFOAGE*DR | ? | 0.0004 | 0.0014 | 0.26 | 0.7938 |
| CFOAGE*R | ? | -.0007 | 0.0019 | -0.39 | 0.6932 |
| CFOAGE*R*DR | ? | 0.0032 | 0.0084 | 0.38 | 0.7008 |

**Table 17 (Continued)**
**Multivariate Analysis of Conservatism and CFO Financial Expertise (Model 1)**

$$X_i/P_{i,t-1} = \alpha_0 + \alpha_1 DR_i + \beta_0 R_i + \beta_1 R_i{*}DR_i + \gamma_0 CPA + \gamma_1 CPA{*}DR_i + \gamma_2 CPA{*}R_i + \gamma_3 CPA{*}R_i{*}DR_i + \delta_0 MBA + \delta_1 MBA{*}DR_i + \delta_2 MBA{*}R_i + \delta_3 MBA{*}R_i{*}DR_i + \varphi_0 LENGTH + \varphi_1 LENGTH{*}DR_i + \varphi_2 LENGTH{*}R_i + \varphi_3 LENGTH{*}R_i{*}DR_i + \mu_0 CFOAGE + \mu_1 CFOAGE{*}DR_i + \mu_2 CFOAGE{*}R_i + \mu_3 CFOAGE{*}R{*}DR_i + v_{i,t}$$

**Panel D: S&P 600 Firms (N=483)** **R-square = 0.1953**

| Independent Variables | Expected Signs | Estimate | Std Error | t Value | Pr > \|t\| |
|---|---|---|---|---|---|
| Intercept | ? | -.0096 | 0.0404 | -0.24 | 0.8128 |
| DR | ? | 0.0030 | 0.0802 | 0.04 | 0.9698 |
| R | + | 0.2177 | 0.0766 | 2.84 | **0.0047** |
| R*DR | + | -.2898 | 0.3036 | -0.95 | 0.3403 |
| CPA | ? | -.0134 | 0.0098 | -1.37 | 0.1726 |
| CPA*DR | ? | -.0127 | 0.0184 | -0.69 | 0.4928 |
| CPA*R | ? | 0.0087 | 0.0188 | 0.46 | 0.6453 |
| CPA*R*DR | ? | -.0939 | 0.0728 | -1.29 | 0.1975 |
| MBA | ? | 0.0182 | 0.0107 | 1.71 | **0.0874** |
| MBA*DR | ? | 0.0059 | 0.0207 | 0.29 | 0.7753 |
| MBA*R | ? | -.0503 | 0.0192 | -2.63 | **0.0089** |
| MBA*R*DR | ? | 0.2467 | 0.0814 | 3.03 | **0.0026** |
| LENGTH | ? | 0.0019 | 0.0013 | 1.48 | 0.1402 |
| LENGTH*DR | ? | -.0008 | 0.0021 | -0.35 | 0.7236 |
| LENGTH*R | ? | -.0059 | 0.0023 | -2.56 | **0.0106** |
| LENGTH*R*DR | ? | 0.0070 | 0.0084 | 0.83 | 0.4075 |
| CFOAGE | ? | 0.0009 | 0.0008 | 1.03 | 0.3014 |
| CFOAGE*DR | ? | 0.0000 | 0.0016 | 0.02 | 0.9837 |
| CFOAGE*R | ? | -.00269 | 0.0015 | -1.75 | **0.0811** |
| CFOAGE*R*DR | ? | 0.0060 | 0.0061 | 0.97 | 0.3326 |

**Table 18**
**Multivariate Analysis of Conservatism and CFO Financial Expertise**

$X_i/P_{i,t-1} = \alpha_0 + \alpha_1 DR_i + \beta_0 R_i + \beta_1 R_i * DR_{i.} + \gamma_0 EXPERTISE + \gamma_1 EXPERTISE * DR_i + \gamma_2 EXPERTISE * R_i + \gamma_3 EXPERTISE * R_i * DR_i + v_{i,t}$

| | **Model 2** | | **Model 3** | | **Model 4** | | **Model 5** | | **Model 6** | |
|---|---|---|---|---|---|---|---|---|---|---|
| Intercept | 14.98 | <.0001 | - | - | - | - | - | - | - | - |
| DR | 0.46 | 0.6435 | - | - | - | - | - | - | - | - |
| R | 0.79 | 0.429 | - | - | - | - | - | - | - | - |
| R*DR | 4.58 | <.0001 | - | - | - | - | - | - | - | - |
| CPA | -2.2 | 0.0277 | - | - | - | - | - | - | - | - |
| CPA*DR | -1.47 | 0.1413 | - | - | - | - | - | - | - | - |
| CPA*R | **1.99** | **0.0473** | - | - | - | - | - | - | - | - |
| CPA*R*DR | **-2.9** | **0.0038** | - | - | - | - | - | - | - | - |
| Intercept | - | - | 11.55 | <.0001 | - | - | - | - | - | - |
| DR | - | - | -1.24 | 0.2142 | - | - | - | - | - | - |
| R | - | - | 4.63 | <.0001 | - | - | - | - | - | - |
| DR*R | - | - | 0 | 0.9988 | - | - | - | - | - | - |
| MBA | - | - | 2.66 | 0.0078 | - | - | - | - | - | - |
| MBA*DR | - | - | 1.52 | 0.1295 | - | - | - | - | - | - |
| MBA*R | - | - | **-3.98** | **<.0001** | - | - | - | - | - | - |
| MBA*R*DR | - | - | **5.09** | **<.0001** | - | - | - | - | - | - |
| Intercept | - | - | - | - | 7.59 | <.0001 | - | - | - | - |
| DR | - | - | - | - | -1.54 | 0.1239 | - | - | - | - |
| R | - | - | - | - | 3.08 | 0.0021 | - | - | - | - |
| DR*R | - | - | - | - | 0.68 | 0.4971 | - | - | - | - |
| LENGTH | - | - | - | - | 1.12 | 0.2621 | - | - | - | - |
| LENGTH*DR | - | - | - | - | 1.25 | 0.211 | - | - | - | - |
| LENGTH*R | - | - | - | - | **-1.95** | **0.0519** | - | - | - | - |
| LENGTH*R*DR | - | - | - | - | 1.16 | 0.2448 | - | - | - | - |
| | - | - | - | - | - | - | | | | |
| Intercept | - | - | - | - | - | - | -0.6 | 0.5481 | - | - |
| DR | - | - | - | - | - | - | -0.48 | 0.6328 | - | - |
| R | - | - | - | - | - | - | 3.35 | 0.0008 | - | - |
| DR*R | - | - | - | - | - | - | -1.78 | 0.0751 | - | - |
| CFOAGE | - | - | - | - | - | - | 2.63 | 0.0087 | - | - |
| CFOAGE*DR | - | - | - | - | - | - | 0.4 | 0.6868 | - | - |
| CFOAGE*R | - | - | - | - | - | - | **-3.03** | **0.0025** | - | - |
| CFOAGE*R*DR | - | - | - | - | - | - | **2.18** | **0.0293** | - | - |
| Intercept | - | - | - | - | - | - | - | - | 16.59 | <.0001 |
| DR | - | - | - | - | - | - | - | - | -1.06 | 0.2888 |
| R | - | - | - | - | - | - | - | - | 2.61 | 0.0093 |
| DR*R | - | - | - | - | - | - | - | - | 3.04 | 0.0024 |
| EXPERT | - | - | - | - | - | - | - | - | -0.4 | 0.691 |
| DR*EXPERT | - | - | - | - | - | - | - | - | 1.15 | 0.2519 |
| R*EXPERT | - | - | - | - | - | - | - | - | 0.11 | 0.9134 |
| DR*R*EXPERT | - | - | - | - | - | - | - | - | 1.52 | 0.1277 |

**Table 19**
**Multivariate Analysis of Earnings Informativeness and CFO Financial Expertise**

Model: $RET_{it} = \delta_0 + \delta_1 NI_{it} + \delta_2 NI_{it}*CPA_{it} + \delta_3 NI_{it}*MBA_{it} + \delta_4 NI_{it}*LENGTH_{it} + \delta_5 NI_{it}* CFOAGE_{it} + \delta_6 NI_{it}* SIZE_{it} + \delta_7 NI_{it}*LEV_{it} + \delta_8 NI_{it}*MB_{it} + Fixed\ effects + \varepsilon_{it}$

**Panel A: Pooled Regression**

| Independent Variables | Expected Signs | Estimate | Std Error | t Value | Pr > \|t\| |
|---|---|---|---|---|---|
| Intercept | ? | -0.0248 | 0.0197 | -1.26 | 0.2087 |
| NI | + | 8.3568 | 1.4472 | 5.77 | **<.0001** |
| NI*CPA | ? | 0.4958 | 0.2552 | 1.94 | **0.0522** |
| NI*MBA | ? | -0.4932 | 0.2515 | -1.96 | **0.0501** |
| NI*LENGTH | ? | -0.0189 | 0.0316 | -0.60 | 0.5495 |
| NI*CFOAGE | ? | 0.0164 | 0.0228 | 0.72 | 0.4714 |
| NI*SIZE | - | -0.3822 | 0.1051 | -3.64 | **0.0003** |
| NI*BM | - | -3.2310 | 0.5655 | -5.71 | **<.0001** |
| NI*LEV | - | -2.0334 | 0.8006 | -2.54 | **0.0112** |
| NI*AUD | + | -1.0854 | 0.7093 | -1.53 | 0.1262 |
| NI*LOSS | - | -2.5546 | 0.5179 | -4.93 | **<.0001** |

N=1312 R-square=0.1517

**Panel B: S&P 500 Firms**

| Independent Variables | Expected Signs | Estimate | Std Error | t Value | Pr > \|t\| |
|---|---|---|---|---|---|
| Intercept | ? | -0.0112 | 0.0340 | -0.33 | 0.7419 |
| NI | + | 6.9925 | 3.7447 | 1.87 | **0.0626** |
| NI*CPA | ? | 0.9690 | 0.4882 | 1.98 | **0.0479** |
| NI*MBA | ? | 0.0634 | 0.4150 | 0.15 | 0.8787 |
| NI*LENGTH | ? | -0.1007 | 0.0554 | -1.82 | **0.0697** |
| NI*CFOAGE | ? | 0.0209 | 0.0407 | 0.51 | 0.6068 |
| NI*SIZE | - | -0.2385 | 0.2000 | -1.19 | 0.2338 |
| NI*BM | - | -4.4765 | 1.1783 | -3.80 | **0.0002** |
| NI*LEV | - | -4.4884 | 1.3817 | -3.25 | **0.0013** |
| NI*AUD | + | 1.0534 | 2.5410 | 0.41 | 0.6787 |
| NI*LOSS | - | -2.5440 | 1.2578 | -2.02 | **0.0438** |

N = 421 R-square = 0.1571

**Table 19 (Continued)**
**Multivariate Analysis of Earnings Informativeness & CFO Financial Expertise**

Model: $RET_{it} = \delta_0 + \delta_1 NI_{it} + \delta_2 NI_{it}*CPA_{it} + \delta_3 NI_{it}*MBA_{it} + \delta_4 NI_{it}*LENGTH_{it} + \delta_5 NI_{it}* CFOAGE_{it} + \delta_6 NI_{it}* SIZE_{it} + \delta_7 NI_{it}*LEV_{it} + \delta_8 NI_{it}*MB_{it} + Fixed\ effects + \varepsilon_{it}$

**Panel C: S&P 400 Firms**

| Independent Variables | Expected Signs | Estimate | Std Error | t Value | Pr > \|t\| |
|---|---|---|---|---|---|
| Intercept | ? | -0.0402 | 0.0423 | -0.95 | 0.3428 |
| NI | + | 3.6933 | 4.3024 | 0.86 | 0.3913 |
| NI*CPA | ? | -0.1719 | 0.5362 | -0.32 | 0.7487 |
| NI*MBA | ? | -0.8499 | 0.6184 | -1.37 | 0.1703 |
| NI*LENGTH | ? | 0.0139 | 0.0677 | 0.20 | 0.8378 |
| NI*CFOAGE | ? | 0.0445 | 0.0494 | 0.90 | 0.3686 |
| NI*SIZE | - | 0.2892 | 0.4931 | 0.59 | 0.5579 |
| NI*BM | - | -5.4627 | 1.7439 | -3.13 | **0.0019** |
| NI*LEV | - | -2.5444 | 1.7464 | -1.46 | 0.1461 |
| NI*AUD | + | -1.9760 | 1.6574 | -1.19 | 0.2340 |
| NI*LOSS | - | -3.4609 | 1.1898 | -2.91 | **0.0039** |

N=341 R-square=0.1345

**Panel C: S&P 600 Firms**

| Independent Variables | Expected Signs | Estimate | Std Error | t Value | Pr > \|t\| |
|---|---|---|---|---|---|
| Intercept | ? | -0.0341 | 0.0332 | -1.03 | 0.3042 |
| NI | + | 9.3335 | 2.5775 | 3.62 | **0.0003** |
| NI*CPA | ? | 0.7291 | 0.4169 | 1.75 | **0.0809** |
| NI*MBA | ? | -1.0178 | 0.4422 | -2.30 | **0.0218** |
| NI*LENGTH | ? | -0.0184 | 0.0530 | -0.35 | 0.7288 |
| NI*CFOAGE | ? | 0.0059 | 0.0368 | 0.16 | 0.8720 |
| NI*SIZE | - | -0.5113 | 0.3398 | -1.50 | 0.1329 |
| NI*BM | - | -3.3445 | 0.9224 | -3.63 | **0.0003** |
| NI*LEV | - | -0.8216 | 1.5188 | -0.54 | 0.5888 |
| NI*AUD | + | -1.0607 | 0.9386 | -1.13 | 0.2590 |
| NI*LOSS | - | -2.4826 | 0.9224 | -2.69 | **0.0073** |

N=550 R-square = 0.1920

**Table 20**
**Multivariate Analysis of Informativeness & CFO Financial Expertise (Model 2-6)**

Model: $RET_{it} = \delta_0 + \delta_1 NI_{it} + \delta_2 NI_{it} * Expertise_{it} + \delta_3 NI_{it} * SIZE_{it} + \delta_4 NI_{it} * LEV_{it} + \delta_5 NI_{it} * MB_{it} + Fixed\ effects + \varepsilon_{it}$

**Pooled Regression**

| Independent Variables | Expected Signs | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|---|---|---|---|---|---|---|
| Intercept | ? | -1.26 | -1.24 | -1.28 | -1.28 | -1.37 |
| | | 0.2063 | 0.2153 | 0.2 | 0.2008 | 0.1722 |
| NI | + | **8.62** | **9.29** | **9.2** | **6.76** | **6.80** |
| | | **<.0001** | **<.0001** | **<.0001** | **<.0001** | **<.0001** |
| NI*CPA | ? | **1.98** | - | - | - | - |
| | | **0.0483** | - | - | - | - |
| NI* MBA | ? | - | **-1.96** | - | - | - |
| | | - | **0.0507** | - | - | - |
| NI*LENGTH | ? | - | - | -0.32 | - | - |
| | | - | - | 0.7477 | - | - |
| NI*CFOAGE | ? | - | - | - | 0.17 | 0.27 |
| | | - | - | - | 0.8659 | 0.7899 |
| NI*EXPERT | ? | - | - | - | - | **-1.80** |
| | | - | - | - | - | **0.0714** |
| NI*SIZE | - | **-3.83** | **-4.08** | **-4.38** | **-4.35** | **-4.53** |
| | | **0.0001** | **<.0001** | **<.0001** | **<.0001** | **<.0001** |
| NI*BM | - | **-5.7** | **-5.64** | **-5.62** | **-5.63** | **-5.48** |
| | | **<.0001** | **<.0001** | **<.0001** | **<.0001** | **<.0001** |
| NI*LEV | - | **-2.63** | **-2.3** | **-2.43** | **-2.43** | **-2.36** |
| | | **0.0085** | **0.0215** | **0.0152** | **0.015** | **0.0185** |
| NI*AUD | + | -1.54 | -1.62 | **-1.68** | **-1.65** | **-1.65** |
| | | 0.1244 | 0.1053 | **0.0926** | **0.0984** | **0.0995** |
| NI*LOSS | - | **-5.08** | **-5.14** | **-5.21** | **-5.11** | **-5.27** |
| | | **<.0001** | **<.0001** | **<.0001** | **<.0001** | **<.0001** |

**Table 21**
**Summary of the Multivariate Regression Analyses on the Association between Earnings Quality and CFO Financial Expertise**

| VARIABLES | CPA | MBA | LENGTH | AGE | EXPERT |
|---|---|---|---|---|---|
| **Accruals Quality:** | | | | | |
| Overall | NS | NS | NS | NS | NS |
| S&P 500 | NS | NS | NS | + | N/A |
| S&P 400 | NS | NS | + | NS | N/A |
| S&P 600 | NS | NS | NS | NS | N/A |
| **Persistence:** | | | | | |
| Overall | + | NS | NS | NS | + |
| S&P 500 | NS | NS | NS | NS | N/A |
| S&P 400 | NS | NS | NS | NS | N/A |
| S&P 600 | NS | - | NS | NS | N/A |
| **Conservatism:** | | | | | |
| Overall | - | + | NS | NS | NS |
| S&P 500 | NS | + | NS | NS | N/A |
| S&P 400 | NS | NS | - | NS | N/A |
| S&P 600 | NS | + | + | + | N/A |
| **Informativeness:** | | | | | |
| Overall | + | - | NS | NS | - |
| S&P 500 | + | NS | - | NS | N/A |
| S&P 400 | NS | NS | NS | NS | N/A |
| S&P 600 | + | - | NS | NS | N/A |

Notes:
These are the results based on equations [2], [4], [6], and [8] presented in Chapter 3.

NS = no significant association between earnings quality and CFO financial expertise
\+ = a positive association between earnings quality and CFO financial expertise
\- = a negative association between earnings quality and CFO financial expertise.
N/A = not available

# APPENDICES

## Appendix A. List of Firms in the Initial Sample

*Panel A: By Industry Classification*

| No. | SIC Codes | Industry | # of Firms |
|---|---|---|---|
| 1. | *07* | Agricultural Services | 1 |
| 2. | *10* | Metal Mining | 3 |
| 3. | *12* | Coal Mining | 3 |
| 4. | *13* | Oil and Gas Extraction | 44 |
| 5. | *14* | Nonmetallic Minerals (except fuels) | 4 |
| 6. | *15* | General Building Contractors | 14 |
| 7. | *16* | Heavy Construction, Ex. Building | 4 |
| 8. | *17* | Special Trade Contractors | 3 |
| 9. | *20* | Food and Kindred | 36 |
| 10. | *21* | Tobacco Products | 3 |
| 11. | *22* | Textile Mill Products | 3 |
| 12. | *23* | Apparel & Other Textile Products | 11 |
| 13. | *24* | Lumber & Wood Products | 8 |
| 14. | *25* | Furniture & Allied Products | 10 |
| 15. | *26* | Paper & Allied Products | 23 |
| 16. | *27* | Printing and Publishing | 23 |
| 17. | *28* | Chemicals and Allied Products | 96 |
| 18. | *29* | Petroleum and Coal Products | 13 |
| 19. | *30* | Rubber & Misc. Plastic Products | 12 |
| 20. | *31* | Leather and Leather Products | 6 |
| 21. | *32* | Stone, Clay, and Glass Products | 6 |
| 22. | *33* | Primary Metal Industries | 24 |
| 23. | *34* | Fabricated Metal Products | 19 |
| 24. | *35* | Industrial Machinery Equipment | 77 |
| 25. | *36* | Electronic & Other Electronic Equipment | 120 |
| 26. | *37* | Transportation Equipment | 41 |
| 27. | *38* | Instruments & Related Products | 83 |
| 28. | *39* | Misc. Manufacturing Industries | 13 |
| 29. | *50* | Wholesale Trade-Durable Goods | 35 |
| 30. | *51* | Wholesale Trade-Nondurable Goods | 12 |
| 31. | *52* | Building Materials & Garden Supplies | 4 |
| 32. | *53* | General Merchandise Stores | 15 |
| 33. | *54* | Foods Stores | 6 |
| 34. | *55* | Automotive Dealers & Service Stations | 9 |
| 35. | *56* | Apparel & Accessory Stores | 27 |
| 36. | *57* | Furniture & Home Furnishings Stores | 10 |
| 37. | *58* | Eating & Drinking Places | 24 |
| 38. | *59* | Misc. Retail | 23 |

## Appendix A. List of Firms in the Sample (Continued)

*Panel A: By Industry Classification*

| No. | | Industry | # of Firms |
|---|---|---|---|
| 39. | *70* | Hotel & Other Lodging Places | 3 |
| 40. | *72* | Personal Services | 5 |
| 41. | *73* | Business Services | 135 |
| 42. | *75* | Auto Repair, Services, and Parking | 4 |
| 43. | *78* | Motion Pictures | 3 |
| 44. | *79* | Amusement & Recreation Services | 9 |
| 45. | *80* | Health Services | 24 |
| 46. | *82* | Educational Services | 7 |
| 47. | *83* | Social Services | 1 |
| 48. | *87* | Engineering & Management Services | 18 |
| 49. | *99* | Miscellaneous | 4 |
| | Total | | 1,081 |

*Panel B: By S&P Classification*

| No. | S&P Classification | # of Unique Firms | Percentage |
|---|---|---|---|
| 1. | S&P 500 Firms | 348 | 32% |
| 2. | S&P 400 Firms | 282 | 26% |
| 3. | S&P 600 Firms | 451 | 42% |
| | Total | 1,081 | 100% |

## APPENDIX B. List of Academic Institutions where CFOs among S&P 1500 Firms Attended And Obtained their Advanced Degree in Business

| No. | Name of the Institutions | # of CFOs | No. | Name of the Institutions | # of CFOs |
|---|---|---|---|---|---|
| 1. | University of Chicago | 34 | 36. | Georgia State University | 3 |
| 2. | Harvard University | 34 | 37. | University of Kansas | 3 |
| 3. | University of Pennsylvania | 30 | 38. | Lehigh University | 3 |
| 4. | Northwestern University | 26 | 39. | Marquette University | 3 |
| 5. | University of Michigan | 12 | 40. | Penn State University | 3 |
| 6. | USC | 12 | 41. | Rutgers University | 3 |
| 7. | Columbia University | 11 | 42. | SMU | 3 |
| 8. | Stanford University | 11 | 43. | Tulane University | 3 |
| 9. | University of Virginia | 10 | 44. | UC Berkeley | 3 |
| 10. | Dartmouth College | 8 | 45. | University of Washington | 3 |
| 11. | UCLA | 8 | 46. | University of Akron | 2 |
| 12. | Duke University | 7 | 47. | University of Arizona | 2 |
| 13. | New York University | 7 | 48. | Arizona State University | 2 |
| 14. | Santa Clara University | 7 | 49. | Cal State University | 2 |
| 15. | MIT | 6 | 50. | Carnegie Mellon University | 2 |
| 16. | Ohio State University | 6 | 51. | University of Cincinnati | 2 |
| 17. | Cornell University | 5 | 52. | University of Colorado | 2 |
| 18. | Golden Gate University | 5 | 53. | University of Connecticut | 2 |
| 19. | Michigan State University | 5 | 54. | University of Denver | 2 |
| 20. | University of Texas Austin | 5 | 55. | Drexel University | 2 |
| 21. | University of North Carolina | 5 | 56. | Emory University | 2 |
| 22. | Babson College | 4 | 57. | Fordham University | 2 |
| 23. | Boston University | 4 | 58. | George Mason University | 2 |
| 24. | Case Western Reserve | 4 | 59. | University of Houston | 2 |
| 25. | University of Illinois | 4 | 60. | Indian Institute of Mgmt | 2 |
| 26. | Indiana University | 4 | 61. | University of Iowa | 2 |
| 27. | University of Minnesota | 4 | 62. | University of Kentucky | 2 |
| 28. | Northeastern University | 4 | 63. | Loyola University Chicago | 2 |
| 29. | Pittsburgh University | 4 | 64. | Northern Illinois University | 2 |
| 30. | Vanderbilt University | 4 | 65. | University of Notre Dame | 2 |
| 31. | University of Wisconsin | 4 | 66. | Pepperdine University | 2 |
| 32. | Xavier University | 4 | 67. | Rice University | 2 |
| 33. | Brigham Young University | 3 | 68. | University of St. Thomas | 2 |
| 34. | DePaul University | 3 | 69. | SUNY | 2 |
| 35. | University of Detroit | 3 | 70. | Syracuse University | 2 |

**APPENDIX B. List of Academic Institutions where CFOs among S&P 1500 Firms Attended And Obtained their Advanced Degree in Business (Continued)**

| No. | Name of Institutions | # of CFOs | No. | Name of Institutions | # of CFOs |
|---|---|---|---|---|---|
| 71. | Texas A&M University | 2 | 107. | NYE | 1 |
| 72. | Thunderbird University | 2 | 108. | University of Ohio | 1 |
| 73. | University of Utah | 2 | 109. | University of Oklahoma | 1 |
| 74. | Virginia Commonwealth | 2 | 110. | Passau, Germany | 1 |
| 75. | Yale University | 2 | 111. | University of Providence | 1 |
| 76. | Aberdeen University | 1 | 112. | University of Rochester | 1 |
| 77. | Adelphi University | 1 | 113. | Roosevelt University | 1 |
| 78. | American U. | 1 | 114. | Saginaw Valley St. Coll. | 1 |
| 79. | Baldwin Wallace | 1 | 115. | Saint Mary Coll. | 1 |
| 80. | Bentley College | 1 | 116. | San Jose University | 1 |
| 81. | Bowling Green St. | 1 | 117. | Seattle University | 1 |
| 82. | Bryant University | 1 | 118. | Seton Hall University | 1 |
| 83. | Carolina Greensboro | 1 | 119. | South Dakota | 1 |
| 84. | Catholic U. of America | 1 | 120. | Southern Illinois | 1 |
| 85. | Claremont Grad Sch. | 1 | 121. | St. John's U. | 1 |
| 86. | Clemson University | 1 | 122. | St. Louis | 1 |
| 87. | Coll. William & Mary | 1 | 123. | Stanford/Vanderbilt | 1 |
| 88. | Ctrl. State U. Oklahoma | 1 | 124. | Stetson University | 1 |
| 89. | University of Dayton | 1 | 125. | Stevens Inst. Of Tech | 1 |
| 90. | Drucker School of Mgmt | 1 | 126. | Suffolk University | 1 |
| 91. | Eastern College | 1 | 127. | SUNY Albany | 1 |
| 92. | Farleigh Dickinson Univ. | 1 | 128. | University of Tennessee | 1 |
| 93. | Florida Atlantic University | 1 | 129. | TN at Chattanooga | 1 |
| 94. | Florida, Gainesville | 1 | 130. | University of Toronto | 1 |
| 95. | Georgetown University | 1 | 131. | University of Tulsa | 1 |
| 96. | Harvard Coll. | 1 | 132. | UNC, Charlotte | 1 |
| 97. | Houston Baptist | 1 | 133. | UNC, Wilmington | 1 |
| 98. | Indianapolis | 1 | 134. | Union Coll. | 1 |
| 99. | Louisiana Tech. University | 1 | 135. | Virginia Tech University | 1 |
| 100. | Loyola University | 1 | 136. | Washington, St. Louis | 1 |
| 101. | Loyola Coll. | 1 | 137. | Wisconsin at Eau Claire | 1 |
| 102. | University of Massachusetts | 1 | 138. | Unknown | 6 |
| 103. | Univ. of Miami | 1 | | **Total** | **465** |
| 104. | Univ. of Nebraska | 1 | | | |
| 105. | Univ. of Nebraska, Omaha | 1 | | | |
| 106. | Univ. of Nevada, Reno | 1 | | | |

VITA

Fuad Rakhman

Candidate for the Degree of

Doctor of Philosophy

Dissertation: EARNINGS QUALITY AND CFO FINANCIAL EXPERTISE

Major Field: Business Administration

Biographical:

Personal Data: Born in Banjarnegara, Indonesia, October 19, 1977, the son of Mushonif and Siti Muslichah; married to Tesa Devina.

Education: Received a Bachelor Degree in Accounting from Gadjah Mada University, Indonesia, in November 1999; received a Master of Science Degree in Accounting from Oklahoma State University, in December 2002; completed the requirements for the Degree of Doctor of Philosophy in Accounting at Oklahoma State University, in July 2009.

Professional Memberships: American Accounting Association

Name: Fuad Rakhman Date of Degree: July, 2009

Institution: Oklahoma State University Location: Stillwater, Oklahoma

Title of Study: EARNINGS QUALITY AND CFO FINANCIAL EXPERTISE

Pages in Study: 100 Candidate for the Degree of Doctor of Philosophy

Major Field: Business Administration - Accounting

Scope and Method of Study: Financial reporting is a central issue in the capital markets. As financial reporting is mainly the responsibility of chief financial officers (CFOs), the characteristics of a CFO potentially affect the quality of financial reporting in general, and the quality of earnings in particular. This study investigates if there is an association between earnings quality and CFO financial expertise. Using a sample of the S&P 1500 firms in the year 2005, this study examines if the presence of CFOs with a CPA license, an advanced degree in business, and more CFO experience affects the attributes of earnings.

Findings and Conclusions: This study finds that when hiring a CFO, larger firms put more emphasize on the importance of an advanced degree in business, while smaller firms are more likely to hire a CFO with a CPA license. Recently appointed CFOs are more likely to be a CPA and/or have an advanced degree in business, confirming claims that following the Sarbanes-Oxley Act (SOX), the recent trend is for public firms to hire CFOs with better financial expertise. CFOs with a CPA tend to be younger than those without the certification. Among the expertise variables, CPA is the one with the strongest effects on earnings quality. The results show that the variable CPA improves earnings persistence and earnings informativeness, and reduces earnings conservatism.

ADVISER'S APPROVAL: Dr. Don Herrmann