Earnings Quality Determinants:
Literature Review and Research Opportunities

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Abstract

This paper aimed at reviewing the literature of earnings quality and its determinant, and establishing a base for future empirical research in this area.

The paper reviewed the literature on the determinants of earnings quality. The determinants were divided into five categories: 1) firm characteristics, 2) financial reporting practices, 3) governance and controls, 4) auditors, 5) equity market incentives.

The study found that the earnings quality determinants do not have the same effect or relationship with all the proxies that measure earnings quality.

As part of this review process, the study noted some areas of research that have received relatively little attention; the researchers believe that further research on these topics would substantially enhance our understanding of earnings quality.

Introduction

Based on the Statement of Financial Accounting Concepts (SFAC) No. 1, we define *earnings quality* as follows:
Higher quality earnings provide more information about the features of a firm's financial performance that is relevant to a specific decision made by a specific decision-maker.

There are three features to note about our definition of earnings quality. First, earnings quality is conditional on the decision-relevance of the information. Thus, under our definition, the term "earnings quality" alone is meaningless; earnings quality is defined only in the context of a specific decision model. Second, the quality of a reported earnings number depends on whether it is informative about the firm's financial *performance*, many aspects of which are unobservable. Third, earnings quality is jointly determined by the relevance of underlying financial performance to the decision and by the ability of the accounting system to measure performance. This definition of earnings quality suggests that quality could be evaluated with respect to *any* decision that depends on an informative representation of financial performance. It does not constrain quality to imply decision usefulness in the context of equity valuation decisions. (Dichev et al., 2008)

This paper aims at reviewing the literature of earnings quality, specifically its determinants, and establishes a base for future empirical research in this area.

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The determinants of earnings quality

In this section, a review the literature on the determinants of earnings quality was conducted. There are five categories of determinants to be discussed: 1) firm characteristics, 2) financial reporting practices, 3) governance and controls, 4) auditors, 5) equity market incentives. Many of the papers were built as studies discussing the determinants of earnings quality that is examined. The purpose of this discussion is threefold. First, it provides determinant-specific conclusions and insights. Second, it provides a convenient reference tool for readers who are interested in reviewing the results related to a specific determinant of earnings quality. Finally, establish a base for future research areas.

1. Firm characteristics as determinants of earnings quality

Several studies provide descriptive evidence that firm operating characteristics, broadly defined, are associated with the various proxies for earnings quality, including a firm's choice of accounting principles (Lindahl, 1989), properties of its earnings such as persistence and volatility (Lev, 1983), and accruals (Dechow, 1994). Insights about three *specific* firm characteristics need to be discussed: 1) firm performance, 2) debt, and 3) size.

Firm performance: Researchers have investigated whether firms that are performing poorly engage in accounting tactics to improve their earnings and hence lower earnings quality. Specifically, weak performance provides incentives to engage in *earnings management* (Doyle et al., 2007).

Debt: If higher leverage is indicative of a firm that is closer to a debt covenant restriction, then managers in more highly levered firms could be taking action to boost income or manipulate the financial statements so as to avoid violating a covenant (Watts and Zimmerman, 1986). Such action could reduce the quality of earnings for other decisions. There is substantial evidence that debt levels are associated with various measures of earnings quality (Malmquist, 1990), for example, DeAngelo et al. (1994) find relatively little difference between *accruals* for firms with and without binding covenants. Thus, higher leverage is associated with lower quality earnings using a multitude of proxies.

Firm size: Studies suggest a relation between firm size and several earnings metrics, but the relation is not the same across measures. Early papers predict that firm size would be *negatively* associated with earnings quality because larger firms would make income-decreasing accounting method choices in response to greater political/regulatory scrutiny (Watts and Zimmerman, 1986). However, more recent studies predict and find that size is *positively* associated with earnings quality because of fixed costs associated with maintaining adequate internal control procedures over financial reporting, as suggested by Ball and Foster (1982). Small firms are more likely to have *internal control deficiencies* and are more likely to *correct previously reported earnings* (Doyle et al., 2007; Ashbaugh-Skaife et al., 2007).

Taken together, the above studies that examine firm characteristics as determinants of earnings quality reveal that firm characteristics (e.g., firm size, performance, etc.) are most commonly documented to be associated with *accounting method choice.*

2 Financial reporting practices as determinants of earnings quality

This section discusses two features of financial reporting practices that researchers predict to affect earnings quality:
1) Accounting methods, broadly defined to include principles (e.g., full cost versus successful efforts), estimates associated with accounting principles (e.g., straight-line versus accelerated depreciation), or estimates (e.g., pension accounting assumptions),
2) Other financial reporting practices including financial statement classification, and

There are only a small number of papers in the first category, likely due to research design issues such as endogeneity (i.e., firms choose to follow different methods). Early studies, while acknowledging the endogeneity issue, nonetheless provide evidence on the relation of specific accounting methods to *earnings smoothness* and to *earnings informativeness* (Moses, 1987). When accounting methods are mandatory (i.e., exogenous), there is no cross-sectional variation to examine. An alternative is to study firms in different mandatory reporting regimes (i.e., different countries or different time periods. Overall, the notion that accounting method choice, on average, leads to lower quality earnings because managers make opportunistic choices rather than choices that improve earnings informativeness does not have much support.

Regarding other financial reporting practices, prior research has examined the effects of financial statement classification and interim reporting on earnings quality. McVay (2006) suggests that firms opportunistically use discretion over income statement classification within a period to shift expenses into categories that might be perceived as less persistent (special items) to meet analyst forecasts.

3 Governance and controls as determinants of earnings quality

According to the terminology of Jensen and Meckling (1976), internal controls include monitoring mechanisms, optimally chosen by the principal in the principal-agent relationship, as well as bonding mechanisms, optimally chosen by the agent at some cost. The mechanisms we discuss in this section include characteristics of the Board of Directors (BOD), internal control procedures, and managerial share ownership.

Studies of the association between BOD characteristics and internal control procedures generally view these internal control mechanisms as monitors of the financial reporting system that constrain a manager’s opportunity or ability to manage earnings, while managerial share ownership and managerial compensation are generally predicted to affect earnings quality because they provide incentives for earnings management. In both cases, internal controls are predicted to affect earnings management, commonly proxied by discretionary accruals and accounting misstatements.

The evidence consistently suggests that internal control procedures are associated with less earnings management (Ashbaugh-Skaife et al., 2008). However, evidence on governance mechanisms *other* than internal control procedures is weak or mixed. Related to characteristics of the BOD, studies document that more independent boards (e.g., measured by a greater proportion of outsiders), and higher audit committee quality (e.g., measured by independence and meeting frequency) are associated with less *earnings management* (e.g., Abbott et al., 2004; Krishnan, 2005; Vafeas, 2005; Farber, 2005). However, Larcker et al. (2007) find mixed evidence of associations between the governance factors and earnings quality as measured by *discretionary accruals* and *restatements*.

Finally, evidence on ownership is even more mixed. Some studies suggest that greater managerial ownership has an entrenchment effect – controlling shareholders extrapolate private benefits at the expense of minority shareholders through *accounting method choice* and *less conservatism* (LaFond and Roychowdhury, 2008). Other studies, however, support an incentive alignment effect of managerial ownership based on discretionary accruals (Gul et al., 2003).

As a whole, the literature on internal control mechanisms yields the following insights. First, not all internal control mechanisms should be predicted to have an equal impact on the various proxies for earnings quality. This insight supports our conclusion about the literature, taken as a whole, that the earnings quality proxies should not be treated as substitutes. The studies consistently suggest a negative association between audit committee quality and earnings management. This result is not surprising because the audit committee's primary responsibility is to oversee the financial reporting process. Thus, inferences from studies that predict an association between audit committee quality and accruals quality have the greatest internal validity among all the governance mechanisms, *ceteris paribus*. The explanation for an association between BOD quality and earnings management, however, is weaker. Directors are usually involved with decisions at a high level, such as setting overall strategy (Adams et al., 2008).

A second notable deficiency of this literature is that there were not studies that attempt to predict that equity-based compensation will have consequences for EQ proxies other than earnings management. This omission is surprising given that variation in compensation contract form is commonly predicted to affect variation in investment risk-taking (e.g., Schrand and Zechman, 2009), which in turn should affect earnings persistence.

4 Auditors as determinants of earnings quality

Researchers hypothesize that auditors are a determinant of earnings quality because of their role in mitigating intentional and unintentional misstatements. The ability of an auditor to mitigate misstatements is a function of the auditor's ability both to detect a material misstatement and to adjust for or report it (DeAngelo, 1981). Researchers predict that an auditor's ability to detect errors is a function of auditor effort and effectiveness and that an auditor's incentives to report or correct errors depend on factors such as litigation risk, reputation costs, and auditor independence.

While the basic premise that auditors could mitigate misstatements is straightforward, compelling empirical evidence is limited because auditor effort/effectiveness and incentives are unobservable, and data to create proxies for these constructs are often unavailable. The most direct empirical proxies for effort/effectiveness include hours spent auditing (Caramanis and Lennox, 2008) and auditor industry expertise (Krishnan, 2003), and both are negatively associated with *discretionary accruals*.

Evidence based on auditor size also suggests a relation with accruals quality. With few exceptions, studies suggest that firms with Big-X auditors have significant lower *discretionary accruals* than firms with non-Big-X auditors (Kim et al., 2003). However, the voluminous evidence on the relation between audit fees and accruals quality is mixed and depends heavily on the type of fees, sample firms, and specific measure of accruals quality (Ruddock et al., 2006; Gul and Srinidhi, 2007).

In summary, reviewing the above literature on auditors yields the following conclusions. First, for both auditor size and fees, one must use caution when interpreting the evidence. The auditor size results do not identify whether the findings are driven by detection ability or reporting incentives because both are correlated with auditor size. Even in the fee and tenure studies, it is still difficult to disentangle the reason for the auditor's impact on quality. Audit fees and auditor tenure are predicted to be positively correlated with auditor expertise, and hence with detection ability, but they are also predicted to be negatively associated with auditor independence and hence with decreased reporting incentives (DeAngelo, 1981). Second, evidence on the auditors' role in affecting earnings quality is limited to the conclusion that auditors constrain income-increasing *discretionary accruals*, which is sensible given the auditor's role in the financial reporting process.

5 Capital market incentives as determinants of earnings quality

This section summarizes studies that examine the influence of capital market incentives on firms' accounting choices, making them potential determinants of earnings quality.

5.1 Incentives when firms raise capital

A large collection of studies hypothesize that the cost/benefit trade-offs of accounting choices change during periods when a firm raises capital. Greater utility associated with the availability or price of capital may increase the benefits of opportunistic accounting choices. Hence, the firm's accounting choices, and thus its earnings quality, may differ when a firm is raising capital.

Reviewing these studies yields the following conclusions. First, incentives to influence equity market valuations affect firms' accounting choices, in particular their *accrual choices*. (Morsfield and Tan, 2006). Results using outcome-based measures of earnings management such as *restatements* also suggest that capital raising activities are associated with earnings management (Dechow et al., 1996; Efendi et al., 2007; Dechow et al., 2010).

Second, the studies generally focus on event-driven incentives for accounting choices (e.g., IPOs). These one-time accounting choices, however, can have long-term consequences, including a diminished reputation for credible reporting. That is, a firm's reputation for high quality disclosures would be negatively affected by one-time, event-specific opportunistic accounting choices, which in turn may negatively affect equity valuation due to decreased reporting credibility.

Third, a paper examines whether raising capital in debt markets provides incentives for accounting choice (Dietrich et al., 2000). More work within public debt markets and on the trade-offs between debt and equity market incentives would be interesting.

Conclusion

This paper aimed at reviewing the literature of earnings quality and its determinant, and establishing a base for future empirical research in this area.

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As part of this review process, the study noted some areas of research that have received relatively little attention; we believe that further research on these topics would substantially enhance our understanding of earnings quality.
When making choices that affect reported earnings, a manager's objective function can include multiple, and perhaps competing, objectives. These objectives could relate to compensation or debt contract provisions, or incentives to influence stock price. Two interesting paths for future research are (i) to examine how managers choose between competing objectives and (ii) to examine choices about the portfolio of accounting choices, specifically within the context of meeting multiple objectives.

An accounting choice to meet regulatory requirements, which would qualify as "earnings management", could be viewed as a value-maximizing activity from the perspective of an equity holder, even if it distorts the ability of earnings to reflect the firm's fundamental performance. Recognizing that equity investors might infer rational earnings management to meet other objectives raises opportunities for future research. First, there are opportunities to research complementary accounting choices. Second, there are opportunities to investigate the factors that allow equity investors to understand a firm's incentives for reporting.

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