Do Auditors Use The Information Reflected In Book-Tax Differences? Discussion

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Hanlon and Krishnan (2006), hereinafter HK, address an interesting bridge between audit and tax research by examining the association between book-tax differences and audit fees, modified audit opinions and auditor turnover. HK report positive relations between book-tax differences and each of these audit variables, and interpret these results as evidence “consistent with book-tax differences reflecting information about possible earnings management and with auditors examining and using this information in auditing and opining on firms’ financial statements” (page 29).

Overall motivation

HK motivate their study by appealing to prior research that links larger book-tax differences with lower quality earnings, and argue that this linkage should manifest with auditors (1) spending greater time and effort on audits of companies with large book-tax differences, (2) more frequently modifying their opinion for companies with large book-tax differences, and (3) more frequently resigning as auditor for companies with large book-tax differences. However, HK state in the introduction (pages 2-3):

“We do not claim that auditors necessarily directly use the measure of book-tax differences as a distinct indicator of earnings quality. What we intend is to document that the book-tax differences, at a minimum, reflect the same information that the auditors use to assess earnings quality. Indeed, in conversations with audit partners and senior managers from the Big Four accounting firms this indirect relation appears to be representative of audit procedures currently used in practice.” [emphasis added]

These statements are somewhat puzzling and make it difficult to evaluate what we learn from the paper. In any archival research causality is difficult to establish empirically, but in this study it appears that the authors do not even hypothesize a causal relation between theoretical constructs. Thus it is challenging to determine the implications of the results. For example, should auditors use book-tax differences? Are there costs to not using book-tax differences? If book-tax differences merely reflect the same information that auditors glean from other sources, what is the importance of the relation between book-tax differences and audit fees? Explicit discussion of these issues in the paper would aid the reader in evaluating the contribution of the study.

The audit fee hypothesis

In testing for a relation between book-tax differences and audit fees, HK are effectively testing a joint hypothesis, where the underlying maintained hypothesis is that book-tax differences signal something about earnings quality that, in turn, affects audit risk. HK cite evidence from prior research linking book-tax differences to several dimensions of earnings quality. For example, HK reference Hanlon’s (2005) finding that large book-tax differences are associated with lower earnings persistence and Lev and Nissim’s (2004) result that the ratio of tax income to book
income is predictive of future earnings changes. While these papers have important implications in other settings, it is not clear that they (or the other papers cited by HK) have implications for an auditor’s ultimate responsibility as to whether or not a set of financial statements “present fairly” a company’s financial position, results of operations and cash flows.

HK further argue that large book-tax differences in either direction signal potential earnings management (i.e., managing earnings either upward or downward) and thus hypothesize a positive relation between the absolute value of book-tax differences and audit fees. However, because it seems reasonable to suspect that in most cases auditors possess an asymmetric loss function (in that failure to detect and prevent income-increasing earnings management is likely to be more costly), the motivation for conducting such a symmetric test is not clear.

We also note that, by necessity, HK’s hypothesis advances an *ex post* test of an *ex ante* story. Using measures of book-tax differences from the issued financial statements presumes that the auditors do not influence the content of those statements. For example, if book-tax differences signal earnings manipulations that cause auditors to expend additional effort, it seems reasonable to suppose that in their efforts auditors will act to reduce those manipulations, thus reducing book-tax differences. While we recognize that data limitations preclude HK from testing their hypothesis using trial balance data, some discussion of this issue appears warranted.

**The modified audit opinions supplemental test**

HK also argue for the usefulness of investigating modifications of audit opinions. In particular, HK posit that if auditors have concerns about the earnings quality of companies with large book-tax differences (i.e., that larger book-tax differences reflect a higher risk of earnings management), then they can convey these concerns to the market by modifying their opinions. Our concern is whether auditors actually communicate their assessment of earnings quality via their opinions. While standards permit auditors to modify their opinions by adding explanatory language in cases where matters exist that they wish to emphasize, Butler et al. (2004, page 143) argue that “[a]uditors do not have latitude to comment or elaborate on the overall quality of earnings as long as the financial statements materially conform to GAAP.” In support of this, Butler et al. (2004) conduct a content analysis of modified audit opinions and a regression analysis of the association between types of these opinions and abnormal accruals and find no evidence of a relation between modified opinions and earnings management:

“Our findings also have implications for research on the relation between audit opinion modifications and earnings management ... In particular, because the auditor’s role is not to assess earnings quality, researchers should be cautious when drawing inferences about the relation between auditors’ opinions and traditional measures of abnormal accruals as proxies for earnings management. As we discuss above, modifications due to earnings management should be exceedingly rare.” (Butler et al. 2004, page 141)

It would strengthen the paper considerably if HK could reconcile with Butler et al. (2004).

**Empirical analyses and interpretation of results**

To test their audit fee hypothesis, HK regress the natural logarithm of audit fees (*Ln(AUDIT FEE)*) on the natural logarithm of the absolute value of book-tax differences (*Ln(ABS BTD)*) and
controls, including total accruals scaled by average total assets \((ACC)\) and the natural logarithm of total assets \((Ln(ASSET))\). As reported in Table 3, HK find that: \(Ln(ABS\ BTD)\) is positively associated with \(Ln(AUDIT\ FEE)\) (which, as per Table 4, is particularly strong for firms with large negative and large positive book-tax differences); there is no consistent association between \(ACC\) and \(Ln(AUDIT\ FEE)\); and that \(Ln(ASSET)\) is positively associated with \(Ln(AUDIT\ FEE)\). HK interpret the positive association between \(Ln(ABS\ BTD)\) and \(Ln(AUDIT\ FEE)\) “… as evidence consistent with larger book-tax differences reflecting information that represents a higher risk of earnings management causing auditors to spend more time on the audit” (page 18).

We offer the following comments on this econometric specification and empirical findings:

- HK lose 74% (26,302 of 35,516) of their observations due to missing data but provide little discussion of the reasons for, or effects of, this extreme sample attrition.

- In their tabled results, HK report \(Ln(AUDIT\ FEE)\) is positively associated with both \((Ln(Assets))\) and \((Ln(ABS\ BTD))\). It is important to emphasize that these associations relate to regressing one non-negative level on other non-negative levels. Because large (small) companies likely pay large (small) audit fees and have large (small) book-tax differences (per Table 2, the correlation between \(Ln(Assets)\) and \(Ln(ABS\ BTD)\) is 0.693), the concern that arises is whether the coefficient on \(Ln(ABS\ BTD)\) is capturing what Easton (1998, page 237) characterizes as scale effects (“a spurious relation between large [small] dependent variables and large [small] explanatory variables”). While, in footnote 23, HK report sensitivity tests that involve scaling by total assets, it is not clear that total assets is an appropriate measure of scale. The following from Easton (1998) is germane:

  “In general, large (small) firms will have a large (small) total market value, large (small) book value, and large (small) net income. Additionally, many other variables for these large (small) firms will also be large (small), so that a regression of market value on firm attributes will lead to coefficients that may capture no more than scale effects … [Barth and Clinch, 1998] recognize the scale issue and check the sensitivity of their results to (1) using sales revenue as an alternative deflator [instead of number of shares] and (2) estimating regressions in undeflated form and including sales revenue or number of shares as additional independent variables. The usefulness of these methods in mitigating scale effects depends on the validity of the presumption that number of shares and / or sales are good measures of scale. I argue … that they are not.” (Easton 1998, page 237)

- Given that HK’s arguments regarding book-tax differences and audit fees also arguably apply to the association between accruals and audit fees, it is difficult to reconcile why the results are so different (perhaps because accruals are not transformed to absolute value).

- It is not clear that the regression adequately controls for real economic effects that likely underlie many book-tax differences, the presence of which may also lead to higher audit fees (e.g., capital intensiveness for companies with large taxable temporary differences).

- It seems reasonably likely that audit fees for a given firm are relatively “sticky” from year to year. As such, for the estimations involving pooled data, it would be useful to report \(t\)-statistics based on standard errors corrected for serial correlation (e.g., Petersen 2005).

- It would be helpful to include some discussion of the economic significance of the results.
For their supplemental test regarding modified audit opinions, HK regress a binary variable based on whether Compustat indicates the presence of a modified audit opinion (AUD OPIN) on the decile ranking of the absolute value of total book-tax differences scaled by average total assets ((ABS BTD)
\text{dec}) and controls, including the decile ranking of working capital accruals scaled by average total assets (WCACC
\text{dec}), the natural logarithm of total assets (Ln\text{(ASSET)}) and times-interest-earned (TIE). As reported in Table 6, HK find that: (ABS BTD)
\text{dec} is positively associated with AUD OPIN; contrary to expectations, WCACC
\text{dec} is negatively associated with AUD OPIN; Ln\text{(ASSET)} is positively associated with AUD OPIN; and, again contrary to expectations, that TIE is positively associated with AUD OPIN.

We offer the following comments on this econometric specification and empirical findings:

- Butler et al. (2004) documents both considerable measurement error (a 16 percent error rate) in Compustat’s coding of the presence of a modified audit opinion (AUD OPIN); and, more importantly, that this single Compustat field comprises a rather wide spectrum of different types of audit opinions (ranging from going concern modifications to opinions that simply mention FASB-mandated changes in accounting principle).

- Perhaps because Compustat combines this spectrum of different audit opinions, certain of HK’s findings do not accord with literature or are difficult to understand. For example, the positive coefficient on Ln\text{(ASSET)} is inconsistent with existing literature that documents a negative relation between size and the presence of a going-concern opinion (e.g., McKeown et al. 1991) and the positive relation between TIE and modified opinions is puzzling (per HK’s footnote 25, “[w]e have no explanation why the coefficient on this variable is significant in the opposite direction than what is predicted.”).

- It is unclear why the book-tax difference variable of interest is transformed, from logarithms in the audit fees regression, into deciles in the audit opinion regression.

- The authors interpret the negative estimated coefficient for WCACC
\text{dec} as “[t]hus, consistent with the Bradshaw et al. (2001) findings in an earlier time period – it appears that auditors do not issue more modified opinions to firms with higher accruals and, in fact, issue fewer” (page 21). However, Butler et al. (2004) claim that the inverse relation between modified audit opinions and abnormal accruals is due to distress (i.e., companies with negative accruals are simply more likely to have going-concern audit opinions).

\textbf{Concluding remarks}

In this discussion we provide our comments and concerns regarding the key aspects of HK and offer our suggestions for strengthening the paper. We find the study to be an interesting intersection of audit and tax research, and commend the authors for bridging two sub-disciplines that too often operate as separate worlds.
References:


What are the information and established criteria for the audit of Jones Company's tax return by an internal revenue agent? What are they for the audit of Jones Company's financial statements by a CPA firm? To do an audit, there must be information in a verifiable form and some standards (criteria) by which the auditor can evaluate the information. The accountant need not, and frequently does not, understand what auditors do, unless he or she is involved in doing audits, or has been trained as an auditor. Discuss changes in accounting and business operations over the last decade that have increased the need for independent audits. An independent audit is a means of satisfying the need for reliable information on the part of decision makers. With this information the auditor's report has been transformed from a standard pass/fail report into a more meaningful and customised report and represents a move towards more clarity and transparency. We selected a representative sample of 50 companies: 19 SMI companies and 31 SPI companies. In light of this, we as audit firms need to be proactive in reflecting these changes in the auditor's report. The company and industry specific circumstances should be considered prior to disclosing certain key audit matters or materiality and group scoping information. Such temporary differences are either taxable or deductible temporary differences resulting in either deferred tax assets being recognised for deductible temporary differences and for unused tax losses carried forward. In the case of audit failure, an auditor may be subject to legal actions initiated by regulatory agencies or investors, which would harm auditor reputation and potentially cause the auditor to lose fees from other clients (DeAngelo, 1981a). Therefore, high litigation risk serves as an incentive for auditors to remain independent despite economic dependency. From the investors' perspective, economic dependence on the client is viewed negatively, as reflected in cost of equity (Khurana & Raman, 2006) and the earnings response coefficient (Ghosh, Kallapur, & Moon, 2009). Meanwhile, investor concern over auditor independence could be alleviated by regulatory changes.