Using Pre-Audit Financial Data: Does it Affect our Conclusions? The Case of Audit Fees and Discretionary Accruals

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Abstract

In this study, we investigate the relationships among audit fees and discretionary accruals for non-profit public housing authorities (PHAs). PHAs are required to submit both pre-audit and post-audit financial statements to the Department of Housing and Urban Development, providing us an opportunity to evaluate the relationships with both pre-audit and post-audit data, extending the prior literature which has only evaluated post-audit data. We find results consistent with prior literature indicating there is economic bonding between auditor and client; auditors constrain the magnitude of discretionary accruals less when they are paid more. We also find results consistent with prior literature indicating auditors provide more services and/or higher quality services with larger magnitude discretionary accruals and higher income-increasing discretionary accruals. These results are true whether you use post-audit or pre-audit data. However, we find in some instances, specifically when testing economic bonding with income-increasing and income-decreasing accruals separately, that the use of post-audit discretionary accruals as the dependent variable (used in prior literature) provides different results than when the more appropriate change in discretionary accruals from pre- to post-audit is used.

Keywords: auditor constraint; economic bonding; audit quality; financial reporting quality; public housing authorities

Data Availability: Data are available from public sources.

Introduction

Significant prior literature has investigated the relationships among discretionary accruals, audit quality, and fees paid to auditors. Within this literature, two distinct theories have emerged. First, researchers hypothesize that the quality of the auditor affects the quality of reported earnings. Second, researchers hypothesize the extent of abnormal accruals, a common measure of the quality of earnings, affects the audit quality demanded of or supplied by the auditor. In all of this literature, the quality of reported earnings and abnormal accruals are measured using discretionary accruals estimated from post-audit financial statements. However, post-audit discretionary accruals have already been affected by auditor quality, resulting in measurement issues in evaluating the effects of or on the auditor. A more accurate, but not widely available, measure for this research would be pre-audit discretionary accruals or the difference between pre- and post-audit discretionary accruals. For example, to adequately assess the effects of the quality of the auditor on the quality of reported earnings, we need to measure the change in financial statement bias as opposed to the bias in the audited financial statements; we need the change from pre- to post-audit discretionary accruals. Further, when evaluating the effect of abnormal accruals on audit quality provided, we need a measure of accruals prior to auditor intervention.

Using a unique data-set containing both pre-audit and post-audit financial data for almost 3,000 public housing authorities over five years, we evaluate prior theories using a more precise measure of the effect of the auditor on reported earnings or on the level of abnormal accruals. First, we evaluate the effect of economic bonding, as measured by total audit fees, on the auditors' impact on reported earnings quality, as measured by the change from pre-audit to post-audit discretionary accruals. We then evaluate the effect of abnormal accruals as measured by

pre-audit discretionary accruals on total audit fees to determine the impact on the level of audit services provided.

This study extends the earnings quality, audit fees and audit quality literatures by evaluating whether the use of more accurate measures of auditor effects on reported earnings and abnormal accruals affects the conclusions previously made. We further extend this literature by using a measure of earnings quality not previously used in this literature – the extent to which a company's discretionary accruals differ from other similarly-performing companies' discretionary accruals within the same industry. In addition, this study extends the non-profit literature by evaluating the effects of new variables on audit fees in non-profit organizations, and this is the first study to evaluate the relationship between auditor fees and discretionary accruals in a non-profit setting.

We find results consistent with economic bonding between auditor and client; as fees increase, auditors constrain discretionary accruals less. We also find that auditors provide more services and/or higher quality services for clients with larger magnitude discretionary accruals and higher income-increasing discretionary accruals. Finally, we find in some instances, specifically when evaluating the effects of audit fees on income-increasing and income-decreasing accruals separately, that the use of post-audit discretionary accruals as the dependent variable (used in prior literature) gives you different results than when the more appropriate measure – change in discretionary accruals from pre- to post-audit – is used.

The remainder of this paper is organized as follows: the next section provides the hypothesis development, followed by institutional details about public housing authorities, and model development. We then provide details on the data and results. We complete the paper with the conclusion and discussion.

Hypothesis Development

Auditor Quality Effects on Earnings Quality

Studies on effects of auditor quality on the quality of earnings reported in the financial statements have considered two separate measures of auditor quality – type of auditor (large/small or specialist/non-specialist) and potential threat to independence. Consistently that Big 6 auditors and industry specialist auditors are associated with lower levels of discretionary accruals, (see Becker, et al 1998, Francis, et al 1999, Gul, et al 2002, and Chung, et al 2005 for Big 6 studies and Balsam, et al 2003 and Kwon, et al 2007 for industry specialist studies). Results in the second stream, evaluating the effects of threats to auditor independence on earnings quality, have been mixed. This literature is based on popular-press and government accusations that fees paid to auditors for non-audit services increases the economic bond between the auditor and client and reduces auditor independence, thereby reducing the ability or desire of the auditor to eliminate client bias in the financial statements. Kinney and Libby (2002) extend the theory to audit fees, hypothesizing that if non-audit service fees increase the economic bond between auditor and client, high audit fees paid to auditors would also increase this economic bond. Choi, et al (2006), Antle, et al (2006), and Hoitash, et al (2007) find a positive relationship between total fees and/or abnormal fees paid to the auditor and discretionary accruals, consistent with economic bonding. However, Ashbaugh, et al (2003), Chung and Kallapur (2003), and Larcker and Richardson (2004) find no relationship between fees paid to the auditor and discretionary accruals, or have mixed findings depending on the measures used.

Both streams of auditor quality research use discretionary accruals measures computed using audited financial data, adding measurement error into the analysis. As stated in Becker, et al (1998), "…we also acknowledge an important caveat. In the absence of data constraints, our

analysis might appropriately include an examination of 'preaudited' data to determine the proportion of unwarranted accruals actually prevented by each auditor type. We could then conclude that the auditor type that thwarts the highest proportion is of higher quality," (p.7). Our data allows a direct measure of the accruals prevented by the auditor, and using the change in discretionary accruals from pre- to post-audit, we test the following hypothesis:

H_1: Auditors will constrain discretionary accruals less (more) when they are paid higher (lower) fees, ceteris paribus.

Abbott, et al (2006) find differential effects on auditors' behavior depending on the direction of the bias in the financial statements. Given this, it is possible that the economic bond between auditor and client will have a different effect on the constraining of discretionary accruals depending on whether pre-audit discretionary accruals are income-increasing or income-decreasing. Theory would suggest that if auditors are not independent from their clients because of high fees, they would constrain income-increasing accruals less when they are paid higher fees. The theory for income-decreasing accruals is less clear. Given this, we propose a non-directional hypothesis for income-decreasing accruals, stated in null form. We test the following hypotheses:

H_{2A}: Auditors will constrain income-increasing discretionary accruals less (more) when they are paid higher (lower) fees, ceteris paribus.

H_{2B}: The level of audit fees will not have any effect on the changes in income-decreasing discretionary accruals, ceteris paribus.

Earnings Quality Effects on Auditor Effort

Studies investigating the effect of discretionary accruals and earnings quality on the effort required of or provided by the auditor, as measured by audit fees, have found mixed results.

Antle, et al (2006) hypothesize that companies with high magnitude discretionary accruals demand additional services from their auditor, resulting in higher fees paid to the auditor. They also suggest that auditor fees and discretionary accruals are endogenous given the effects of fees on discretionary accruals identified by earlier studies, and they model fees and discretionary accruals simultaneously. While they find endogeneity between audit fees and discretionary accruals, they do not find that companies with high magnitude discretionary accruals pay their auditors higher fees. Abbott, et al (2006) build on Antle, et al (2006) and hypothesize that because litigation risk is asymmetric for auditors, auditors will provide more services or charge a risk fee premium with income-increasing accruals, but not with income-decreasing accruals. They find results consistent with auditors supplying more services, as measured by higher audit fees, when clients have higher positive discretionary accruals, but lower audit fees when clients have larger negative discretionary accruals.

Both of these studies use post-audit discretionary accruals as their independent variable. The endogeneity problem identified by Antle, et al (2006) in studying the effects between audit fees and discretionary accruals can be eliminated if better measures are used, specifically the change in discretionary accruals is used as a dependent variable in investigating auditor effects on earnings quality (discussed above) and pre-audit discretionary accruals is used as the independent variable in investigating the effect of earnings quality on audit services demanded/supplied. We test the following hypotheses using pre-audit discretionary accruals:

H_{3A}: Fees paid to the auditor increase with higher levels of pre-audit discretionary accruals, ceteris paribus.

H_{3B}: Fees paid to the auditor increase (decrease) with larger income-increasing (income-decreasing) pre-audit discretionary accruals, ceteris paribus.

Institutional Details

Public housing authorities (PHAs) exist to assist the Department of Housing and Urban Development (HUD) in meeting its mission "to increase home ownership, support community development and increase access to affordable housing free from discrimination," (www.hud.gov). As discussed in depth in Tate and Grein (2008), PHAs are established by cities or counties as the need arises and are directly overseen by a mayor-appointed Board of Commissioners. PHAs receive significant funding from HUD in order to build, maintain, and operate housing for low income individuals and families. As such, HUD provides the ultimate authority over the operations of PHAs.

For the period of time in this study[1], HUD evaluated each PHA on four factors: financial, management, physical, and resident. The scores earned on each factor are added together to form a PHAS score which is used to categorize the PHA as a high performer, standard performer, or troubled performer. High performers are eligible for reduced oversight from HUD while continually troubled performers can be referred to the HUD Enforcement Center and eventually be suspended or disbarred (http://www.hud.gov/utilities/intercept.cfm?/offices/reac/products/PDFs/PHAS_NASS.ppt).

The financial portion of the PHA's PHAS score is based on the following six financial ratios: current ratio, months expendable fund balance, tenant receivables outstanding, occupancy loss, expense management/utility consumption, and net income as a percent of expendable fund balance. Points are awarded on a sliding scale for each of the ratios based on the PHA's ability to meet pre-established ratio targets. The management score is based on six factors including vacant unit turnaround time, level of capital funds, efficiency in handling work orders, extent of

[1] HUD transitioned into a new asset management based evaluation system effective for 2008 that alters somewhat the evaluation methodology discussed in this paper. All data used in this study was prior to the change.

completed annual inspections of all units, security tracking, and economic self-sufficiency, (http://www.hud.gov/utilities/intercept.cfm?/offices/reac/products/PDFs/MASS.ppt). The physical portion of the score is based on on-site inspections of the PHA facilities and the resident score is based on surveys completed by PHA residents.

PHAs provide a unique setting to study accounting phenomena as they are required by HUD to submit both pre- and post-audit financial data; pre-audit data is due within 60 days of year-end and post-audit data is due within nine months of year-end. In addition to a financial statement audit, PHAs that receive more than $300,000 ($500,000 after June 2003) are required to obtain an audit performed in accordance with the Office of Management and Budget's Circular A-133 (A-133 audit) which requires auditors to provide an opinion on the schedule of federal awards and compliance with federal regulations in addition to the financial statement audit. Auditors also provide a report on the effectiveness of internal controls, and provide a schedule of findings and questioned costs.

Model Development

Discretionary and Abnormal Accruals

Discretionary accruals (DAC) are estimated as the residual from the following cross-sectional, modified Jones-type (1991) regression, adjusted based on Francis et al. (2005) and Kothari et al. (2005):

$$\frac{TAC_{it}}{ASSET_{it-1}} = +\beta_0 + \beta_1 \frac{1}{ASSET_{it-1}} + \beta_2 \frac{\Delta \mathrm{Re}v_{it} - \Delta AR_{it}}{ASSET_{it-1}} + \beta_3 \frac{PPE_{it}}{ASSET_{it-1}} + \beta_4 ROA_{it-1} + \varepsilon_{it} \quad (1)$$

where variables are defined below.

Because cash flow data is not available for PHAs, we adopt a balance sheet approach to calculating total accruals.[2] Total accruals (TAC) is defined as the change in non-cash current assets minus the change in current liabilities excluding the current portion of long-term debt minus the depreciation and amortization.[3] $ASSET_{it-1}$ is PHA i's total assets in year t-1, ΔREV_{it} is the change in PHA i's revenues between year t-1 and t, ΔAR_{it} is the change in PHA i's accounts receivable between year t-1 and t, PPE_{it} is PHA i's property plant and equipment in year t, and ROA_{it-1} is PHA i's return on assets in year t-1 calculated as total net income in year t-1 divided by total assets in year t-1.

Following Kothari, et al (2005) and Francis, et al (2005), we also use another measure of earnings quality, abnormal accruals (AAC), in our audit fee analyses. AAC is a measure of the how different each PHA's discretionary accruals is from similarly-performing PHAs' discretionary accruals. To calculate AAC, we first re-estimate equation (1) above without ROA, and define non-performance adjusted discretionary accruals for each PHA as the residual from the regression. We then group each PHA in deciles determined by ROA each year and calculate the median discretionary accruals for each decile. AAC is calculated as the difference between the PHA's non-performance adjusted discretionary accruals and median discretionary accruals for PHAs with similar performance, as measured by ROA. Because AAC provides a measure of

[2] Hribar and Collins (2002) find that in the absence of significant events, the error in accruals estimates from a balance sheet approach is low. Since such events (e.g. mergers and acquisitions, divestitures, and foreign currency translation) are rare in this industry, there should be little error in the estimate of total accruals.

[3] We calculate total accruals as follows: Total Accruals = ΔTotal Receivable, net of all Allowances + ΔInvestments, Restricted for Pymt of Current Liabilities + ΔPrepaid Expenses & Other Assets + ΔInventory + ΔAllowance for Inventory Obsolesce + ΔInterprogram, Due from + ΔAssets Held for Sale – [ΔAccounts Payable < 90 days + ΔAccounts Payable > 90 days + ΔAccrued Wage/Payroll Taxes Payable + ΔAccrued Compensated Absences, Current Portion + ΔAccrued Contingency Liability + ΔAccrued Interest Payable + ΔAccounts Payable, HUD PHA Programs + ΔAccounts Payable, PHA Projects + ΔAccounts Payable, Other Gov't + ΔTenant Security Deposits + ΔDeferred Revenue + ΔOther Current Liabilities + ΔAccrued Liabilities, Other + ΔInterprogram, Due to)] - Depreciation Expense

how similar or dissimilar each PHA's discretionary accruals are from each other, the smaller in magnitude a PHA's AAC is, the better the PHA's earnings quality is.

Auditor Quality Effects on Earnings Quality

We test the effect of audit fees on the auditors' willingness to constrain discretionary accruals by estimating the following equation:

$$DV = \alpha + \beta_1 LNFEE_{it} + \beta_2 LEV_{it} + \beta_3 QUICK_{it} + \beta_4 ULOSS_{it} + \beta_5 LNASSET_{it} + \beta_6 TOP50_{it} + \beta_7 AUDCHG_{it} + \beta_8 PROB_{it} + \beta_9 |DV_{it-1}| + \varepsilon$$

where the variables are defined below.

Dependent Variables

We use four different measures for the dependent variable (DV). To test whether auditors constrain discretionary accruals less when paid higher audit fees (H_1), we use ΔDAC and Δ|AAC| as the dependent variable. ΔDAC is the difference between pre-audit DAC (calculated using pre-audit data in the equation (1) above) and post-audit DAC (calculated using post-audit data in equation (1) above) for each PHA for each year t. A positive change indicates an increase in discretionary accruals from pre- to post-audit, an indication of less auditor constraint.

Δ|AAC| is the absolute value of post-audit AAC less the absolute value of pre-audit AAC. We use the change in absolute values rather than signed values because we want to measure the change in the distance from the median between pre- and post-audit discretionary accruals. We define auditor constraint in this setting as a change that results in post-audit discretionary accruals being closer to median discretionary accruals than the distance between pre-audit discretionary accruals and the median. If post-audit |AAC| is larger than pre-audit

|AAC| (i.e., Δ|AAC| is greater than zero), then the auditor is considered to have exhibited less constraint.[4]

We test for asymmetric responses by the auditor using only the DAC measure. We use ΔDAC+ defined as the difference between pre-audit DAC and post-audit DAC for positive pre-audit DAC to test H_{2A} and we use ΔDAC- defined as the difference between pre-audit DAC and post-audit DAC for negative pre-audit DAC to test H_{2B}.

Independent Variables

LNFEE is the natural log of audit fees, and we expect β_1 to be positive and significant in the test of H_1 if auditors constrain discretionary accruals less when paid higher audit fees. We expect β_1 to be positive and significant in the test of H_{2A} if higher audit fees reduce auditor constraint of income-increasing pre-audit discretionary accruals. We have no ad-hoc estimation of the sign on β_1 for the test of H_{2B}. A positive (negative) coefficient would indicate that as fees increase, accruals become less (more) income-decreasing.

The remaining variables are control variables found to be significant in explaining changes in discretionary accruals in prior research. Because risk is expected to affect discretionary accruals, we include LEV (total debt to assets ratio), QUICK (quick ratio), and ULOSS (coded as 1 if the PHA has a pre-audit loss in the current year, 0 otherwise). We include LNASSET to control for size.

Auditor characteristics other than fee have been found to have an effect on discretionary accruals. As discussed above, Big 5 auditors are associated with lower DAC (Becker, et al 1998, Francis, et al 1999, Gul, et al 2002, and Chung, et al 2005). Because the audit market for PHAs is much more diverse, with only 0.8% of observations (85 of 10,567) in our study audited by the

[4] We acknowledge that this measure has at least one notable drawback. Post-audit AAC is dependent on the level of other post-audit accruals since it is calculated using median post-audit discretionary accruals. As such, AAC for each PHA is dependent on the efforts of other auditors.

Big 5, we use a broader measure of auditor size, TOP50, coded as 1 if the PHA is audited by a firm in the top 50 auditors as ranked by *Accounting Today*, 0 otherwise.[5, 6] We include AUDCHG, coded as 1 if there was a change in auditor in the current year, 0 otherwise, to control for possible effects on auditor constraint due to being less familiar with a client. Finally, we control for accounting problems the PHA may have encountered during the year, as they could have an effect on discretionary accruals. PROB is coded as 1 if the PHA had any of the following issues identified by the auditor, 0 otherwise: going concern, other than unqualified opinion on the financial statements, material non-compliance with federal regulations, indications of findings, or indications of questions costs.

Audit Fees

There is significant prior literature modeling the factors affecting fees for both for-profit and non-profit entities. Hay, et al (2006) perform a meta-analysis of 147 audit fee analyses in 120 different articles and categorize the variables studied into client attributes, auditor attributes, engagement attributes, and other. We developed the following audit fee model for PHAs using this categorization and the extant prior literature:

$$LNFEE = \alpha + \beta_1 LNASSET_t + \beta_2 \#PROG_t + \beta_3 UNITMTH_t + \beta_4 INVAR_t + \beta_5 NRANY_t + \beta_6 LOSS_{t-1} + \beta_7 ULOSS_t + \beta_8 ROA_t + \beta_9 LEV_t + \beta_{10} MW_t + \beta_{11} RC_t + \beta_{12} TOP50_t + \beta_{13} AUDCHG_t + \beta_{14} MARYE_t + \beta_{15} PROB_t + \beta_{16} |ASSETCHG|_t + \beta_{17} |NICHG|_t + \beta_{18} |ASSETCHG|_{t-1} + \beta_{19} |NICHG|_{t-1} + \textit{regional dummies} + \varepsilon$$

where the variables are defined below.

Client attributes evaluated for their effect on audit fees include size, complexity, inherent risk, profitability, leverage, and internal control effectiveness. Hay, et al (2006) find size explains approximately 70% of the variation in fees, and consistent with the prior literature, we use the natural log of assets, LNASSET, to account for size. We use the number of programs (#PROG)

[5] We use the annual rankings published in *Accounting Today* for each of our sample years.
[6] We also run the regressions using the Big 5 designation with no change in the results.

and number of units managed (UNITMTH) by the PHA to measure complexity consistent with the number of corporate subsidiaries used in for-profit fee studies (for example, Simunic 1980, Ferguson et al 2003, and Abbott, et al 2006) and the number of services provided used in non-profit fee studies (see Rubin 1988 and Rubin 1992). We include INVAR, inventory plus accounts receivable as a percent of total assets, to measure inherent risk, shown to be significant in 84% of the studies included in Hay et al (2006) (for example, see Simon and Francis 1988, Raghunanadan and Rama 2006, and Hoitash, et al 2007). We also include a new measure of inherent risk, NRANY, which is coded as 1 if the PHA met a ratio threshold but was in the lowest decile of all similar-sized PHAs meeting that threshold for any of the five financial ratios used in the PHAS score that have thresholds. PHAs have incentives to meet the financial ratios to improve their PHAS score and potentially improve their overall evaluation, and could be tempted to manage their financial data to meet the ratio thresholds. We propose that PHAs just meeting the threshold are the most likely to have managed the financial data, and therefore have higher inherent risk. Profitability is measured with three variables. $LOSS_{t-1}$ is coded as 1 if the PHA had a post-audit net loss in the prior year (consistent with Simunic 1980, Larcker and Richardson 2004, and Abbott, et al 2006, for example), 0 otherwise, and $ULOSS_t$ is coded as 1 if the PHA has a pre-audit net loss in the current year, 0 otherwise. We include the PHA's return on assets (ROA) as an additional profitability measure. The debt to asset ratio (LEV) is included to measure leverage, found to be positively associated with fees in some prior studies (see Ferguson, et al 2003, Raghunandan and Rama 2006, Hoitash, et al 2007, and Ettredge, et al 2007, for example). Multiple studies have found weak internal controls to increase audit fees (see Raman and Wilson 1992, Raghunanadan and Rama 2006, Hoitash et al 2008, and Bedard and Johnstone 2004, for example). Therefore, we include MW and RC, coded as 1 if there were

indications of material weaknesses and reportable conditions, respectively, 0 otherwise, to measure the effect of the PHA's internal control effectiveness on audit fees.

Auditor quality, audit tenure, and auditor location have been identified as auditor attributes that affect audit fees. Auditor quality has historically been measured using the size of the auditor (i.e., Big 5/6/8 depending on the time period) (see Simunic 1980, Simon and Francis 1988, and Antle, et al 2006 for example) or auditor expertise (see Elder, et al 1999, Beattie, et al, 2001 and Huang et al 2007, for example). We include TOP50 as a measure of auditor size rather than Big 5, as discussed above. We use AUDCHG, coded as 1 if the PHA changed auditors in the current year, 0 otherwise, to measure audit tenure, and we include regional dummies for the 10 regions as established by HUD to account for effects on fees as a result of the location of the PHA.

Engagement attributes such as when the audit takes place and problems identified by the auditor have been found to affect audit fees. All PHAs have year-ends at March 31, June 30, September 30, or December 31. While prior studies have found that companies with December 31 year-ends have higher audit fees (see Rubin 1988, Ireland and Lennox 2002, and Ettredge et al 2007), because PHAs have nine months to complete their audit, the timing of the audit can vary significantly regardless of their year-end. We included dummies for the year-ends in preliminary analyses and found PHAs with a March 31 year-end had significantly lower fees than other PHAs; we include MARYE, coded as 1 if the PHA has a March 31 year-end, 0 otherwise, to account for this effect. The results on problems identified during an audit have been mixed with respect to their effect on fees. A number of studies, such as Simunic (1980), Simon and Francis (1988), Huang et al (2007), Raghunandan and Rama (2006), and Ettredge et al (2007) find the type of audit opinion has an effect on audit fees while Baber, et al (1987), Antle,

et al (2006) and Abbott et al (2006) do not find a significant effect; these mixed results could be due to a relatively weak measure. PHAs provide a rich environment to measure problems identified during an audit. First, because most PHAs are subject to A-133 audits, the auditors provide more than just an opinion on the financial statements. Using data obtained from the A-133 audits, we include PROB which is defined above. Second, because we have both pre- and post-audit data, we can identify adjustments made to the pre-audit data. We include the absolute value of the percent change in total assets, |ASSETCHG|, and net income |NICHG|, from pre- to post-audit for both the current year and the prior year.

Earnings Quality Effects on Audit Effort

To test for effects of earnings quality on auditor effort, we estimate the audit fee model above with various measures of earnings quality included as additional independent variables. We include |UDAC|, the absolute value of pre-audit discretionary accruals, and then include |UAAC|, the absolute value of pre-audit abnormal accruals, to test H_{3A} and expect the coefficients on both to be positive and significant. We estimate the above fee model four additional times, including UDAC+ (UAAC+), pre-audit positive discretionary accruals (pre-audit positive abnormal accruals), and UDAC- (UAAC-), pre-audit negative discretionary accruals (pre-audit negative abnormal accruals), to test H_{3B}. We expect the coefficient on all of these measures to be positive and significant.

Data

The data used in this study was obtained from the United States Department of Housing and Urban Development (HUD) under the Freedom of Information Act. Both pre- and post-audited financial data, as well A-133 audit results, were requested for all non-profit public

housing authorities.[7] The original dataset included 12,440 observations for 3,163 different PHAs from 1999-2003, with the average organization included in the dataset for four years. Observations were eliminated if both pre- and post-audit data was not available (1,673 observations for 134 PHAs). Observations that were non-consecutive (200 observations for 45 PHAs) were also eliminated as lagged and lead values were required for discretionary accrual calculations. The resulting dataset has 10,567 observations for 2,984 PHAs.

Results

Descriptive Statistics

Table 1 provides descriptive statistics for the PHAs included in our dataset. Mean (median) pre-audit assets is $18,300,000 ($3,473,495), and the average change in assets from pre- to post-audit is a decrease of $20,634, which is not significantly different from zero. While mean pre-audit net income is $117,834, the median pre-audit net loss of $5,195 indicates more than half of all PHAs reported a pre-audit loss; more than half of PHAs report a net loss post-audit as well. Inventory and accounts receivable make up a small proportion of total assets (INVAR = 2%), consistent with most PHA assets being in property, plant and equipment. Further, with the support provided by HUD for construction of PHA buildings, mean (median) leverage is low at 10% (4%). Mean discretionary accruals are -0.01 both pre- and post-audit, but the average change from pre- to post-audit indicates a significant decrease as a result of the audit.

(Insert Table 1 here)

As seen in Panel B, mean audit fees are relatively low at $8,659. PHAs manage approximately five HUD programs each year and maintain approximately 870 units (10,443 unit months divided by 12 months), on average. The median number of units maintained is

[7] All public housing authorities included in this study are non-profit. While PHAs can be for-profit or non-profit, only financial data on non-profits is publicly available from HUD.

approximately 206 (2,472 unit months divided by 12 months). The mean (median) number of problems identified by the auditor (including going concern opinions, other than unqualified financial statement opinions, indications of material non-compliance, findings and questioned costs) is 0.24 (0) indicating that most PHAs did not have significant reporting issues. Five (nine) percent of all PHAs had material weaknesses (reportable conditions) in internal controls. Thirteen percent of PHAs changed auditors between 1999 and 2003, and only two percent, or 243 PHAs, had an auditor included in the Top 50 auditors as determined by *Accounting Today*. Only 85 (less than 1%) PHAs engaged a Big 5 auditor.

Hypothesis 1 – Auditors' Quality Effects on Earnings Quality

The results for testing the effect of economic bonding as measured by audit fees on earnings quality are presented in Table 2. To benchmark our findings, we first estimated the regression with the dependent variables used in prior literature, DAC and |DAC|. The results are provided in Panel A of Table 2. The positive and significant coefficients on LNFEE for both regressions are consistent with the prior literature, providing comfort that, while non-profit organizations can behave differently than for-profit corporations, they react similarly in this situation. The results on the control variables are consistent with the prior literature, especially in the regression using |DAC| as the dependent variable.

(Insert Table 2 here)

Panel B provides the results of the regression estimation using our measures of auditor effort, ΔDAC and Δ|AAC|. The positive and significant coefficient on LNFEE in the regression with ΔDAC as the dependent variable indicates that as audit fees increase, the post-audit discretionary accruals increase consistent with the hypothesis that auditors who are paid higher fees constrain discretionary accruals less that auditors paid lower fees. The negative coefficient

on TOP50 indicates that larger auditors reduce discretionary accruals, consistent with prior research. Inconsistent with the prior literature, PHAs with a pre-audit loss are more likely to have a reduction in discretionary accruals from pre- to post-audit, indicating auditors constrain accruals more with loss firms. The results using Δ|AAC| as the dependent variable are not consistent with expectations; the coefficient on Δ|AAC| is not significantly different from zero. The R^2 in this regression is much lower than when using ΔDAC, indicating the model is not well specified when using the change in absolute value abnormal accruals as the dependent variable.

Hypothesis 2 – Asymmetric Auditors' Quality Effects on Earnings Quality

We tested whether audit fees have a differential effect on earnings quality depending on the direction of discretionary accruals and present the results in Table 3. We first test the hypotheses using post-audit DAC to determine if results with this dataset are consistent with prior literature; the results are presented in Panel A. Audit fees are positive and significant in the regression using income-increasing post-audit DAC as the dependent variable, indicating auditors paid higher fees are associated with higher post-audit discretionary accruals. This is consistent with the prior literature and the current hypothesis. When using income-decreasing post-audit DAC as the dependent variable, audit fees are negative and significant, consistent with higher paid auditors being associated with more negative discretionary accruals. Together, these results indicate that our setting yields similar conclusions as the prior research.

(Insert Table 3 here)

The results of repeating the analysis using our measures of auditor effort, the change in discretionary accruals from pre- to post-audit, are included in Panel B of Table 3. When estimating the regression using positive pre-audit discretionary accruals, the coefficient on LNFEE is not significantly different from zero. This is in contrast to expectations of H_{2A}. We do

find that higher fees are associated with increases in income-decreasing pre-audit discretionary accruals, indicating that auditors paid higher fees constrain income-decreasing pre-audit discretionary accruals less than auditors paid lower fees. It appears that the results in Table 2 are driven by PHAs with income-decreasing pre-audit discretionary accruals rather than PHAs with income-increasing pre-audit discretionary accruals, as the theory would suggest. In addition and more importantly, the inconsistent results between Panel A and Panel B indicate that the use of post-audit discretionary accruals rather than the change in discretionary accruals from pre- to post-audit as a proxy for the work performed by the auditor could have a significant effects on the conclusions drawn.

Hypothesis 3 – Earnings Quality Effects on Auditor Effort

Table 4 provides the results of tests on whether higher discretionary accruals result in higher audit fees. Panel A presents the results using the absolute value of post-audit discretionary accruals as the independent variable of interest, consistent with prior literature. The positive and significant coefficient on |DAC| is consistent with prior literature; PHAs with large magnitude post-audit discretionary accruals are associated with auditors who are paid higher fees. Most of the control variables are significant in the expected direction and the R^2 is relatively high at almost 60%, indicating the model has good predictive ability.

(Insert Table 4 here)

Panel B provides the results of testing H_{3A} using pre-audit discretionary accruals and pre-audit abnormal accruals as the independent variables, arguably more precise measures. The positive and significant coefficient on |UDAC| indicates support for the hypothesis; as the magnitude of pre-audit discretionary accruals increases, the audit fee increases. Again, most of the control variables are consistent with expected directions and the R^2 is almost 60%. Our

results using |UAAC| are not consistent with our expectations; the non-significant coefficient on |UAAC| indicates that as a PHA's discretionary accruals vary more from other PHAs' discretionary accruals, audit fees do not necessarily increase.

Table 5 provides the results of tests on the potential differential effects of positive and negative discretionary accruals on the audit fee. Again, we first estimate the regression using variables used in prior literature, specifically post-audit discretionary accruals for PHAs with income-increasing and income-decreasing discretionary accruals separately. As seen in Panel A, PHAs with income-increasing post-audit discretionary accruals have higher fees as post-audit discretionary accruals increase, consistent with auditors providing more work for these firms. The coefficient on DAC- is not significantly different from zero, which is in contrast with Abbott et al (2006); they find audit fees decrease with income-decreasing discretionary accruals. We are currently performing additional analyses to determine why this result exists.

(Insert Table 5 here)

Panel B provides the results using pre-audit discretionary accruals as the independent variable of interest. The positive and significant coefficient on UDAC+ indicates as positive pre-audit discretionary accruals increase, the audit fee increases, consistent with auditors performing more work or providing higher quality audits when pre-audit discretionary accruals are income-increasing. The results for income-decreasing pre-audit discretionary accruals are consistent with those found with post-audit discretionary accruals, but are in contrast to expectations that audit fees will decrease with pre-audit income-decreasing discretionary accruals.

Panel C presents the results using pre-audit abnormal accruals as a measure of earnings quality. The results for positive pre-audit abnormal accruals are consistent with the hypothesis; PHAs that have higher than the median pre-audit discretionary accruals (more positive

discretionary accruals) have a higher audit fee. The coefficient on UAAC- is not consistent with expectations, but is consistent with the results for negative pre-audit and negative post-audit discretionary accruals. There is no relationship between the distance from median pre-audit discretionary accruals and audit fees if pre-audit discretionary accruals are less than the median of similarly-performing PHAs.

Conclusion and Discussion

In this study, we argue that results from previous studies testing the relationship between audit fees and discretionary accruals are subject to misinterpretation because the more appropriate variables for testing have not been previously available. We test the prior theories relating audit fees and discretionary accruals using more precise measures – pre-audit discretionary accruals and the change from pre- to post-audit discretionary accruals – where previous studies use only post-audit discretionary accruals. We find support for the economic bonding theory that auditors constrain the magnitude of discretionary accruals less when they are paid higher fees; this is true using both old measures post-audit discretionary accruals) and the change in discretionary accruals from pre- to post-audit. However, the results conflict when we look at income-increasing and income-decreasing accruals separately. When using post-audit income-increasing discretionary accruals, auditors appear to constrain accruals less when paid higher fees; this relationship is not true when using the more appropriate measure of the change in accruals from pre- to post-audit. In addition, when testing income-decreasing accruals, the use of post-audit discretionary accruals results in a significant and negative coefficient on audit fees, while using the change in discretionary accruals results in a significant and positive coefficient on audit fees. The result with the new variable is consistent with higher paid auditors

constraining accruals less even with income-decreasing accruals. Tests using abnormal accruals did not find any significant results in general.

We also find support for the theory that auditors provide higher quality and/or more services with larger magnitude discretionary accruals; this is true using both post-audit and pre-audit measures. Tests segregating income-increasing and income-decreasing accruals find similar results whether pre-audit or post-audit accruals measures are used; in this setting, auditors are paid higher fees when income-increasing discretionary accruals are higher while audit fees do not appear to be affected by income-decreasing accruals.

Overall, our results provide support for the two theories proposed in prior literature. While non-profits can behave differently from for-profit companies, our ability to replicate previous findings using the same measures used in the prior literature provides some comfort that the PHAs in this study are not substantially different-acting from for-profit corporations, at least with respect to audit fees and discretionary accruals. The most important result, however, relates to the results for test of the economic bonding theory. Given that the new measures support different conclusions from those supported by the old measures, it appears that the use of only post-audit data could result in improper conclusions.

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Figure 1
Variable Definitions

Variable	Definition
ASSET	Total assets
LNASSET	Natural log of total assets
NETINC	Total net income
ROA	Return on assets calculated as net income divided by total assets
LEV	Debt to assets ratio calculated as total liabilities divided by total assets
QUICK	Quick ratio calculated as current assets less inventory divided by current liabilities
INVAR	Inventory plus accounts receivable divided by total assets
UDAC (DAC)	Pre-audit (post-audit) discretionary accruals calculated as the residual from the modified Jones model using pre-audit (post-audit) data
UAAC (AAC)	Pre-audit (post-audit) abnormal accruals calculated as the difference between the PHA's pre-audit (post-audit) discretionary accruals and the median pre-audit (post-audit) discretionary accruals for PHAs of similar performance levels as measured by ROA; discretionary accruals estimated without ROA.
ULOSS	Coded as 1 if PHA had pre-audit loss, 0 otherwise
LOSS	Coded as 1 if PHA had post-audit loss, 0 otherwise
NRANY	Coded as 1 if PHA met, but was in the closest decile of meeting, any of the five financial ratios with pre-established thresholds; 0 otherwise
FEE	Audit fee
LNFEE	Natural log of audit fee
#PROG	Number of HUD programs managed by PHA
UNITMTH	Number of units times number of months each unit was available for rent for each PHA
PROB	Number of incidences of going concern, other than unqualified financial statement opinion, material non-compliance with federal regulations, findings, or questioned costs identified by the auditor
AUDCHG	Coded as 1 if the PHA changed its auditor in the current year, 0 otherwise
TOP50	Coded as 1 if the PHA's auditor was classified as one of the top 50 auditors by *Accounting Today*, 0 otherwise
BIG5	Coded as 1 if the PHA's auditor was classified as a Big 5 auditor, 0 otherwise
MW	Coded as 1 if the PHA had indications of material weaknesses, 0 otherwise
RC	Coded as 1 if the PHA had indications of reportable conditions, 0 otherwise
MARYE	Coded as 1 if the PHA's year end is March 30, 0 otherwise
|ASSETCHG|	Absolute value of the percent change in total assets from pre-audit to post-audit
|NICHG|	Absolute value of the percent change in net income from pre-audit to post-audit

Table 1
Descriptive Statistics for 10,567 Public Housing Authorities from 1999 through 2003
Panel A – Pre-Audit and Post-Audit Data

Variable[1]	Pre-Audit Mean [Median]	Post-Audit Mean [Median]	Mean [Median] Change from Pre-Audit to Post-Audit	Change Different From Zero
ASSET	18,300,000 [3,473,495]	18,300,000 [3,477,293]	-20,634 [0]	
NETINC	117,834 [-5,195]	106,493 [-3,346]	-11,241 [0]	
CFOA	0.14 [0.07]	0.14 [0.07]	0.00 [0.00]	
ROA	0.02 [0.01]	0.02 [0.01]	0.00 [0.00]	*
LEV	0.10 [0.04]	0.10 [0.05]	0.00 [0.00]	***
QUICK	5.82 [3.74]	5.69 [3.69]	-0.16 [0.00]	***
INVAR	0.02 [0.01]	0.02 [0.01]	-0.00 [0.00]	***
DAC	-0.01 [-0.02]	-0.01 [-0.03]	-0.01 [-0.01]	***
AAC	0.01 [0.00]	0.01 [0.00]	0.00 [0.00]	
LOSS	0.52 [1.00]	0.51 [1.00]	N/A	
NRANY	0.40 [0.00]	0.39 [0.00]	N/A	

Panel B – Descriptive Information for Data Not Subject to Audit

Variable[1]	Mean	Median	Standard Deviation
FEE	8,659	3,300	34,449
#PROG	5.23	4	3.75
UNITMTH	10,443	2,472	61,029
PROB	0.24	0	0.58
AUDCHG	0.13	0	0.34
TOP50	0.02	0	0.15
BIG5	0.01	0	0.09
MW	0.05	0	0.22
RC	0.09	0	0.29

[1] All variables defined in Figure 1.
*, **, *** Change in mean from pre-audit to post-audit is significantly different from zero at p-value < 0.10, 0.05, 0.01 respectively.

Table 2
Regression Results for Testing Hypothesis 1 - Auditors will constrain discretionary accruals less (more) when they are paid higher (lower) fees

$$DV = \alpha + \beta_1 LNFEE_{it} + \beta_2 LEV_{it} + \beta_3 QUICK_{it} + \beta_4 ULOSS_{it} + \beta_5 LNASSET_{it} + \beta_6 TOP50_{it} + \beta_7 AUDCHG_{it} + \beta_8 PROB_{it} + \beta_9 |DV_{it-1}| + \varepsilon$$

Panel A – Prior Research Dependent Variables

		DV = DAC[1]		DV = |DAC|[1]	
Variable[1]	Expected Sign	Coefficient Estimate (Standard Error)	Sig.[2]	Coefficient Estimate (Standard Error)	Sig.[2]
LNFEE	+	0.020	***	0.014	***
		(0.004)		(0.002)	
LEV	+	0.098	***	0.105	***
		(0.025)		(0.018)	
QUICK	-	0.000		-0.001	**
		(0.000)		(0.000)	
ULOSS	+	0.005		-0.018	***
		(0.005)		(0.004)	
LNASSET	-	0.000		-0.016	***
		(0.003)		(0.002)	
TOP50	-	0.002		0.008	
		(0.026)		(0.018)	
AUDCHG	?	0.002		-0.002	
		(0.007)		(0.005)	
PROB	?	-0.017	***	0.009	***
		(0.005)		(0.003)	
DV_{t-1}	?	0.067	**	0.283	***
		(0.027)		(0.019)	
Constant		-0.204	***	0.215	***
		(0.035)		(0.023)	
		R^2 = 3.41%		R^2 = 14.55%	

Table 2 (continued)

Panel B – New Dependent Variables

Variable[1]	Expected Sign	DV = ΔDAC[1] Coefficient Estimate (Standard Error)	Sig.[2]	DV = Δ|AAC|[1] Coefficient Estimate (Standard Error)	Sig.[2]
LNFEE	+	0.003 (0.002)	*	0.000 (0.002)	
LEV	+	-0.005 (0.011)		-0.014 (0.015)	
QUICK	-	-0.000 (0.000)		0.000 (0.000)	
ULOSS	+	-0.005 (0.002)	**	-0.007 (0.003)	**
LNASSET	-	0.000 (0.001)		-0.002 (0.002)	
TOP50	-	-0.024 (0.012)	**	-0.002 (0.008)	
AUDCHG	?	-0.004 (0.003)		0.005 (0.005)	
PROB	?	-0.001 (0.002)		0.001 (0.003)	
DV_{t-1}	?	-0.271 (0.024)	***	0.083 (0.050)	*
Constant		-0.027 (0.014)	*	0.021 (0.018)	
		R^2 = 10.04%		R^2 = 1.70%	

[1] ΔDAC = change in DAC (as defined in Figure 1) from pre-audit to post-audit.
Δ|AAC| = change in the absolute value of AAC (as defined in Figure 1) from pre-audit to post-audit.

All other variables defined in Figure 1.

*, **, *** Coefficient estimate is significantly different from zero at p-value < 0.10, 0.05, 0.01 respectively

[2] Significance is determined using a one-tailed test for all variables with an ad-hoc expected direction, and a two-tailed test for all other variables.

Table 3
Regression Results for Testing Hypothesis 2A and 2B
H_{2A}: Auditors will constrain income-increasing discretionary accruals less (more) when they are paid higher (lower) fees
H_{2B}: The level of audit fees will not have any effect on the changes in income-decreasing discretionary accruals

$$DV = \alpha + \beta_1 LNFEE_{it} + \beta_2 LEV_{it} + \beta_3 QUICK_{it} + \beta_4 ULOSS_{it} + \beta_5 LNASSET_{it} + \beta_6 TOP50_{it} + \beta_7 AUDCHG_{it} + \beta_8 PROB_{it} + \beta_9 |DV_{it-1}| + \varepsilon$$

Panel A – Prior Research Dependent Variables

		DV = DAC+[1]		DV = DAC-[1]	
Variable[1]	**Expected Sign**	**Coefficient Est. (Standard Error)**	**Sig.[2]**	**Coefficient Est. (Standard Error)**	**Sig.[2]**
LNFEE	**+/?[3]**	0.034	***	-0.007	**
		(0.005)		(0.003)	
LEV	**+**	0.178	***	-0.098	***
		(0.033)		(0.023)	
QUICK	**-**	-0.001		0.001	**
		(0.001)		(0.000)	
ULOSS	**+**	-0.028	***	0.010	***
		(0.007)		(0.004)	
LNASSET	**-**	-0.033	***	0.015	***
		(0.004)		(0.002)	
TOP50	**-**	0.022		-0.004	
		(0.035)		(0.016)	
AUDCHG	**?**	-0.006		-0.004	
		(0.009)		(0.006)	
PROB	**?**	0.001		-0.018	***
		(0.006)		(0.004)	
DV_{t-1}	**?**	0.032		-0.048	**
		(0.028)		(0.020)	
Constant		0.354	***	-0.282	***
		(0.050)		(0.026)	
		R^2 = 9.30%		R^2 = 5.60%	

Table 3 (continued)

Panel B – New Dependent Variables

Variable[1]	Expected Sign	DV = ΔDAC+[1] Coefficient Est. (Standard Error)	Sig.[2]	DV = ΔDAC-[1] Coefficient Est. (Standard Error)	Sig.[2]
LNFEE	+/?[3]	0.000		0.006	***
		(0.003)		(0.002)	
LEV	+	-0.021		0.033	**
		(0.016)		(0.016)	
QUICK	-	0.000		-0.000	**
		(0.000)		(0.000)	
ULOSS	+	-0.005		-0.004	
		(0.004)		(0.003)	
LNASSET	-	0.002		-0.000	
		(0.002)		(0.002)	
TOP50	-	-0.032	**	-0.012	
		(0.016)		(0.015)	
AUDCHG	?	-0.000		-0.006	
		(0.006)		(0.004)	
PROB	?	-0.003		-0.000	
		(0.005)		(0.003)	
DV_{t-1}	?	-0.241	***	-0.272	***
		(0.034)		(0.032)	
Constant		-0.057	**	-0.041	**
		(0.025)		(0.017)	
		R^2 = 8.94%		R^2 = 11.54%	

[1] DAC+ = Post-audit DAC (as defined in Figure 1) for all post-audit DAC > 0.
DAC- = Post-audit DAC (as defined in Figure 1) for all post-audit DAC < 0.
ΔDAC+ = Change from pre-audit to post-audit DAC (as defined in Figure 1) for all pre-audit DAC > 0.
ΔDAC- = Change from pre-audit to post-audit DAC (as defined in Figure 1) for all pre-audit DAC < 0.
All other variables defined in Figure 1.

*, **, *** Coefficient estimate is significantly different from zero at p-value < 0.10, 0.05, 0.01, respectively.
[2] Significance is determined using a one-tailed test for all variables with an ad-hoc expected direction, and a two-tailed test for all other variables.
[3] We expect the coefficient on LNFEE to be positive when using DAC+, but have no expectation when using DAC-.

Table 4
Regression Results for Testing Hypothesis 3A – Fees paid to the auditor increase with higher levels of pre-audit discretionary accruals

$$LNFEE = \alpha + \beta_1 IV_t + \beta_2 LNASSET_t + \beta_3 \#PROG_t + \beta_4 UNITMTH_t + \beta_5 INVAR_t + \beta_6 NRANY_t + \beta_7 LOSS_{t-1} + \beta_8 ULOSS_t + \beta_9 ROA_t + \beta_{10} LEV_t + \beta_{11} MW_t + \beta_{12} RC_t + \beta_{13} TOP50_t + \beta_{14} AUDCHG_t + \beta_{15} MARYE_t + \beta_{16} PROB_t + \beta_{17} |ASSETCHG|_t + \beta_{18} |NICHG|_t + \beta_{19} |ASSETCHG|_{t-1} + \beta_{20} |NICHG|_{t-1} + \textit{regional dummies} + \varepsilon$$

Panel A – Prior Research Independent Variable

		IV = |DAC|[1]		
Variable[1,2]	**Expected Sign**	**Coefficient Estimate**	**Standard Error**	**Sig.[3]**
|DAC|	+	0.269	0.075	***
LNASSET	+	0.294	0.014	***
#PROG	+	0.056	0.003	***
UNITMTH	+	0.000	0.000	***
INVAR	+	1.441	0.448	***
NRANY	+	0.052	0.019	***
$LOSS_{t-1}$	+	0.046	0.016	***
ULOSS	+	0.047	0.021	**
ROA	-	0.010	0.150	
LEV	+	0.479	0.103	***
MW	+	0.153	0.054	***
RC	+	-0.039	0.034	
TOP50	+	0.795	0.101	***
AUDCHG	?	-0.013	0.025	
MARYE	-	-0.104	0.027	***
PROB	+	0.065	0.024	***
$\|ASSETCHG\|_t$	+	0.170	0.163	
$\|NICHG\|_t$	+	0.023	0.008	***
$\|ASSETCHG\|_{t-1}$	+	0.224	0.092	***
$\|NICHG\|_{t-1}$	+	0.018	0.007	***
Constant		3.588	0.208	***

$R^2 = 59.58\%$

Table 4 (continued)

Panel B – New Independent Variables

Variable[1,2]	Expected Sign	IV = |UDAC|[1] Coeff. Est.	Standard Error	Sig.[3]	IV = |UAAC|[1] Coeff. Est.	Standard Error	Sig.[3]
|UDAC|	+	0.118	0.069	**			
|UAAC|	+				0.021	0.057	
LNASSET	+	0.289	0.014	***	0.287	0.014	***
#PROG	+	0.057	0.006	***	0.057	0.006	***
UNITMTH	+	0.000	0.000	***	0.000	0.000	***
INVAR	+	1.607	0.449	***	1.687	0.453	***
NRANY	+	0.053	0.019	***	0.054	0.018	***
$LOSS_{t-1}$	+	0.044	0.016	***	0.042	0.016	***
ULOSS	+	0.048	0.021	**	0.048	0.021	**
ROA	-	0.034	0.151		0.050	0.152	
LEV	+	0.494	0.103	***	0.506	0.102	***
MW	+	0.154	0.054	***	0.154	0.054	***
RC	+	-0.040	0.034		-0.041	0.034	
TOP50	+	0.798	0.102	***	0.801	0.101	***
AUDCHG	?	0.013	0.025		-0.013	0.025	
MARYE	-	-0.106	0.027	***	-0.107	0.027	***
PROB	+	0.066	0.024	***	0.067	0.024	***
$\|ASSETCHG\|_t$	+	0.195	0.163		0.200	0.163	
$\|NICHG\|_t$	+	0.023	0.008	***	0.024	0.008	***
$\|ASSETCHG\|_{t-1}$	+	0.019	0.092	**	0.221	0.093	**
$\|NICHG\|_{t-1}$	+	0.019	0.007	***	0.019	0.007	***
Constant		3.664	0.207	***	3.708	0.206	***
		R^2 = 59.51%			R^2 = 59.49%		

[1] |UDAC| = Absolute value of pre-audit DAC (as defined in Figure 1).
|UAAC| = Absolute value of pre-audit AAC (as defined in Figure 1).

All other variables defined in Figure 1.

*, **, *** Coefficient estimate is significantly different from zero at p-value < 0.10, 0.05, 0.01, respectively.
[2] Coefficient estimates for regional dummy variables are not tabulated.
[3] Significance is determined using a one-tailed test for all variables with an ad-hoc expected direction, and a two-tailed test for all other variables.

Table 5
Regression Results for Testing Hypothesis 3B – Fees paid to the auditor increase (decrease) with larger income-increasing (income-decreasing) pre-audit discretionary accruals

$$LNFEE = \alpha + \beta_1 IV_t + \beta_2 LNASSET_t + \beta_3 \#PROG_t + \beta_4 UNITMTH_t + \beta_5 INVAR_t + \beta_6 NRANY_t + \beta_7 LOSS_{t-1} + \beta_8 ULOSS_t + \beta_9 ROA_t + \beta_{10} LEV_t + \beta_{11} MW_t + \beta_{12} RC_t + \beta_{13} TOP50_t + \beta_{14} AUDCHG_t + \beta_{15} MARYE_t + \beta_{16} PROB_t + \beta_{17} |ASSETCHG|_t + \beta_{18} |NICHG|_t + \beta_{19} |ASSETCHG|_{t-1} + \beta_{20} |NICHG|_{t-1} + \textit{regional dummies} + \varepsilon$$

Panel A – Prior Research Independent Variables

		IV = DAC+[1]			IV = DAC-[1]		
Variable[1]	**Expected Sign**	**Coeff. Est.**	**Std. Error**	**Sig.[2]**	**Coeff. Est.**	**Std. Error**	**Sig.[2]**
DAC+	+	0.408	0.100	***			
DAC-	+				-0.106	0.112	
LNASSET	+	0.311	0.018	***	0.280	0.017	***
#PROG	+	0.043	0.008	***	0.068	0.007	***
UNITMTH	+	0.000	0.000	***	0.000	0.000	***
INVAR	+	1.464	0.519	***	0.971	0.752	*
NRANY	+	0.051	0.028	**	0.051	0.023	**
$LOSS_{t-1}$	+	0.111	0.027	***	0.001	0.021	
ULOSS	+	0.051	0.032	*	0.041	0.028	*
ROA	-	0.155	0.262		-0.040	0.188	
LEV	+	0.631	0.143	***	0.347	0.105	***
MW	+	0.286	0.088	***	0.062	0.061	
RC	+	0.030	0.055		-0.088	0.040	**
TOP50	+	0.593	0.150	***	0.952	0.092	***
AUDCHG	?	-0.029	0.040		-0.004	0.032	
MARYE	-	-0.151	0.038	***	-0.060	0.033	**
PROB	+	0.004	0.038		0.107	0.028	***
$\|ASSETCHG\|_t$	+	0.580	0.235	***	-0.222	0.215	
$\|NICHG\|_t$	+	0.015	0.011	*	0.033	0.011	***
$\|ASSETCHG\|_{t-1}$	+	0.008	0.111		0.458	0.143	***
$\|NICHG\|_{t-1}$	+	0.022	0.011	**	0.015	0.010	*
Constant		3.334	0.277	***	3.792	0.252	***
		R^2 = 59.63%			R^2 = 58.88%		

Panel A – New Independent Variables – Pre-Audit Discretionary Accruals (UDAC)

		IV = UDAC+[1]			IV = UDAC-[1]		
Variable[1]	**Expected Sign**	**Coeff. Est.**	**Std. Error**	**Sig.[2]**	**Coeff. Est.**	**Std. Error**	**Sig.[2]**
UDAC+	+	0.297	0.095	***			
UDAC-	+				0.075	0.105	
LNASSET	+	0.307	0.018	***	0.271	0.017	***
#PROG	+	0.043	0.008	***	0.072	0.007	***
UNITMTH	+	0.000	0.000	***	0.000	0.000	***
INVAR	+	1.508	0.558	***	1.543	0.697	**
NRANY	+	0.055	0.027	**	0.049	0.024	**
$LOSS_{t-1}$	+	0.110	0.027	***	-0.008	0.021	
ULOSS	+	0.029	0.031		0.064	0.029	**
ROA	-	0.135	0.233		0.016	0.197	
LEV	+	0.556	0.140	***	0.427	0.110	***
MW	+	0.244	0.090	***	0.078	0.061	
RC	+	-0.026	0.054		-0.047	0.040	
TOP50	+	0.704	0.151	***	0.853	0.098	***
AUDCHG	?	-0.021	0.039		-0.011	0.032	
MARYE	-	-0.157	0.036	***	-0.048	0.034	*
PROB	+	0.047	0.038		0.081	0.029	***
$\|ASSETCHG\|_t$	+	0.340	0.210	*	-0.006	0.260	
$\|NICHG\|_t$	+	0.010	0.011		0.043	0.012	***
$\|ASSETCHG\|_{t-1}$	+	0.016	0.137		0.399	0.128	***
$\|NICHG\|_{t-1}$	+	0.024	0.011	**	0.015	0.010	*
Constant		3.437	0.266	***	3.886	0.254	***
		R^2 = 58.87%			R^2 = 59.82%		

Table 5 (continued)

Panel B – New Independent Variables – Pre-Audit Abnormal Accruals (UAAC)

		IV = UAAC+[1]			IV = UAAC-[1]		
Variable[1]	Expected Sign	Coeff. Est.	Std. Error	Sig.[2]	Coeff. Est.	Std. Error	Sig.[2]
UAAC+	+	0.122	0.074	**			
UAAC-	+				0.088	0.088	
LNASSET	+	0.307	0.016	***	0.263	0.019	***
#PROG	+	0.044	0.007	***	0.074	0.007	***
UNITMTH	+	0.000	0.000	***	0.000	0.000	***
INVAR	+	1.586	0.531	***	1.665	0.809	**
NRANY	+	0.058	0.025	**	0.046	0.026	*
$LOSS_{t-1}$	+	0.089	0.024	***	-0.006	0.023	
ULOSS	+	0.043	0.030	*	0.044	0.031	*
ROA	-	0.165	0.208		-0.123	0.215	
LEV	+	0.574	0.133	***	0.429	0.116	***
MW	+	0.240	0.082	***	0.062	0.064	
RC	+	-0.048	0.050		-0.034	0.044	
TOP50	+	0.708	0.136	***	0.890	0.109	***
AUDCHG	?	-0.033	0.035		0.007	0.035	
MARYE	-	-0.147	0.035	***	-0.061	0.036	**
PROB	+	0.056	0.036	*	0.077	0.031	***
$\|ASSETCHG\|_t$	+	0.474	0.203	**	-0.170	0.272	
$\|NICHG\|_t$	+	0.009	0.011		0.041	0.013	***
$\|ASSETCHG\|_{t-1}$	+	0.119	0.140		0.343	0.126	***
$\|NICHG\|_{t-1}$	+	0.021	0.010	**	0.018	0.011	**
Constant		3.432	0.250	***	4.035	0.275	***
		R^2 = 59.98%			R^2 = 58.96%		

[1] DAC+ = Post-audit DAC (as defined in Figure 1) that are greater than zero.
DAC- = Post-audit DAC (as defined in Figure 1) that are less than zero.
UDAC+ = Pre-audit DAC (as defined in Figure 1) that are greater than zero.
UDAC- = Pre-audit DAC (as defined in Figure 1) that are less than zero.
UAAC+ = Pre-audit AAC (as defined in Figure 1) that are greater than zero.
UAAC- = Pre-audit AAC (as defined in Figure 1) that are less than zero.

All other variables defined in Figure 1.

*, **, *** Coefficient estimate is significantly different from zero at p-value < 0.10, 0.05, 0.01, respectively.

[2] Significance is determined using a one-tailed test for all variables with an ad-hoc expected direction, and a two-tailed test for all other variables.