

# **Auditing Quality, Auditor Tenure, Client Importance, and Earnings Management: An Additional Evidence**

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### **Abstract**

This paper provides additional evidence about the effect of auditing quality on earnings management behavior. The paper used cash flows from operating activities as reported in cash flows statement to estimate the total accruals and applied a time series version of the modified Jones model to estimate the discretionary accruals. Using a sample of NASDAQ companies in addition to companies listed in NYSE and AMEX, and after controlling for the auditor's tenure and client importance effects, the results provided an additional evidence about the negative relation between auditing quality and earnings management behavior. The results also show that the auditor's tenure has some positive effect on the efficiency of the audit process and improves the monitoring function assumed by auditors. The results also show no evidence that the client importance may affect the auditor's independence or that auditors allow their big client more discretion in reporting their earnings.

## 1. **Introduction:**

An increasing part of accounting research tries to examine the different factors that affect earnings management behavior of managers. Because part of the financial reporting process depends on the judgment of managers, they have the opportunity to manage reported earnings to achieve their own goals. Scott, W. (1997) defined earning management by the choice of accounting policies so as to achieve some specific managers' objective. Because this behavior may have a significant effect on the quality of information provided to investors, the SEC recently is more concerned with earnings management behavior of firms' managers (Healy & Wahlen, 1998).

Many of the previous accounting studies examined the different motivations of earnings management and the factors that induce managers' incentives to manage reported earnings. Specifically, managers try to manage the reported earnings as a result of bonus plans motivations (Healy 1985), the motivations to satisfy the debt covenants (Sweeny 1994, Defond & Jiambalvo 1994), or the motivations to reduce the political costs (Cahan 1992, Jones 1991). The earning management motivations may exist also around the time of CEO change. In one hand, the CEO of a poorly performing firm may try to increase the reported earnings to prevent or postpone being fired. On the other hand, consistent with the findings of DeAngelo et al. (1994), a new CEO may take a "*big bath*" in the year of change to increase the probability of higher future earnings when his/her performance will be measured, especially when low earnings in the change year can be blamed on the previous CEO. Firms may also try to manage reported earnings before going public. Because these firms usually do not have an established market price, their managers may try to increase the reported earnings to receive higher price for their shares. For example, Friedlan (1994)

reported that IPO firms made income-increasing discretionary accruals in the latest period prior to IPO relative to accruals in a comparable previous period.

On the other hand, the concern about the quality of accounting numbers and its relation with the quality of the auditing process is increasing over time following the periodical clusters of business failures, frauds, and the litigation (Tie 1999, Chambers 1999).

The main objective of this paper is to examine the relation between audit quality and earnings management behavior after considering the effect of other variables like the auditor's tenure and the client importance. The auditing process is supposed to serve as a monitoring device (Wallace 1980) that will reduce managers' incentives to manipulate reported earnings. Therefore, it is hypothesized that the higher the auditing quality the lower the earnings management activities by managers, *Ceteris Paribus*.

The paper is organized as follows; section (2) discusses the insurance hypothesis in auditing in its relation to the quality of accounting information. Section (3) introduces the different arguments in auditing research for using size as a proxy for auditing quality. Section (4) discusses the prior research of the relation between earnings management behavior and the auditor quality. The hypotheses development and research design are explained in section (5). Section (6) introduces the data selection and the results, and section (7) concludes the paper.

## 2. **The information hypothesis and quality of accounting earnings:**

Although there is some controversy about the usefulness of the accounting information to investors, accounting earnings may be a major information source for investment decision making. Lev (1999) has investigated the usefulness of financial

information to investors and found that this usefulness has been deteriorating over the past years because the current reporting system adopted by the accounting profession doesn't reflect the fast changes in firms' operations and economic conditions. However, Greenberg (1986) has found some evidence that current earnings –rather than current cash flows- are better as an indication of future cash flows.

Wallace (1980) claimed that investors demand audited financial statements because these statements provide information that is useful in their investment decisions. This implies that the audit process adds some value to accounting information and is valued as a means of improving the quality of the financial information.

The information hypothesis in auditing was tested empirically in many papers. For example, Wild (1996) used the extent to which the market reacts to the release of earnings reports as a measurement of earnings informativeness and compared the informativeness before and after audit committee formation. He found a significant increase in earnings informativeness after the formation of the audit committee indicating that the audit committee provides meaningful oversight of the financial reporting and auditing process.

Moreland (1995) examined the effect of any enforcement actions or sanctions against the auditor by SEC on the quality of audits provided by this auditor and the perceived credibility of his clients' earnings numbers. The study compared the Earnings Response Coefficient (ERC) of the clients before and after taking such actions against the auditor by the SEC and showed a decrease in market response to client's accounting information, indicating a reduction in the perceived precision of such information. In addition, Choi & Jeter (1992) found that the ERC declined significantly after the client received a qualified audit report.

### 3. **Size as a proxy for auditing quality:**

DeAngelo (1981) has theoretically analyzed the relation between audit quality and auditor's size. She argued that large auditors will have more clients and their total fees will be allocated among those clients. Defining the auditor's independence by the conditional probability that the auditor will disclose any misstatement in financial statements given that this misstatement was already discovered, DeAngelo (1981) argued that large auditors will be more independent and, therefore, will provide higher quality of audit.

The results of some empirical papers have provided additional support for the use of auditor size as a proxy for audit quality. Davidson (1993) used an indirect method to support the argument that size is a good proxy for auditing quality. He argued that managers have incentives to manipulate the reported earnings to meet the analysts' forecasts. Therefore, if large auditing firms provide higher-quality audits than small auditing firms, we may expect the forecast errors of big auditing firms' clients to be larger. Using data for Canadian firms, his results support that expectation indicating that the auditor size is a good proxy for auditing quality.

Lennox (1999) looked at the two explanations of the hypothesized positive relation between audit quality and auditor size: the reputation hypothesis suggested by DeAngelo (1981) who argues that large auditors have more incentives to be accurate because they have more client-specific rents to lose if their reports are not accurate, and the deep pockets hypothesis used by Dye (1993) who argued that large auditors will be more accurate because they have greater wealth that is exposed to risk in case of any litigation. Lennox (1999) examined the relation between auditor size and litigation and found greater support to the deep pocket hypothesis than reputation hypothesis. Finally, Colbert (1998) focused

on small CPA firms and the peer review activities between such firms and found some evidence that the auditor quality is positively associated with firm size. Therefore, this paper uses the auditor size –the brand name approach- to capture the auditing quality.

#### 4. **Previous studies on earnings management and audit quality:**

Some prior papers have looked at the relation between earnings management and audit quality and examined the effect of auditor quality on management incentives to manipulate the reported earnings. For example, Hirst (1994) used an experimental design to test the effect of auditors' belief that managers may have incentives to manage reported earnings on their expectation of material misstatements in financial statements. His results show that auditors' assessed probability that material misstatements exist is higher if auditors think that managers have incentives to manage reported earnings whether upward or downward.

Defond (1993) has reported that firms that changed the auditor after a client-auditor disagreement are highly leveraged and more likely to have debt covenant violation. These firms also are more likely to have a decline in reported earnings. His results also show that if the questionable accounting procedures were applied, this would result in smoothed earnings numbers or flat earnings growth. The study used a sample of matched pairs of firms that changed auditors because of client-auditor disagreement and other firms that simply changed the auditor. These results show that auditors usually disagree on earnings management activities and lead to hypothesize that higher audit quality will be associated with less magnitude of earnings management.

Burilovich (1997) looked at specific incentives to manage reported earnings in the case of alternative minimum tax<sup>\*</sup>. She used a sample of 72 regulated life insurance firms during the period 1984-1989 and found that income decreasing discretionary accruals (DA) differ significantly across the companies audited by big auditing firms. She also argued that auditing firms with the greatest market share appear to allow greater discretion to the client in determining accruals. To explain these results, she argued that auditing firms with higher market share will have more experience in the industry and, therefore, they can allow more discretion to their clients. In this study, Burilovich (1997) didn't use any model to measure the DA but used the items that may affect the difference between taxable income and reported income in this special case of AMT considering the regulations of life insurance industry. On the other hand, it is difficult to accept the argument that big auditing firms that usually have larger market share will allow their clients more discretion in accounting reporting.

Becker et al. (1998) used the cross-sectional version of Jones model (Jones 1991) for estimating DA and found that income increasing DA for the clients of non-big auditing firms are higher than big auditing firms. Their paper also looked at the variation in DA in addition to its sign and magnitude and found that the variation was lower for big auditing firms' clients and higher for non-big auditing firms' clients. In their study, Becker et al. (1998) focused on the income-increasing DA and excluded firms that changed the auditor during their test period (1989-1992) from the analysis. Therefore, they didn't examine the auditor's tenure effect. Francis, et al. (1999) applied the cross-sectional Jones model using

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<sup>\*</sup>Based on this rule, half of the increase in reported income over taxable income will be subject to a 20% tax rate. So, AMT case gives managers incentives to reduce reported income and, therefore, tax liability.

a sample of NASDAQ companies and found evidence that the clients of big auditing firms have lower amounts of estimated DA. In this paper, I use a time series version of the Modified Jones model and control for the effects of both the auditor's tenure and client importance on the *magnitude* of earnings management using the absolute value of DA.

## 5. **The hypotheses and research design:**

In this paper, I expect that managers will be less likely to manage reported earnings (whether upward or downward) if their financial statements are audited by a high-quality auditor. Therefore, the main hypothesis to be tested in this paper is that:

*“The magnitude of earnings management activities (measured by the absolute value of DA) will be negatively correlated with the auditing quality as measured by auditor's size”.*

So, I expect  $\beta_1$  to be negative and significantly different from zero in the following model:

$$|DA_{it}| = \beta_0 + \beta_1 AUD_{it} + \varepsilon_{it} \quad (1)$$

Where:

- $|DA_{it}|$  is the absolute value of discretionary accruals of firm i in year t as measured below,
- $AUD_{it}$  is a measurement of audit quality for firm i in year t using auditor size as a proxy for quality. This variable is measured using a dummy variable that takes the value 1 if the auditor is one of the big auditing firms, and 0 otherwise.

The discretionary accruals will be estimated using the Modified Jones Model suggested by Dechow et al. (1995) as an improvement of the original Jones model (Jones 1991). Based on this model, the DA is the residuals of the following model:

$$TA_{it} / A_{it-1} = \alpha_i [1 / A_{it-1}] + \beta_{1i} [(\Delta REV_{it} - \Delta REC_{it}) / A_{it-1}] + \beta_{2i} [PPE_{it} / A_{it-1}] + \varepsilon_{it} \quad (2)$$

Where:

- $TA_{it}$  is the total accruals of firm i in year t,
- $\Delta REV_{it}$  is the change in revenues of firm i between years t and t-1,
- $\Delta REC_{it}$  is the change in receivables of firm i between years t and t-1,
- $PPE_{it}$  is the level of property, plant, and equipment of firm i in year t,
- $A_{it-1}$  is the total assets of firm i at the end of year t-1.

In this study, the total accruals ( $TA_{it}$ ) are measured by the difference between net income ( $NI_{it}$ ) and net cash flows from operating activities ( $CFO_{it}$ ) as follows:

$$TA_{it} = NI_{it} - CFO_{it} \quad (3)$$

The study uses net income instead of income before extra-ordinary or special items to avoid any abnormal accruals misclassification by Jones model. As suggested by Bernard and Skinner (1996), these special items are usually not discretionary but Jones model misclassifies them as discretionary because they are not linearly related to changes in revenues. The study also uses cash flows from operating activities (as stated in cash flow statement) to compute total accruals to eliminate any potential measurement errors when using the balance sheet items to compute the total accruals indirectly. Collins and Hribar (2000) argued that some non-articulation events such as mergers and acquisitions may break down the presumed articulation between the balance sheet and the income statement, and this may result in the total accruals estimated using the balance sheet items may contain significant measurement errors compared to the total accruals measured directly using the cash flow statement. They also argue that such measurement error will affect the

ability of Jones model residuals to capture the managerial discretion as indicated by abnormal accruals.

Dechow et al. (1995) found that the modified Jones model is relatively more powerful in detecting the discretionary accruals than the original Jones model. In addition, most of the previous research on discretionary accruals used this model including recent papers like Barton (2001) and Heninger (2001).

Some of the prior research applied the above model temporally, but Jeter & Shivokumor (1997) suggested that this model might be applied cross-sectionally by estimating the coefficients for a sample of firms in the same industry. Comparing between the temporal version and the cross-sectional version of this model in estimating abnormal accruals, we may notice that: first, the temporal model requires the sample to have at least ten observations for each firm. Second, the cross-sectional version is not a substitute for the temporal one but it provides an industry-relative measure of abnormal accruals. Finally, the cross-sectional model is less likely to detect any abnormal accruals if such accruals are correlated across several firms in the same industry. Because the discretionary accruals are firm specific more than industry-specific, the tests in this paper focus mainly on the temporal version of the modified Jones model. The original version of the modified Jones model deducts the change in receivables from the change in revenues only in the event period. Because I don't study a specific event in this paper, I will deduct the receivables change from the revenues change in both estimation and study periods.

In estimating the model in equation (1), I will control for the other auditing factors that are expected to affect the monitoring efficiency of the auditing process and the absolute value (the magnitude) of discretionary accruals. Following Heninger (2001), I will

control for the client importance for the auditor ( $IMPRT_{it}$ ) as measured by the ratio of the client's sales to the sales of all clients for a given auditor, and the duration of the auditor/client relationship ( $TENURE_{it}$ ) using a dummy variable that takes 1 if this relationship has started in year t-3 or before and 0 otherwise.

Therefore, the entire model to be estimated in this study is:

$$|DA_{it}| = \beta_0 + \beta_1 AUD_{it} + \beta_2 IMPRT_{it} + \beta_3 TENURE_{it} + \varepsilon_{it} \quad (4)$$

Because the dependent variable is the absolute value (the magnitude) of discretionary accruals, the explanatory variables hypothesized in the previous research to be related to a specific *direction* in discretionary accruals will be irrelevant for this study. Such variables include the bonus plans variable and the leverage variable.

## **6. Sample selection and results:**

The sample includes all the U.S firms listed in NYSE, AMEX, and NASDAQ with data necessary to estimate the temporal version of the Modified Jones model as mentioned above that is available between 1988 and 1999. Financial institutions, utility companies, and firms that changed the fiscal year end during the test period are excluded from the sample. The reason I started with 1988 is that the cash flow data are not available from cash flow statement before this year. Because the majority of NYSE and AMEX firms are audited by big auditing firms, I only included a sample of these firms with fiscal year ends at December 31. I have included firms from NASDAQ with higher percentage of non-big auditing firms to increase the variation in the auditor quality variable. The data required to estimate the DA variable obtained from COMPUATAT files and the auditors information required to estimate the variables AUD, TENURE, and IMPRT have been obtained from Who Audits America.

For each firm, I have measured the DA for the years 1997, 1998, and 1999 using an estimation period of minimum 9 years and maximum 11 years before the measurement period depending on the data availability. Then, I pooled all the observations available over the three years. These criteria resulted in a sample of 1938 firms with 5077 firm-year observations. Because the data necessary to compute the variables TENURE and IMPRT were not available for some firm-years, the firm year observations that used in tests including these variables are 4902.

Table (1) shows the number of observations for companies audited by big firms and non-big firms and the percent of positive and negative DA for each group. As expected, 3797 (75%) of the sample audited by big firms while only 1280 (25%) audited by non-big firms. The DA sign is evenly divided in the big firms group while the negative DA observations are slightly higher in the non-big group.

Table (2) compares the means of DA for firms with big auditing firms versus those for firms with non-big auditing firms. Panel A reports this comparison for the entire sample and shows that the mean for the non-big firms is 4.805 where the mean for the big firms is only .185. The table also shows that the two means are significantly different (t-value is  $-2.606$  and p-value is  $.009$ ). The table also includes the results of means comparison for negative DA (panel B) and positive DA (panel C) and shows that the mean of negative DA is lower for non-big firms where the mean of positive DA is higher for non-big firms. The differences in means are significant for both signs of DA. These results support the hypothesis that the clients of the non-big auditing firms are more involved in earnings management than the clients of the big auditing firms.

Table (3) shows the results of estimating the equations (1) and (4) for all sample, negative DA, and positive DA. In panel A, the results of estimating equation (1) support the results in table (2) and show a significant negative relation between DA and auditing quality variable. The coefficient of AUD is  $-4.620$  and is significant at less than 1% level. The results of equation (4) also support the main hypothesis. The coefficient of AUD is still negative and significant although at a lower level of less than 10%. An interesting result from table (3) is the negative relation between earnings management behavior and the auditor tenure. The coefficient of TENURE is  $-3.045$  and significant only at 11 % level. This result is consistent with the notion that auditors gain more familiarity with the client over time and this enables them to detect any opportunistic usage of accruals. Panel A also shows a negative relation between the magnitude of discretionary accruals and client importance. The coefficient of IMPRT is  $-4.634$  but not significant at the normal levels. Panel B in table (3) supports the above results using negative DA only. In this case, the coefficient of DA is significantly positive. The coefficient of TENURE is also positive but significant only at 13% level. For positive DA in panel C, the results are almost the same although the AUD coefficient is less significant and the TENURE coefficient is more significant. In both panels B and C, the coefficient of IMPRT is not significantly different from zero.

As an additional evidence about the effect of auditor tenure and client importance on earnings management, I have divided the sample into two sub-samples based on the variables TENURE and IMPRT and compared the mean of DA for the two sub-samples. Table (4) shows this comparison using the TENURE variable. The mean of TENURE sub-sample is significantly different from (lower than) the mean of NON-TENURE sub-

sample. Table (5) shows the difference between the means of DA for two sub-samples constructed based on the IMPRT variable. The first sample of high (low) client importance includes the observations with client importance above (below) the median of the IMPRT variable. The table shows that there is no significant difference between the DA means for the two samples indicating that the client importance has no effect on the efficiency and integrity of the auditing process and the monitoring role for auditors. The results (not reported) are the same using the IMPRT mean to construct the two sub-samples instead of the median.

**(7) Conclusion:**

This paper examined the effect of three auditing factors on earnings management behavior: auditing quality, auditor's tenure, and client importance. I found an additional evidence of the negative relation between auditing quality and earnings management. The auditor's tenure also is negatively related to the magnitude of discretionary accruals indicating that auditors become more familiar with clients operations and financial reporting environment with the time and this enables them to detect and prevent any opportunistic usage of accruals. The results of the study don't show any evidence that the client importance may affect the auditors' integrity and independence or the efficiency of the monitoring role of the auditing process.

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**Table (1)**

**Description of the sample observations**

The DA is the absolute value of discretionary accruals as measured by the Modified Jones model and the AUD is a dummy variable that takes 1 if the firm's auditor is one of the big auditing firms and 0 other wise.

	<b>AUD=1</b> n=3797	<b>AUD=0</b> n=1280
<b>Positive DA (%)</b>	1860 (49)	580 (45)
<b>Negative DA (%)</b>	1937 (51)	700 (55)

**Table (2)**

**Comparison of the means of DA for firms with big auditors vs. firms with non-big auditors.**

The DA is the absolute value of discretionary accruals as measured by the Modified Jones model and the AUD is a dummy variable that takes 1 if the firm's auditor is one of the big auditing firms and 0 other wise.

<b>The audit quality (AUD)</b>	<b>Number</b>	<b>Mean of DA</b>	<b>Standard Deviation</b>	<b>t-value for equality of means</b>	<b>Sig. Of the Difference (2- tailed)</b>
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**Panel A: all DA**

<b>BIG (1)</b>	3797	.185	2.045	-2.606	.009
<b>NON-BIG(0)</b>	1280	4.805	109.193		

**Panel B: negative DA**

<b>BIG (1)</b>	1937	- .158	.665	2.448	.014
<b>NON-BIG(0)</b>	700	- 8.367	147.586		

**Panel C: positive DA**

<b>BIG (1)</b>	1860	.213	2.843	- 2.163	.031
<b>NON-BIG(0)</b>	580	.506	2.876		

**Table (3)****Results of regressing DA against AUD, TENURE, and IMPRT variables**

AUD is a dummy variable that takes 1 if the firm's auditor is one of the big auditing firms and 0 otherwise. TENURE is a dummy variable that takes 1 if the client-auditor relation has started at year t-3 or before and 0 otherwise. IMPRT is the client importance as measured by the client's sales divided by the total sales of all the auditor's clients. The dependent variable DA is the absolute value of discretionary accruals as measured by the Modified Jones model. The t-values are shown in parentheses.

<b>Model</b>	<b>Constant</b>	<b>AUD</b>	<b>TENURE</b>	<b>IMPRT</b>
<b><u>Panel A: all DA</u></b>				
<b>Equation (1)</b>	4.805* (3.134)	- 4.620* (- 2.6.6)		
<b>Equation (4)</b>	7.496* (3.327)	- 4.747** (-2.128)	- 3.045 (- 1.573)	-4.634 (-1.215)
<b><u>Panel B: negative DA</u></b>				
<b>Equation (1)</b>	- 8.366* (- 2.912)	8.208* (2.448)		
<b>Equation (4)</b>	- 13.214* (- 3.132)	8.496** (2.036)	5.455 (1.484)	8.31 (1.16)
<b><u>Panel C: positive DA</u></b>				
<b>Equation (1)</b>	.506* (4.274)	- .293** (- 2.163)		
<b>Equation (4)</b>	.526* (3.186)	- .003 (-.20)	- .333* (- 2.385)	.005 (.179)

\* Significant at less than 1%.

\*\* Significant at less than 10%.

**Table (4)**

**Comparison of the means of DA for firms with tenure auditors vs. firms with non-tenure auditors.**

The DA is the absolute value of discretionary accruals as measured by the Modified Jones model and the TENURE is a dummy variable that takes 1 if the client-auditor relation started at year t-3 or before and 0 otherwise.

<b>The auditor tenure</b>	<b>Number</b>	<b>Mean of DA</b>	<b>Standard Deviation</b>	<b>t-value for equality of means</b>	<b>Sig. Of the Difference (2- tailed)</b>
<b>Tenure</b>	3879	.230	3.380	- 2.171	.030
<b>Non. Tenure</b>	1025	4.301	116.645		

**Table (5)**

**Comparison of the means of DA based on client importance.**

The DA is the absolute value of discretionary accruals as measured by the Modified Jones model and the IMPRT is the client importance as measured by the client's sales divided by the total sales of all the auditor's clients. High (low) import represents the observations above (below) the median.

<b>The client importance</b>	<b>Number</b>	<b>Mean of DA</b>	<b>Standard Deviation</b>	<b>t-value for equality of means</b>	<b>Sig. Of the Difference (2- tailed)</b>
<b>High IMPRT</b>	2652	.256	4.057	-1.174	.241
<b>Low IMPRT</b>	2652	2.052	78.702		