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Analysts' Evaluation of the Information Content of Changes in Auditor Types

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ABSTRACT

Companies hire auditors to meet legal requirements if they are publicly traded and to provide credibility to their financial statements. However, all auditors may not provide the same level of service to third parties. Prior research regarding such events as initial public offerings has found qualitative differences among big Five and non-Big Five auditors. Companies may, therefore, switch auditors to attain some perceived qualitative difference in the audit engagement. The degree that this auditor change is or is not incorporated by financial analysts into analysts' forecasts has not been fully researched for the benefit of determining if there is any information content associated with the auditor change on security prices. The results of this study show that financial analysts do not fully incorporate information relative to auditor changes in their forecasts. This study might provide insight into the currently accepted view of the Efficient Market Hypothesis with respect to the information content of auditor changes and the market's interpretation of the information. In addition, analysts may need to scrutinize auditor changes more closely in order to fully understand the signal that may be included in the decision to change auditors.

INTRODUCTION

Financial analysts are one of the primary users of financial information. Analysts analyze publicly available information such as financial statements, and management earnings forecasts as well as non-public information obtained directly from firms they follow in order to make buy and sell recommendations and to make earnings forecasts. Given that the reward structure for analysts provides incentive for analysts to make accurate recommendations/forecasts, analysts expend considerable amounts of time and effort trying to uncover value relevant information about the companies and industries they follow.

This study will investigate whether information related to changes in auditor type is completely incorporated into analysts' earnings forecasts. It is generally accepted that large international (Big Five) auditors provide specific advantages and services to their clients that are not available from national auditors. Similarly, national auditors may provide specific advantages and services not available from regional auditors. A similar argument can be made when comparing widespread regional auditors with regional auditors that are more localized. Therefore, changes from national or regional auditors to Big Five auditors (or changes from Big Five auditors to

national or regional auditors) may provide information about the future demands and needs of the client. This information in turn may provide a signal regarding the future earnings of the client. Since providing earnings forecasts is one of the primary roles of analysts, they would be expected to incorporate the information into their expectation of company earnings in an unbiased fashion if the information has an impact on earnings. If there is a statistically significant difference between the analysts' forecast and the actual earnings, the analysts may not have completely captured the information signaled by the change in auditor type.

The remainder of the paper is structured in the following manner. Section 2 outlines the theory utilized in developing the hypotheses. Section 3 describes the hypotheses tested. Section 4 specifies the methodology used for testing. Section 5 is the discussion of results and section 6 indicates the conclusions of the paper.

THEORY

Companies hire auditors to meet legal requirements if they are publicly traded and to provide credibility to their financial statements. The auditor provides an independent appraisal of the financial statements' correspondence to Generally Accepted Accounting Principles (GAAP), and the auditor's report provides assurance to third parties using the financial statements to make decisions. Research has shown that economic rewards accrue to companies who elect to get their financial statements audited. Blackwell, Noland and Winters (1998) found companies that engaged CPAs to perform an audit of their financial statements were able to obtain financing at a lower interest rate relative to companies with unaudited financial statements.

However, all auditors may not provide the same level of service and assurance to third parties. Auditing expertise, improved training, enhanced technology, and other client services are more readily available from a Big Five audit firm compared to national or regional audit firms. Previous research regarding other events such as initial public offerings has found that the Big Five are viewed as quality differentiated auditors relative to the non-Big Five firms. Research into initial public offerings (IPO) (Willenborg, 1999) has found that companies that engage a Big Five auditor command a higher share price when compared to companies that engage smaller audit firm. Teoh and Wong (1993) found that earnings response coefficients for firms changing to Big Five auditors were significantly larger than firms changing to smaller firms. This finding implies that the market assesses earnings surprises from companies audited by a Big Five auditor differently relative to companies audited by smaller firms. These results are consistent with the theory that audits by Big Five firms are viewed as more desirable than audits by smaller firms from the perspective of third parties. However, these additional benefits generally come at a higher cost in the form of larger audit fees.

While not a common event for most companies, changes in auditors do occur. The change may be client initiated due to dissatisfaction with service or fees, or the change may be auditor initiated due to a desire to reduce the risk level of their client base, or to eliminate less profitable clients. A change in auditors is an event that can carry information to third parties and result in economic consequences for the client. Wells and Loudder (1997) found that auditor-initiated auditor

changes resulted in a negative stock price reaction for the client at the time the event is disclosed on form 8K, since an auditor-initiated change often results for reasons that reflect negatively on the client. Dhaliwal, Schatzberg and Trombley (1993) find that firms who change auditors after a disagreement with auditors have poorer earning and stock performance relative to firms who change auditors without a disagreement. Additionally, they find some evidence that firms who had a disagreement are more likely to switch to a smaller auditor, possibly to reduce auditor scrutiny. Wallace (1998) finds that firms which engaged a big 5 auditor after an auditor switch benefited from the change in the form of reduced cost of capital.

At the time an auditor change occurs, the client can elect to make a "lateral" change by selecting a new auditor of the same type. Depending on the former auditor, the company can also elect to go "upstream" (regional to national auditor; or a national to international auditor) or "downstream" (international auditor to a national auditor; or a national auditor to a regional auditor) with the new auditor. Upstream changes could be for a number of reasons including:

- outgrowing the audit services available from the current auditor,
- requiring non-audit services (e.g. consulting service, tax planning service, computer technology, investment service) that are not available from the smaller auditor,
- desiring an auditor with a prominent national or international reputation to satisfy investors and/or creditors
- requiring an auditor with a greater geographic disbursement to meet company growth

Conversely, downstream changes may occur for a number of reasons including:

- cost reduction
- a desire to have a less trained, less technical evaluation of the company (possibly in an attempt to hide irregularities in the business)
- to be a more important client to an auditor
- the firm being perceived as too risky for a Big Five auditor

While the actual reason for the auditor change may not be known, and is generally not disclosed in great detail on the 8K (Wells & Loudder, 1997), a general proposition may be formulated from the preceding list. Upstream changes are generally the result of positive factors, while downstream changes are often the result of factors that are negative. It may be that the decision to make an upstream change is due to client growth requiring new services or greater scope in audit services. On the other hand, a downstream change may indicate a need for cost cutting or a decline in the business. Further, such a change could indicate the desire of the company to have an audit of diminished scope or scrutiny.

Because a Big Five audit is generally more expensive than an audit by a smaller firm, an upstream change is unlikely unless the company has a compelling reason to make the switch. We view the decision to change auditors as a strategic decision by firm management that represents a publicly available signal about management's expectations since the change is disclosed on SEC Form 8K at the time of the change. An "upstream" change to a larger firm represents a positive signal about the firm's expectations for the future, whereas a "downstream" change to a smaller auditor represents a negative signal that may show up in the form of positive or negative unexpected earnings. A "lateral" change to a similar sized auditor represents a neutral signal.

We use analysts' earnings forecasts as a proxy for the market's expectation about firm prior to earnings release. The difference between the forecast and the subsequent actual earnings amount (unexpected earnings) represents information about the firm that was not incorporated into the analysts' forecast. Analysts' forecasts have been widely used as a proxy for expected earnings in empirical research, and research shows that analysts are motivated to produce accurate forecasts (Mikhail, Walther & Willis, 1999). Therefore, analysts have should rapidly incorporate information about a firm into their forecasts if the information has earnings implications. If analysts fully incorporate the information contained in an auditor switch, systematic differences in unexpected earnings should not exist between firms making upstream and downstream auditor changes.

One problem with using analyst forecasts as a proxy for market expectations is that they are not unbiased on average. Analyst forecasts on average are overly optimistic (Ali, Klein & Rosenfeld, 1992). Analysts may face pressure from the management of firm they analyze to provide "good news" about the firm. Analysts who don't agree to provide "good news" can be cutoff from value relevant information disclosed to analysts before it becomes public knowledge. Given the competitive nature of the financial analysis business the loss of such information is significant, and provides a strong incentive for analysts to keep firm management happy.

Research into analyst forecast bias has found several items that are correlated with forecast bias. Ackert and Athanessakos (1997) found that uncertainty (defined as the standard deviation of analyst forecasts) increases forecast optimism. Analysts seem to have fewer concerns about reputation when making forecasts with high levels of uncertainty and are more likely to "act on their inclinations to issue optimistic forecasts." Lys and Soo (1995) have found that the number of analysts following a firm is negatively correlated with the size of the forecast error. Having a larger analyst following results in more accurate forecasts. Francis and Philbrick (1993) find that analysts are less accurate with earnings forecasts if they have a sell recommendation on the stock. Analysts may be attempting to ameliorate an unfavorable buy/sell recommendation with an optimistic earnings forecast. Mikhail, Walther and Willis (1997) find that a learning effect exists for individual analysts. As analysts gain experience following a specific firm, the more accurate their forecasts become. Forecast accuracy also has an inverse relationship with forecast horizon (Brown, Richardson & Schwager, 1987). The closer the forecast date is to the earnings release date, the more accurate the forecast is. Finally, Dugar and Nathan (1995), and Lin and McNichols (1998) examined the effects of underwriting relationships on sell-side analyst forecast accuracy. They find that analysts are more likely to issue optimistic forecasts for underwriting clients relative to firms they do not have an underwriting relationship with.

HYPOTHESIS DEVELOPMENT

A change in auditor type may provide information to analysts and investors. If this information is not completely understood by market analysts and incorporated into their forecasts, unexpected earnings may be present at the time the company announces its actual earnings. In addition, it is probable that changes to smaller auditor types indicate relevant negative information concerning the company, while changes to a larger auditor type indicated relevant positive information concerning the company. To test the existence of this information and the incorporation of the information into the analysts' forecasts, the following hypotheses (stated in the alternative) are tested:

H1:	Positive unexpected earnings are present at the earnings announcement date when a company has changed from a smaller auditor type to a larger auditor type during the fiscal year
H2:	Negative unexpected earnings are present at the earnings announcement date when a company has changed from a larger auditor type to a smaller auditor type during the fiscal year

SAMPLE SELECTION

Ordinary Least Squares (OLS) regression is estimated with sample firms obtained from the COMPUSTAT industrial tapes, which include firms listed on the New York Stock Exchange (NYSE), the American Stock Exchange (AMEX), and the National Association of Security Dealers Automated Quotations (NASDAQ). The sample is selected from the files of the 2000 annual industrial tapes and is limited to firms with earnings information in each year of the period 1989-1999. As a measure of unexpected earnings, we use consensus analysts' forecast, therefore, we require the sample firms to be followed by the Institutional Brokers Estimate System (IBES), similar to Baginski, Hassell and Waymire (1994) and Stunda (1996).

Analysis is limited to firms that have switched auditors during the study period. Following is a breakdown of the number of firms switching auditors by auditor classification:

Type of Switch	Number of Firms
From NB5 to B5	153
From B5 to NB5	43
From B5 to B5	32
From NB5 to NB5	38
Total number of firms	266

METHODOLOGY

The study's sample consists of all publicly traded companies that changed auditor type during the time period 1989 - 1999. In addition, the testing will control for company growth, company size, systematic market risk, and noise.

Big Five versus non-Big Five

An OLS regression model is used to examine whether the unexpected earnings are greater for companies that change auditor type. The following regression will evaluate changes in auditor type classified as Big-Five (B5) and non-Big-Five (NB5) through the assessment of the relative information content of unexpected earnings. The regression model assesses the relative information content of unexpected earnings for firms that change from B5 to NB5 auditors and from NB5 to B5 auditors.

$$UE_{it} = a + b_1D1_{it} + b_2D2_{it} + b_3MB_{it} + b_4LMV_{it} + b_5N_{it} + b_6B_{it} + e_{it}. \quad (1)$$

Where:

UE_{it}	=	Unexpected earnings forecast for firm i, time t
$D1_{it}$	=	Dummy variable, 1 for change from B5 to NB5, 0 otherwise
$D2_{it}$	=	Dummy variable, 1 for change from NB5 to B5, 0 otherwise
MB_{it}	=	Market value to book value as a proxy for growth and persistence;
LMV_{it}	=	Natural log of market value as a proxy for size;
N_{it}	=	Number of analysts' forecasts included in IBES as a proxy for noise in the pre-announcement environment
B_{it}	=	Market value slope coefficient as a proxy for systematic risk;
e_{it}	=	normally distributed error term.

The coefficient "a" measures the intercept. The coefficients b1 and b2 are the earnings response coefficients (ERC) capturing the information content for firms changing respective auditor types. The remaining coefficients are control variables that potentially contribute to the ERC. Each coefficient is assessed for significance in explaining the cross-sectional unexpected earnings change during the study period.

Unexpected earnings (UE_{it}) for each firm are measured as the difference between the actual earnings and security market participants' expectations for earnings proxied by consensus analysts' forecast as per IBES. The unexpected earnings are scaled by the firm's stock price 180 days prior to the forecast:

$$UE_{it} = (\text{Actual Earnings} - \text{Expected Earnings}) / \text{Price}$$

Stratification of Firms

The sample of audit firms was next stratified in order to assess whether changes to/from auditor types other then international auditor possessed information content with respect to a change

in the audit firm by the client. Stratification is comprised of four distinct groups. Group one consists of the five largest firms (big- five). These firms averaged more than 2,000 clients as reported on COMPUSTAT for the years 1989-1999. Group two consists of audit firms with an average number of clients between 500 and 2,000 as reported on COMPUSTAT for the years 1989-1999. These firms proxy for national firms. Group three consists of audit firms with an average number of clients between 200 and 500 as reported on COMPUSTAT for the years 1989-1999. These firms proxy for the widespread regional audit firms. Group four consists of audit firms with less than 200 clients as reported on COMPUSTAT for the years 1989-1999. These firms proxy for the localized regional firms. These cut-offs are arbitrary in nature but they are reasonable, based on analysis of the firms contained in the stratification. The following represents the number of audit firms in each category of auditor type evaluated in this study:

Audit Group		# of audit firms
1	(Big Five)	5
2	(Non-Big Five)	6
3	(Large Regional)	16
4	(Small Regional)	10
	Total	37

In order to assess information content for the stratified firms, the following OLS regression model is employed:

$$UE_{it} = a + b_1D1_{it} + b_2D2_{it} + b_3D3_{it} + b_4D4_{it} + b_5D5_{it} + b_6D6_{it} + b_7D7_{it} + b_8D8_{it} + b_9D9_{it} + b_{10}D10_{it} + b_{11}D11_{it} + b_{12}D12_{it} + b_{13}MB_{it} + b_{14}LMV_{it} + b_{15}N_{it} + b_{16}B_{it} + e_{it} \quad (2)$$

Where:
- D1 = Variable for change from group 1 auditors to group 2 auditors
- D2 = Variable for change from group 1 auditors to group 3 auditors
- D3 = Variable for change from group 1 auditors to group 4 auditors
- D4 = Variable for change from group 2 auditors to group 3 auditors
- D5 = Variable for change from group 2 auditors to group 4 auditors
- D6 = Variable for change from group 3 auditors to group 4 auditors
- D7 = Variable for change from group 2 auditors to group 1 auditors
- D8 = Variable for change from group 3 auditors to group 2 auditors
- D9 = Variable for change from group 3 auditors to group 1 auditors
- D10 = Variable for change from group 4 auditors to group 3 auditors
- D11 = Variable for change from group 4 auditors to group 2 auditors
- D12 = Variable for change from group 4 auditors to group 1 auditors
- MB = Variable for market value to book value as a proxy for growth
- LMV = Variable for natural log of market value as a proxy for firm size
- N = Variable for number of analysts' forecasts included in IBES as a proxy for noise in the pre-disclosure environment
- B = Variable for market value slope coefficient as a proxy for risk
- e = Normally distributed error term

All parameters and measures are consistent with the initial regression model of the study.

RESULTS

The following table provides results of including switches from Big Five to non-Big Five and from non-Big Five to Big Five auditors.

Table 1: **Summary of Client Firms Switching Auditors**

$UE_{it} = a + b_1D1_{it} + b_2D2_{it} + b_3MB_{it} + b_4LMV_{it} + b_5N_{it} + b_6B_{it} + e_{it}$.

Variable	Variable Descriptor	Mean	Median	Coefficient	T-statistic	p-value
D1	D from B5 to NB5	-0.2816	-0.2484 [a]	-0.0825	2.8019	0.0120
D2	D from NB5 to B5	0.3041	0.2410 [a]	0.0543	2.4883	0.0201
MB	Growth Proxy	2.2390	1.8761	0.0219	0.3651	0.5102
LMV	Size Proxy	4.3692	4.0077	-0.0329	0.2075	0.7724
N	Noise Proxy	4.7201	4.0000	0.0699	1.0387	0.4009
e	Risk Proxy	1.2971	1.1992	0.0557	0.9921	0.5301

[a] Significant at the .01level using the non-parametric sign rank test
Overall sample = 266 firms
Variable b_1 sample = 43 firms
Variable b_2 sample = 153 firms

Results indicated in Table 1 indicate that positive unexpected earnings are indeed present at the earnings announcement date when a firm changes from a non-Big Five auditor to a Big Five auditor. In addition, negative unexpected earnings are present when a firm changes from a Big Five auditor to a non-Big Five auditor. Using the distribution-free sign rank test, significance is observed at the .01 level.

If the analysts understand the information content of the change in auditor type, the analyst should adjust the earnings forecast to an appropriate level. While analysts would not be accurate 100% of the time, there should be as many errors of overestimation as underestimation. The results suggest that analysts are consistently underestimating the earnings of companies that change from a non-Big Five to a Big Five auditor, and consistently overestimate the earnings for firms that change from a Big Five auditor to a non-Big Five auditor. Auditor change information is either not completely understood by market analysts or market analysts do not fully incorporate the auditor change information, for whatever reasons, into earnings forecasts.

Table 2 provides results from equation 2, the sample of clients switching audit firms by international, national, widespread regional, and localized regional auditor types. The results of Table 2 support the results found in Table 1. Variable D1 represents changes from Big Five audit firms to national audit firms and has a p-value of 0.0357. This indicates that analysts are not adjusting their forecasts when companies change from a Big Five auditor to a national auditor. Variable D2 represents changes from Big Five audit firms to widespread regional audit firms and

has a p-value of 0.0534. This provides weak evidence that analysts are not adjusting their forecasts when companies change from a Big Five auditor to a widespread regional auditor. Variable D3 represents changes from Big Five audit firms to localized regional audit firms and has a p-value of 0.2291. This is no evidence regarding the analysts' adjustment of earnings forecasts when companies change from a Big Five auditor to a localized regional auditor. However, only three companies are in this category and care must be taken on the interpretation of this variable.

Table 2 provides evidence about auditor changes that do not involve Big Five auditors. Variable D4 represents changes from national auditors to widespread regional auditors and has a p-value of 0.3281. This is no evidence regarding the analysts' adjustment of earnings forecasts when companies change from a national auditor to a widespread regional auditor. Variable D5 represents changes from national auditors to localized regional auditors. Unfortunately, no companies that made this switch were identified in our sample. Variable D8 represents changes from a widespread regional audit firm to a national audit firms and has a p-value of 0.0286. This provides evidence that analysts are not adjusting their forecasts when companies change from a widespread regional auditor to a national auditor. Variable D9 represents changes from a localized regional audit firm to a national audit firms and has a p-value of 0.0434. This provides evidence that analysts are not adjusting their forecasts when companies change from a localized regional auditor to a national auditor.

Finally, Table 2 provides evidence about auditor changes to and from widespread regional auditors. Variable D6 represents changes from widespread regional auditors to localized regional auditors and has a p-value of 0.4229. This is no evidence regarding the analysts' adjustment of earnings forecasts when companies change from a widespread regional auditor to a localized regional auditor. Again, only three companies are in this category and care must be taken on the interpretation of this variable. Variable D10 represents changes from localized regional auditor to widespread regional auditors and has a p-value of 0.0656. This provides weak evidence that analysts are not adjusting their forecasts when companies change from a localized regional auditor to a widespread regional auditor.

CONCLUSION

The results of this study indicate that analysts do not fully incorporate information contained in changes in auditor type. Significance at traditional levels is found for companies switching from Big Five audit firms to non-Big Five audit firms. When non-Big Five firms were partitioned significance was found for changes from Big Five audit firms to national audit firms. No statistical significance at traditional levels was found in the clients making other downstream changes. One reason for non-significance in these groups may be due to the small sample size in these change categories.

Conversely, all clients making upstream changes were found to contain positive unexpected earnings at traditional levels of significance for each group in the sample. These results further suggest that financial analysts do not fully incorporate the auditor change information into earnings forecasts, or that auditor change information is not fully understood by these analysts.

Table 2: **Summary of Clients Switching Audit Firms by Audit Firm Grouping** (n = 231)

$$UE_{it} = a + b_1D1_{it} + b_2D2_{it} + b_3D3_{it} + b_4D4_{it} + b_5D5_{it} + b_6D6_{it} + b_7D7_{it} + b_8D8_{it} + b_9D9_{it} + b_{10}D10_{it} + b_{11}D11_{it} + b_{12}D12_{it} + b_{13}MB_{it} + b_{14}LMV_{it} + b_{15}N_{it} + b_{16}B_{it} + e_{it}.$$

Variable	# of Clients [2]	Mean	Median	Coefficient	T-Statistic	p-value
D1	29	-0.1020	-0.1038[a]	-0.07524	2.2693	0.0357
D2	12	-0.1076	-0.1052[a]	-0.08157	2.0591	0.0534
D3	3	-0.1389	-0.1244	-0.99257	1.4855	0.2291
D4	8	-0.1181	-0.1067	-0.06217	1.2569	0.3281
D5	0			n/a	n/a	n/a
D6	3	-0.1409	-0.1380	-0.17881	1.0662	0.4229
D7	91	0.1010	0.0994[a]	0.14278	2.3664	0.0215
D8	11	0.0947	0.0899[a]	0.09667	2.3109	0.0286
D9	55	0.0835	0.0803[a]	0.10471	2.8190	0.0124
D10	6	0.0724	0.0685	0.11893	2.0881	0.0656
D11	9	0.1027	0.1013[a]	0.09288	2.2199	0.0434
D12	4	0.0774	0.0719[a]	0.12187	2.2211	0.0487
MB		2.1895	2.1677	0.03392	0.5846	0.7922
LMV		4.1003	4.1000	-0.03991	0.2934	0.8297
N		3.6741	3.5992	0.06521	1.2988	0.3528
B		1.6095	1.5882	0.02956	1.0880	0.4179

[a] Significant at the .01 level using the non-parametric sign rank test.
[2] Number of switches in the group

This study may provide insight into the currently accepted view of the Efficient Market Hypothesis with respect to the information content of auditor changes and the markets' interpretation of the information. In addition, analysts may need to scrutinize auditor changes more carefully in order to fully understand the signal that may be included in the decisions to step up (or down) in auditor type.

Further research is needed in this area, which may include an analysis of specific industries and any trends that they may possess. Also, since many of the change categories have a small sample size, further research may be conducted expanding the sample period and potential sample. In addition, it is unclear if a trading strategy based on changes in auditor type could yield a portfolio of positive abnormal returns, future studies might be considered to construct sample portfolios based on this strategy.

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