Auditor resignations before and after the Sarbanes-Oxley Act

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ABSTRACT

Audit resignations are not pleasing for either clients or auditors. Subsequent to their auditors resigning, clients may experience mistrust by investors and lenders concerning their financial reporting practices, and they must spend time and resources to hire a replacement auditor. For auditors, they lose a client and a chunk of their business. They will have to spend time and resources in recruiting a replacement client, and shift and re-assign employees to different clients.

The purpose of this paper is to test whether the Sarbanes-Oxley Act (SOX) influenced the number of auditor resignations. This study also tests other variables to control for macro-economic effects on auditor resignations.

Results of this study suggest that SOX is important in explaining auditor resignations; auditors are more likely to resign after enactment of SOX. Also, average corporate profits and number of auditors are significantly associated with auditor resignation.

Keywords: auditor resignation, Sarbanes-Oxley Act (SOX), macro-economic, regulatory change, PERIOD

INTRODUCTION

Audit resignations are not pleasing for either clients or auditors. Subsequent to their auditors resigning, clients may experience mistrust by investors and lenders concerning their financial reporting practices. Clients must also spend time and resources to hire a replacement auditor. For auditors, the event of resignation is not a happy one either. When auditors resign, they lose a client and a chunk of their business. They will have to spend time and resources in recruiting a replacement client, and shift and re-assign employees to different clients.

Different factors can contribute to the decision auditors make to resign from a client, including engagement specific risks defined in the audit risk model such as the inherent risk, planned detection risk, control risk, and acceptable audit risk. Additional factors that influence auditors' associations with clients can be regulatory too, such as the Sarbanes-Oxley Act passed by Congress in 2002. In audit engagements, client specific risk, like the audit risk model, can heavily impact the relationship with a client. In recessionary times, if auditors resign from a client, they will have much a harder time finding a replacement client than in good economic times. However, auditors are likely to face greater audit risks during times of recession.

The purpose of this paper is to test whether the Sarbanes-Oxley Act (SOX) influenced the number of auditor resignations. This study also tests other variables to control for macro-economic effects on auditor resignations. Results of this study suggest that SOX is important in explaining auditor resignations; auditors are more likely to resign after enactment of SOX. Also, average corporate profits and number of auditors are significantly associated with auditor resignation.

The next section more fully discusses previous literature and motivation for our study. Following sections discuss research methods and the results of our analyses. The paper ends with a discussion of conclusions drawn from the study.

PREVIOUS LITERATURE AND MOTIVATION FOR STUDY

Previous research on macro-economic and regulatory change influencing auditor resignations is limited. In fact, little research on audit resignation in general exists. In a mostly descriptive paper, Scott (2005) wrote about the spike in resignations by the Big Four Accounting Firms during the post SOX period. Ernst & Young led the Big Four with 87 resignations in 2004. PricewaterhouseCoopers had the next highest number of resignations with 44, followed by KPMG with 40, and Deloitte with 39. The Big Four resigned in a total of 210 audits in 2004, an increase of more than 17 percent from the previous calendar year, an increase of approximately 89 percent from 2001.

Shu (2000) found that investors react negatively to auditor resignation as the risk of litigation increases, resulting in a change in the audit firm's client portfolio. The author's evidence suggested that resignation is likely driven by supply-side changes.

Similarly to the supply-side changes discussed by Shu (2000), Cenker and Nagy (2008) found a negative relation between auditor industry specialization and auditor resignations when the auditor is a joint specialist (at both national and local levels) and when the auditor is a local specialist only. National specialization alone was found to be inconclusive and not significant by the authors.

Krishnan and Krishnan (2007) found that resignations occur more often than dismissals on engagements that have the following characteristics: high financial distress, high variability in

stock returns, low auditor independence, high auditor tenure and receipt of a modified opinion. The authors' findings suggest that auditors' decisions to resign from engagements are consistent with auditors adjusting their portfolio to lower litigation risk. The authors' findings are consistent with macro-environmental influences present in an economy undergoing a recession.

Bockus and Gigler (1998) suggests that auditor switches can arise partly from regulatory concerns, and that the auditor switching might compromise financial reporting. Auditors facing increased litigation risk from regulatory environment may be more likely to resign from their clients.

Rama and Read (2006) stated that the Big Four auditors claimed to have a more conservative policy regarding client retention and acceptance decisions. The authors examined resignations by the Big Four in the preceding and subsequent years of Sarbanes-Oxley legislature. They found that the Big Four audit firms resigned from more audit clients in 2003 than in 2001, and that the 2003 group of clients had significantly lower measures of financial stress.

Owens et al, (2008) wrote about the tremendous change in the auditing profession and litigation cases that refer to the profession's deep pockets. The authors found that the Big Four Audit Partners claim to be more conservative in their decisions on the initial assessment and retention of clients. The recent trend in auditor resignations and movement of SEC clients from Big Four to other national and to regional and local firms provides support for these claims. The authors further concluded that the majority of Big Four and national firm public company clients are moving to regional and local firms. This claim is according to data the authors gathered from *AuditAnalytics.com* and *Auditor + Trak*. Their analysis of the data showed that 346 U.S. companies left Big Four auditors in 2006, fewer than the 403 firms that left Big Four auditors in 2005. Because of the trends listed in this article, the data selected for this study included all resignations, both Big Four and Non-Big Four. Previous re-alignment studies have concentrated on the Big Four exclusively.

More recently, Cullinan and Du (2010) examine auditor-client realignments from 2003 to 2008 to determine if these realignments were an auditor driven or client driven process between the three classified firms: The Big Four; Next Four (BDO, McGladrey Pullen, Grant Thornton, Crowe Chizek); Smaller firms (All others). Their results yielded a conclusion that resignations were more common among the Next Four firms than in either the Smaller or Big Four firms. They also found that Big Four accounting firms charge higher fees than other firms, but that the audit fees charged by Next Four tier accounting firms do not significantly differ from the fees charged by smaller firms.

In a speech Arthur Levitt (1998) delivered to the NYU's Center for Law and Business and as chair of the Securities and Exchange Commission, he mentioned:

> "In the last couple of decades, America's capital markets have been the envy of the world. The markets' efficiency, liquidity, and resiliency stand second to none. America's position, no doubt, has benefited from the opportunity and potential of the global economy. At the same time, however, this increasing interconnectedness has made us more susceptible to economic and financial weakness half a world away."

Thus, Levitt recognized the interconnectedness of the world's financial markets as well as the macro-economic dependency during his speech in the late fall of 1998.

Levitt also gave an example of when a company fails to provide meaningful disclosure to investors about where it has been, where it is, and where it is going, a damaging pattern ensues. The pressure to meet analysts' forecasts on companies is great. Companies have no choice but to pass down the pressure onto their auditors when it comes to accounting and measurement practices.

Schea (2008) discusses the interconnectedness Levitt suggested by commenting on the economic environment existing at that time. Current crises teach us that the world is shrinking, shrinking in a sense that our individual actions have a profound ripple effect across the economic spectrum. The stagnating housing market and the slowdown of banks lending to each other and to businesses, among other variables, translate into eroding consumer confidence and curtailed consumer spending. That means less work for all aspiring accountants.

Our study continues the research of previous studies, but the emphasis is on macro-economic measures and the regulatory effects of SOX. We are not interested in addressing the Big Four versus others issue, but simply control for number of auditors and fees from a macro perspective. The purpose of our paper is to see if similar results are obtained concerning the effects of SOX on auditor resignation if one looks at the issue from a Macro or overall economic perspective.

METHODS

Data Collection

The data collected for this study are time series data from various sources. The time period represented is between January 1, 2000 and December 31, 2010 dissected into quarters making up 44 periods of data observations. Audit resignations were obtained from *Audit Analytics*. There were a total of 1,203 resignations during the given time frame. Auditor mergers were excluded from the analysis because mergers do not represent true resignations, but rather regrouping on the auditor side.

Variables

The dependent variable in this study is NUMRESIGN, calculated as the number of auditor resignations during the quarter of interest. The independent variables are:

PERIOD = 0 if the period of observation was before Sarbanes-Oxley was enacted, and 1 if it was after enactment,
GDP = Gross Domestic Product for the period of observation,
CPI = Consumer Price Index for the period of observation,
NO_AUDITORS = total number of accountants and auditors occupational estimate for period of observation,
CORP_PROFITS = average corporate income for period of observation,
FEES/ASSETS = audit fees divided by average total assets for corporations for period of observation, and
LOGFEES = log (audit fees).

Period is the variable of interest in this study. The other variables are macro-economic control variables for our models. The variables' measures were obtained from multiple sources. The gross domestic product figures were obtained from the *Bureau of Economic Analysis* as well

as the figures for the consumer price index and corporate profits. The figures for the employment data on auditors and accountants were obtained from the *Bureau of Labor Statistics*.

Several dummy variables were created and included in additional models for seasonality and recession effects. These variables were not significant and, to improve power of the models, these variables are not included in the final two models shown in tables of this study. The authors also tried different statistical techniques such as logs and percentages to obtain the strongest prediction models. None of these techniques improved the models' explanatory power significantly and, thus, the results for these techniques are not shown in this study.

Statistical Models

Multiple ordinary least squares regression analyses were run to find the group of variables that would offer the highest explanatory power to the model. A Full Model with the following variables was first run:

$$NUMRESIGN_t = \alpha_0 + \alpha_1 PERIOD_t + \alpha_2 GDP_t + \alpha_3 CPI_t + \alpha_4 NO_AUDITORS_t + \alpha_5 CORP_PROFITS_t + \alpha_6 FEES/ASSETS_t + \alpha_7 LOGFEES_t + \varepsilon_t.$$

We also ran a reduced model with FEES/ASSETS and LOGFEES eliminated from the model.

RESULTS

The Full Model's results are included in Table 1, including parameter estimates, standard deviations and relevant statistical data. The signs of the parameter estimates for GDP and CPI are generally in the direction expected for the control variables. Both GDP and CPI are negatively associated with audit resignations. However, neither one is significant in explaining audit resignations. The remaining control variables were all positively associated with audit resignations. However, neither variable was significant in the model. See Table 1 in the appendix.

The only variable significant in the Full Model was PERIOD (p-value = 0.0002). As expected, PERIOD was positively associated with audit resignation (positive parameter estimate). Apparently, auditors were significantly more likely to resign during the quarters after enactment of Sarbanes-Oxley than they were before the Act.

After testing for the impact of each variable on regression results (partial F statistical tests), correlations of variables, graph review of residuals, and Durbin-Watson d-test on the residuals of regressions (time series data can have auto-correlation issues), we decided to drop FEES/ASSETS and LOGFEES (they were significantly correlated at p-value < .05) and reran a reduced model. These results are reported in Table 2.

The results for the Reduced Model in Table 2 suggest that it fit the data better than the first model (F statistic of 10.73 with five degrees of freedom for the Reduced Model versus F statistic of 7.986 with seven degrees of freedom for the Full Model, respectively). The results for the Reduced Model are also generally consistent with the Full Model, except NO_AUDITORS and CORP_PROFITS are now weakly significant (p-value < .10). The parameter estimates for NO_AUDITORS and CORP_PROFITS indicate that the greater the number of auditors and average corporate profits that quarter, the greater the number of auditor resignations. See Table 2 in the appendix.

PERIOD is more strongly significant in the Reduced Model (p-value < .0001), thus again verifying that the Sarbanes-Oxley Act is the strongest variable in explaining the number of audit resignations each quarter. Auditors resigned more often, even after controlling for macro economic information, after enactment of Sarbanes-Oxley.

The results for the two models do not differ greatly considering two variables were dropped from the Full Model. The R Square (not reported) decreased from 0.6359 to 0.6122 after dropping the two variables. A partial F-test was calculated to determine if dropping the two variables resulted in loss of significant data. The partial F statistic was highly insignificant (p-value < 0.34). Thus, dropping the two variables and presenting the better fitting model was appropriate.

CONCLUSIONS

The results for this study suggest a strong positive relationship between the Sarbanes-Oxley Act and auditor resignations. Even after controlling for macro-economic effects, auditors were more likely to resign in the quarters after Sarbanes-Oxley than in the quarters before the Act.

Also, in a Reduced Model, the number of auditors and corporate profits were weakly significant in explaining auditor resignations. The greater the number of auditors that quarter, and the larger the average corporate profits, the greater the number of audit resignations.

Validity of this study is limited somewhat by the size of this sample, forty-four quarters of data observations. However, the availability of the data limited the period available for this study. Future studies may want to obtain a larger sample to replicate this study.

Also, opportunities exist for further research in this area of research. Since the world is becoming more international than ever, future researchers may wish to test regulatory effects globally on auditor resignations. Also, future researchers may have the resources to collect data to run models with more variables than used in this study, especially variables controlling for industry effects. Future researchers may want to gather cleaner audit fees data in an attempt to increase the validity of their results. The availability of data for audit fees was sporadic for the first couple of years in our study. Future researchers may want to use quarterly reports filled with the Securities and Exchange Commission to obtain a more reliable measure of audit fees.

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APPENDIX

Table 1

[1] Full Regression Model: The Relationship between Audit Resignations and Enactment of Sarbanes-Oxley

Variable[2]	Parameter Estimate	Standard Error	t Value Statistic[3]	P- value[4]
PERIOD	29.6414	7.2439	4.09	0.0002
GDP	-0.0219	0.0154	-1.41	0.1653
CPI	-0.1635	0.3741	-0.43	0.6648
NO_AUDITORS	0.0002	0.0001	1.41	0.1674
CORP_PROFITS	0.0247	0.0155	1.59	0.1210
FEES/ASSETS	3.5054	5.0684	0.69	0.4941
LOGFEES	5.9515	4.6732	1.27	0.2119
Model F Value Statistic[5], with 7 degrees of freedom			7.986	<0.001

[1]Linear Regression was used to generate the following model: NUMRESIGN = PERIOD + GDP + CPI + NO_AUDITORS + CORP_PROFITS + FEES/ASSETS + LOGFEES. NUMRESIGN is the dependent variable used in this study measuring the number of auditor resignations during the quarter of interest.

[2]The independent variables are: PERIOD, the variable of interest, coded as 0 if the period of observation was before Sarbanes-Oxley Act was enacted, and 1 if it was after enactment; GDP = Gross Domestic Product for the period of observation; CPI = Consumer Price Index for the period of observation; NO_AUDITORS = total number of accountants and auditors occupational estimate for period of observation; CORP_PROFITS = average corporate income for period of observation; FEES/ASSETS = Audit fees divided by average total assets for corporations for period of observation; and LOGFEES = log(audit Fees).

[3]This statistic is the t Value for each parameter estimate. The t Value, with one degree of freedom, tests the significant incremental contribution of each variable in explaining GRADE.

[4] P-value of the t value statistic for each parameter estimate is the significance of each variable.

[5] This statistic is the Overall F Value for the Model. The F Value, with seven degrees of freedom, compares this model with the seven parameter estimates to the intercept only model and is an overall test of the null hypothesis that all variables in the model are zero.

Table 2

[1] Reduced Regression Model: The Relationship between Audit Resignations and Enactment of Sarbanes-Oxley

Variable	Parameter Estimate	Standard Error	t Value Statistic	P- value
PERIOD	31.6100	6.2659	5.04	0.0001
GDP	-0.0216	0.0154	-1.40	0.1689
CPI	-0.3074	0.3607	-0.85	0.4000
NO_AUDITORS	0.0002	0.0001	1.70	0.0980
CORP_PROFITS	0.0288	0.0151	1.89	0.0661
Model F Value Statistic, with 5 degrees of freedom			10.73	<0.001

[1]Linear Regression was used to generate the following model: NUMRESIGN = PERIOD + GDP + CPI + NO_AUDITORS + CORP_PROFITS. All variables and statistics were defined in Table 1.