Do capacity constraints affect client acceptance decisions?

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Abstract

This study investigates the impact of resource and capacity constraints on audit firm portfolio management decisions of city (local) offices of the Big Four firms. We also examine multiple audit risk measures investigated in the extant auditor portfolio management literature. Our study uses the city offices of Big Four firms as the unit of analysis. This is in contrast to previous research, which indirectly arrives at conclusions about the client portfolio management of the firms by observing the companies that they audit (i.e., company-related data is used to derive conclusions about auditor's portfolio management decisions). We find that workload compression is negatively associated with the decision of accepting December year-end clients. This provides empirical evidence that busy season clients have an impact on the resources of the firm and that workload compression is an important factor in the new client acceptance/rejection decisions of the firm. We also found evidence supporting our hypotheses for the other three risk factors investigated in our study. For instance, we found evidence of a positive association between the overall financial condition of the companies in the auditor's client portfolio and the likelihood of accepting more December year-clients.

Key Words: workload compression, city office, local office, litigation risk, audit risk, Big Four firms, resource constraints.

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1. Introduction

The purpose of this study is to examine the impact of capacity constraints and risk on client acceptance decisions of local (city) offices of Big Four auditors. This study uses the local offices of the Big Four firms as unit of analysis and investigates audit phenomena at an aggregate local office level. This is in contrast to previous research, which indirectly arrives at conclusions about the portfolio management decisions of auditors by modeling the behavior of the clients in their portfolio instead of modeling the behavior of the auditors per se. The capacity constraints of the local offices are proxied in this study by the concentration of December year-end companies in the portfolio. Hereafter, we refer to this concentration as "workload compression." We also adapt common risk proxies from audit literature to measure and control for risk in the portfolio.

Workload compression and the capacity constraints it imposes on auditors are particularly relevant factors at the local office level since audits require specialized and unique resources that are costly or difficult to transfer from one local office to another. Prior studies suggest that time and pressure demands resulting from workload compression have a detrimental affect on audit quality and auditor commitment (Sweeney and Summers 2002). Similarly, extant literature indicates that time budget pressures may lead auditors to engage in dysfunctional behavior or to perform substandard audit work (Kelly and Margheim 1990). Despite the importance that role capacity constraints play on auditor's judgment and behavior, there is very little empirical evidence illustrating how workload compression affects the client acceptance and portfolio management decisions of auditors. The main goal of this paper is to shed some light on this issue.

First, we examine the impact of a change in the resources of a local (city) office of a Big Four firm by controlling for multiple audit risk measures suggested as factors that moderate auditor-client alignments in extant literature. These factors include the risk of earnings management, financial performance risk, and litigation risk. Thus, we extend previous studies by investigating whether workload compression is a factor that influences the portfolio management decisions of the firm.

Secondly, we examine audit phenomena solely from a client portfolio perspective. That is, we arrive at conclusions about the client acceptance decisions of Big Four auditors by directly observing constructs that describe the auditors instead of constructs that describe their clients. This is in contrast to previous research that arrives at conclusions about the portfolio management decisions of the auditors by only observing variables related to the companies they audit.[1]

This study is based on the premise that city offices of Big Four firms act as individual, semi-autonomous units. Anecdotal evidence and conversations with CPA firm partners indicate that client acceptance decisions in their firms are made at the city office level with concurrence by a regional or national partner. In addition, local office partners typically select the clients to pursue and conduct initial search to collect the information to support the acceptance decision. The workload compression and the resulting impact on audit staff utilization may affect the city office partner's search processes and client acceptance decisions as capacity and expertise are resources that are difficult to transfer from one city office to another. Also, partner compensation, at a minimum at the administrative level, is directly affected by the city office performance (Trompeter 1994). Therefore, city office partners have incentives to accept audit

[1] See Choi et al. 2004 and Jones and Raghunandan 1998 for examples of representative studies in this area.

clients while not being exposed to the entire risk of loss that may lead to an issue of moral hazard.

To conduct our analyses, we examine the client acceptance behavior of auditors by compiling a sample of 1,380 local office-year observations from years 2003 to 2007 using data from Compustat and Audit Analytics. We expect that the portfolio management decisions of firms will reflect a differential likelihood of accepting December year-end clients in response to their level of risk and workload compression. We assess the riskiness of the auditors' client portfolio by observing three different risk factors typically explored in the related audit literature: earnings manipulation risk (EMR), which is the risk that the intentional misstatement of the financial statements will not be detected by the auditor; financial performance risk (FINR), which is the risk related to the financial strength of the client; and, litigation risk (LITR), which is the risk of the auditor being sued, even if a quality audit was performed (Cassell et al. 2007). We find that workload compression is negatively associated with the decision of accepting December year-end clients. We also find evidence indicating that higher levels of risk, as proxied by the three portfolio-based measures, are associated with auditors becoming less receptive to new December year-end clients.

The remainder of this paper is organized as follows: Section 2 presents the literature review and hypothesis development; Section 3 presents the methodology; Section 4 presents the univariate statistics and regression results; Section 5 presents the conclusions and limitations of this study.

2. Literature Review and Hypothesis Development

2.1. Current research on audit-related phenomena at the office-level

Prior studies (e.g., Francis et al. 1999: Reynolds and Francis 2000; Ferguson et al. 2003: Francis et al. 2005; Krishnan 2005; Gaver and Patterson 2007) note that the audit product is in part a local, city-specific phenomenon. The city office of the Big-Four accounting firm contracts with the client and has primary responsibility for work done on the client, including overseeing work done on the engagement by other offices in the firm. The city offices operate as semi-autonomous units in the decentralized operations of the Big Four firms (Francis and Yu 2008). Francis et al. (1999) highlight the importance of taking into account the city-specific nature of audit contracting costs. They note that these office-level costs include the costs of identifying, delivering, and monitoring contracted audit services. Research studies examining individual practice offices of Big Four accounting firms focus on the influence of large clients on practice offices and auditor expertise at firm-wide versus office-specific level. Reynolds and Francis (2000) find that auditors in Big Four practice offices treat influential clients more conservatively. The authors use the size of the client relative to the city office (i.e., a client's fee as a percentage of total office fees) to measure the level of influence. In an examination of auditor expertise at the office-specific level of Big Five audits in Australia, Ferguson et al. (2003) find that market perception and pricing of industry expertise is primarily based on office-level industry leadership in city-specific audit markets. Similarly, in an examination of auditor expertise at the office-specific level of Big Five audits in the U.S. audit markets, Francis et al. (2005) find that national and city-level industry leadership jointly affect auditor reputation and pricing.

The analysis of audit firm client acceptance decisions at the city-specific level is particularly important as the client acceptance decision is made by partners at the city office level, with concurrence of a regional or national partner. Furthermore, the city office partners

make the staffing decisions for the audit. The interaction of the utilization of audit staff as evidenced by workload compression and these risks form the basis for hypothesis testing.

2.2. Portfolio management decisions

Portfolio management decisions are essential to the long-term financial security of audit firms (Bell et al. 2002). Prior research indicates that auditors assess several different types of risk and consider the sufficiency of audit fees to cover the possible cost of these risks and future expected engagement costs during the portfolio management process (Johnstone and Bedard 2003; Bedard and Johnstone 2004). These assessments are used by auditors in making client acceptance and client retention decisions (Huss et al., 1993; Johnstone 2000; Bell et. al. 2002). In an examination of client acceptance and client retention decisions of a large accounting firm Johnstone and Bedard (2004) find that firms tend to shed riskier clients from their portfolio while newly accepted clients tend to be less risky than continuing clients. Furthermore, Johnstone and Bedard (2004) also find that audit risk factors are more important in the firm's portfolio management decisions than are financial risk factors. The researchers found no evidence that audit pricing affects the client acceptance and continuance decisions of the firms examined, controlling for risk and other client characteristics.

The selective use of risk management strategies by auditors in making portfolio management decisions is documented in prior research. In an examination of risk management strategies for client acceptance decisions of a large audit firm Johnstone and Bedard (2003) find that risk-management strategies, specifically the use of specialist personnel and higher billing rates, moderate the effect of risk on client acceptance decisions. The authors provide evidence that, while risky clients are less likely to be accepted, the overall application of particular risk-

management strategies to particular risks increases the likelihood of accepting such clients. Our study contributes to the research examining risk management strategies by examining whether client acceptance decisions are moderated by resource constraints.

This study investigates the portfolio management decisions by partners of local offices of Big Four firms by examining risk attributes and the level of workload compression of the local offices. We control for other related factors such as Big Four auditor affiliation and local office size (Francis and Yu 2008). Local office partners may use several strategies to control the risk of an engagement and the composition of the client portfolio of the office as a whole. These strategies may include pricing, differential audit procedures or activities, and monitoring personnel-related policies such as personnel assignment, professional development, and promotion policies (Robertson and Louwers 1999; Bell et al. 2002).

2.3. Workload compression and capacity (WLC)

AICPA Practice Alert 2003-3 specifies that auditors should annually assess whether the firm has the necessary resources to staff continuing engagements so that audits are conducted with adequate levels of professional due care and competence. Prior research suggests that the impact of workload compression on audit quality could be a meaningful factor of consideration during this assessment. For example, Sweeney and Summers (2002) find that the workload compression demands of the busy season significantly increase employee burnout and depersonalization of auditor commitment. There is also evidence indicating that time budget pressures may lead auditors to engage in dysfunctional behavior or to perform substandard audit work, such as premature sign-offs, superficial reviews, or acceptance of weaker client explanations (Alderman & Dietrick 1982; Kelley and Margheim 1990; Ragunathan 1991; Willet

and Page 1996; and Coram et al. 2004). Knechel and Payne (2001) find that audit reports of busy season year-end companies are dated on average 17.34 days later than the audit reports of non-busy season clients.

Even though audit firms can manage the constraints imposed by workload compression by adjusting the timing of interim fieldwork, audit standards require a number of audit tasks that can only be conducted during the fourth quarter or after the fiscal year has ended. Given the time pressures and increased utilization of audit staff, workload compression may affect the office's ability to perform competent audits. Furthermore, local partners may have an unbalanced incentive to accept more risky clients based on the relationship of partner compensation to local office performance.

Based on the discussion noted above, we expect auditors with higher levels of workload compression to have less available capacity and therefore be less receptive to new December year-end clients. The discussion presented above leads us to the following hypothesis.

H1a: Client acceptance rates decrease with workload compression.

2.4. Earnings manipulation risk (EMR)

López and Peters (2007) present evidence indicating that companies with a December year-end date display greater magnitudes of discretionary accruals and, therefore, have more latitude than companies with other fiscal year-end dates. Additional evidence on the relationship between discretionary accruals and workload compression comes from Abbott, et al. (2006). Using audit fee data the researchers find evidence indicating that auditors spend more time performing audits of companies with income-increasing accruals. From their findings, it can be concluded that, due to higher litigation risk, the audits of companies with income-increasing

accruals put greater time strains on the audit resources of the firm. Thus, audits of companies with income-increasing accruals have the effect of increasing the levels of workload compression of the firm (Lopez and Peters 2007). DeFond and Subramanyam (1998) find that discretionary accruals are income decreasing the year before an auditor change. They also find that this effect is more pronounced in companies with higher levels of litigation risk. This finding provides evidence that litigation risk concerns lead auditors to increase their preference for income-decreasing accounting choices.

Based on this discussion, we expect auditors with higher levels of earnings manipulation risk to be less receptive to new December year-end clients. The discussion presented above leads us to the following hypothesis.

H1b: Client acceptance rates decrease with earnings manipulation risk.

2.5. Financial risk (FINR)

Financial risk is defined as the risk that the client's economic condition will deteriorate in either the short or the long term (Huss and Jacobs 1991). Financial risk is indicative of the financial strength of the client and is usually measured by determining factors that indicate financial distress. Choi et al. (2004) investigate whether the financial riskiness of large U.S. audit firm clients varies with the changing audit litigation environment by using measures of financial distress to assess financial risk. Specifically, Choi et al. (2004) use three commonly used summary measures of client financial distress as principal indicators of client riskiness: Altman's (1983) Z-score; a modified Altman Z-score based on coefficients reported by

Shumway (1997); and Zmijewski's 1984 probability of bankruptcy score.[2] In this study, we use Altman's Z-score (1968) as modified by Shumway (2001) to measure financial risk.

Research examining the relationship between client financial risk and audit risk shows that the client's financial condition can affect the evaluation of audit risk, and vice versa (Kruetzfeldt and Wallace 1986; Palmrose 1987; Johnstone 2000). Furthermore, prior research suggests that client financial risk is a primary determinant of auditor's client retention and acceptance decisions (e.g. Choi et al. 2004). The discussion and studies noted suggests the following hypothesis:

H1c: Client acceptance rates are negatively related to client financial risk.

2.6. Litigation risk (LITR)

Litigation risk is defined as the risk of the auditor being sued even if a quality audit was performed (Cassell et al. 2007). Prior research indentifies certain industries as industries with a high risk of litigation. Litigation risk is proxied in this study by the proportion of audit fees from clients in litigious industries to total audit fees. Following prior research (i.e., Ashbaugh et al. 2003; Raghunandan and Rama 2007), we classify the following industries as litigious: pharmaceuticals (SIC 2833-2836), computers (SIC 3570-3577), electronics (SIC 3600-3674), retail (5200-5961), and software (7370). We use the equation developed by Stice (1991) to measure litigation risk. This discussion suggests the following hypothesis:

H1d: Client acceptance rates are negatively related to litigation risk.

[2] Altman's Z score (Altman) incorporates measures of liquidity, accumulated profitability (retained earnings), current profitability, leverage, and efficiency. Due to changes in market risk factors since Altman's study, Shumway (2001) suggests the use of updated weightings on the coefficients. Zmijewski's (1984) distress measure incorporates current profitability, leverage, and liquidity.

3. Methodology

3.1. Regression Model

The research model for this study is as follows:

$$\begin{aligned} NEW\_CLIENT_{it} = {} & \alpha + \beta_1 WLC_{it-1} + \beta_2 EMR_{it-1} + \beta_3 FINR_{it-1} + \beta_4 LITR_{it-1} \\ & + \beta_5 CLIENT\_SIZE_{it-1} + \beta_6 AUDITOR\_SIZE_{it-1} \\ & + \beta_7 LOCL\_DT_{it} + \beta_8 LOCL\_EY_{it} + \beta_9 LOCL\_KPMG_{it} + \beta_{10} LOCL\_PWC_{it} \\ & + \beta_{11} EMR_{it-1} * WLC_{it-1} + \beta_{12} FINR_{it-1} * WLC_{it-1} + \beta_{13} LITR_{it-1} * WLC_{it-1} \\ & + \beta_{14} WLC_{it-1} * AUDITOR\_SIZE_{it-1} + \beta_{15} EMR_{it-1} * AUDITOR\_SIZE_{it-1} \\ & + \beta_{16} FINR_{it-1} * AUDITOR\_SIZE_{it-1} + \beta_{17} LITR_{it-1} * AUDITOR\_SIZE_{it-1} \\ & + \Sigma \beta_t YEAR_{it} + \varepsilon \end{aligned}$$

where i subscripts for local office and t subscripts for audit signoff year. Auditor signoff year is used to define the cross-sections instead of the financial statement year to eliminate the potential effects of timing issues created by companies whose financial statement audits are completed several months after their fiscal year-end date or whose audits are performed by more than one auditor. The dependent variable, NEW_CLIENT, is aggregate audit fees from incoming December fiscal year-end clients as a proportion of total audit fees received by local office i during signoff year t. NEW_CLIENT is net of aggregate audit fees from outgoing clients during signoff year t-1.

For each local office we create a composite measure of the workload compression variable and the three risk factors discussed in Section 2 above. The level of December workload compression of the auditor, WLC, is proxied by the ratio of aggregate audit fees from December year-end clients to total audit fees generated by local office i during signoff year t-1. This measure is inspired by the methods used in Francis, et al. (2005) and Francis, et al. (1999). Higher values for WLC are indicative of higher concentrations of December year-end clients in the auditors' client portfolio. Thus, the estimated regression coefficient for this measure is

expected to be negative as auditors with higher levels of workload compression are expected to be less receptive to increases in the proportion of busy season clients in their portfolio.

The level of earnings manipulation risk in the auditor's portfolio, EMR, is proxied by the weighted average of the absolute value of the performance-adjusted discretionary accruals of all public companies in the auditor's client portfolio. This weighted average is based on the audit fees paid by the clients of each local office. Discretionary accruals are estimated using the cross-sectional version of the Jones (1991) model and are adjusted for financial performance using the approach introduced by Kothari, et al. (2005). EMR is intended to capture the overall magnitude of the earnings manipulation activities of companies in the client portfolio of each office. We use the absolute value of discretionary accruals to estimate EMR because we do not make any predictions in terms of the direction of the earnings management activities of the companies in the client portfolios of the auditors. Higher values of absolute discretionary accruals are associated with a higher likelihood of earnings management. Thus, higher values for EMR indicate that the overall level of the earnings management activity of the companies in the client portfolio of the local office is higher. As discussed in the hypothesis development section, our prediction for the estimated regression coefficient of this variable is negative.

The level of financial risk in the auditor's portfolio, FINR, is proxied by the weighted average of the Altman's Z-scores of all public companies in the auditor's client portfolio (Altman 1968). This weighted average is based on the audit fees paid by the clients of each local office. FINR is intended to capture the overall level of financial risk of the companies in the client portfolio of each office. We use the model in Altman (1968), with Shumway coefficients (Shumway, 2001), to estimate the Z-score. Higher values for the Altman-Z score are associated with a lower likelihood of financial risk. Thus, the values of the variable FINR are multiplied by

negative one to make higher values for FINR indicative of a higher level of financial risk in the client portfolio of the local office. Like the case of our EMR measure, we also expect the estimated regression coefficient of this variable to be negative.

The level of litigation risk in the auditor's portfolio, LITR, is proxied by proportion of audit fees from clients in litigious industries to total audit fees. Following prior research (i.e., Ashbaugh et al. 2003; Raghunandan and Rama 2007), we classify the following industries as litigious industries: pharmaceuticals (SIC 2833-2836), computers (SIC 3570-3577), electronics (SIC 3600-3674), retail (5200-5961), and software (7370). Higher values for LITR indicate that the litigation risk of the companies in the auditor's client portfolio is higher. LITR is intended to capture the overall level of litigation risk of the companies in the client portfolio of each office and higher values for LITR indicate that the overall litigation risk of the companies in the auditor's client portfolio is higher. We expect the estimated regression coefficient of this variable to be negative.

In addition to the portfolio-based risk measures discussed above, the regression model includes controls for client size, local office size, Big Four auditor, and the fixed effects of time. CLIENT_SIZE is operationalized as the mean of logs of audit fees from clients of each local office. AUDITOR_SIZE is operationalized the log of yearly audit fees of all clients of each local office. LOCL_DT, LOCL_EY, LOCL_KPMG, and LOCL_PWC are indicator variables that identify the Big Four auditor affiliation of each local office. YEAR is a matrix of indicator variables that identifies signoff year. The model also includes interaction terms that further explore the relationship between workload compression and portfolio risk, and between auditor size and portfolio risk.

3.2. Research Sample

The portfolio-based measures employed in this study were estimated using data from all U.S. public companies with enough data in Compustat or Audit Analytics to estimate the different components these portfolio-based measures. Audit fees, local office identification, and signoff year data were obtained from Audit Analytics. The rest of the variables in this study were operationalized using data from Compustat. Missing data for the estimation of any particular component of the portfolio-based measures discussed above did not preclude inclusion in the determination of the other portfolio-based measures employed in this study.

The sample window is for signoff years 2003 to 2007. There was a total of 6,355 unique local office-year observations in Audit Analytics as of October 2008, when data for this study was collected. The final sample of composed of 1,380 local firm-year observations. We eliminated observations not coming from local offices of the Big Four accounting firms (3,688 observations), from offices located outside the United States or the District of Columbia (1,005 observations), or missing at least one of the portfolio-based variables employed by the regression model of this study (282 observations). There is a total of 300 local offices represented in the final sample.

4. Empirical Results

Table 3 depicts descriptive statistics about the sample. The top portion of this table presents the number of observations in the final sample by signoff year and Big Four auditor office. The rest of this table presents descriptive statistics for the sample as a whole and for different combinations of Big Four auditor and signoff year by-groups. As presented in the last group of columns of this table, the mean value for the variable NEW_CLIENT is approximately

23.6 percent. The mean values of this variable show a substantial decrease between 2003 and 2004 for all auditors and then increase again in 2005 or 2006. We suspect that these patterns are part of the aftershocks of the enactment of SOX. The maximum value for this variable was 1,753.2 percent (not reported) and was caused by an auditor switching decision of one large public company with headquarters in a city with only a few corporate giants in Texas. The last column of this table also shows that the overall level of workload compression for the firms in the sample is 68.1 percent. In contrast to NEW_CLIENT, the average levels of WLC show a clear increasing pattern over the sample years.

In terms of the portfolio risk measures, the variable EMR does not depict any discernable patterns. The mean values of the variable FINR and LITR present evidence of a general decrease in the level financial risk and litigation risk, respectively, of auditors during the sample period. The variables CLIENT_SIZE and AUDITOR_SIZE show that PWC has the largest local offices and the largest clients, in average, while KPMG has the smallest local offices and the smallest clients, in average. This is consistent with anecdotal evidence ranking PWC and KMPG as respectively the largest and smallest Big Four auditors in the U.S. during the period covered by this study. In addition, CLIENT_SIZE and AUDITOR_SIZE show a clear increasing pattern during the sample period. However, it is important to keep in mind that CLIENT_SIZE and AUDITOR_SIZE are mostly based on the audit fees charged by the auditors and that fees were not adjusted for inflation during the operationalization of these variables. On the other hand, the mean values of CLIENT_SIZE and AUDITOR_SIZE increased by more than 100 percent over the five-year period covered by the sample of this study, indicating that factors other than inflation must explain this significant increase. In sum, the information depicted in Table 3 provides some evidence that local offices of the Big Four auditors actively managed their client

portfolios during the immediate post-SOX period. As a result, the overall levels of litigation and financial risk of the companies in the client portfolios of these offices have decreased while the extent of the operations of these offices has increased. Table 3 also highlights the importance of the inclusion of YEAR to control for the fixed effects of time in our pooled cross-sectional regression model.

Table 4 depicts descriptive statistics by auditor size quintiles. It is interesting to note that the mean values for NEW_CLIENT generally decrease as auditor size increases. This provides some evidence that larger offices are less receptive to new December year-end clients. In addition, the values of the variable CLIENT_SIZE increase as auditor size increases. While the mean values for the WLC variable do not show any distinct pattern, EMR and FINR display an increasing pattern between the second and fifth quintiles while LITR displays a decreasing pattern between the first and the fourth quintiles. The Big Four auditor indicator variables show that the largest proportion of local office-year observations in the first quintile, 43.1 percent, comes from the local offices of KPMG while the largest proportion local office-year observations in the fifth quintile, 30.8 percent, comes from the local offices of PWC. This is consistent with Table 3 and with the anecdotal evidence on auditor size rankings previously discussed.

Table 5 presents the Pearson correlation coefficients for the independent variables of the regression model. The highest correlation coefficient in this table, 49.7 percent ($p < .0001$), is for AUDITOR_SIZE and CLIENT_SIZE. This is an expected result and confirms some of the evidence depicted in Table 4 indicating that the clients of larger local offices are larger in average. The second largest correlation coefficient, 41.2 percent ($p < .0001$), is for EMR and FINR. This provides evidence that higher levels of earnings management risk in the auditor

client portfolios are positively associated with higher levels of financial risk their portfolios. The correlation between NEW_CLIENT and WLC, while only marginally significant, is negative as expected.

The regression results of this study are presented in Table 6. The models presented in this table were estimated using all local office-year observations in the sample (n=1,380). There are five different set of columns in this table. The first set of columns is for the regression model without Big Four auditor indicators. The rest of this table is for the regression model with alternate Big Four auditors as baseline condition. Alternating Big Four auditors as baseline condition in models 2 through 5 only affects the intercept and the estimated coefficients for the Big Four firm indicators. However, the interpretation of the regression results remains the same across models. Thus, for the sake of parsimony, we will focus our discussion on the regression results of the first model.

The estimated coefficient for WLC is negative and significant, providing evidence that auditors with higher levels of workload compression are less receptive to new December year-end clients. The estimated coefficients for EMR, FINR, and LITR are negative but not significant at conventional levels of significance. Negative coefficients for the portfolio-based risk measures in this study indicate that auditors become less receptive to new December year-end clients as the overall level of risk in their client portfolio increases. The estimated coefficients for AUDITOR_SIZE and CLIENT_SIZE are negative and significant, providing evidence that larger local offices and local offices with larger clients are less receptive to accept new December year-end clients. This in accordance with previous research indicating that audit quality, and concomitant auditor conservatism, is increasing in auditor size.

With respect to the interaction terms in the regression model, the estimated coefficient for FINR*WLC is positive and significant. A positive coefficient for this interaction term indicates that auditors become more receptive to new December year-end clients as the level of financial risk and workload compression in their auditor portfolio increase. The estimated coefficient for WLC*AUDITOR_SIZE is also positive and significant. This indicates that larger auditors with higher levels of workload compression are also more receptive to new December year-end clients. While almost all the other interaction term coefficients are positive, none is significant at conventional levels of significance. In sum, the information provided by these interaction terms could be interpreted as an indication that not all local offices manage their client portfolios conservatively.

5. Conclusions and Implications

This study examines the impact of resource and capacity constraints on audit firm portfolio management decisions of local offices of the Big Four firms. We also examine different audit risk measures investigated in the extant audit literature. Our study uses the local offices of the Big Four firms as the unit of analysis. This is in contrast to previous research, which indirectly arrives at conclusions about the portfolio management decisions of the auditors by only observing the companies they audit. We find that workload compression is negatively associated with the decision of accepting December year-end clients. This provides empirical evidence that busy season clients have an impact on the resources of the firm and that workload compression is an important factor in the new client acceptance decisions of the firm. We also find evidence supporting our hypotheses for the other three auditor risk factors investigated in our study. That is, as the overall level of earnings management risk, financial risk, and litigation

risk of the clients in the auditor portfolio increases, auditors become less receptive to new December year-end clients.

References

Abbott, L.J., S. Parker, and G.F. Peters. 2006. Earnings management, litigation risk, and asymmetric audit fee responses. *Auditing: A Journal of Practice and Theory* 25 (1): 85-98.

Alderman, C. W., and J.W. Dietrick. 1982. Auditors' perceptions of time budget pressures and premature sign-offs. *Auditing: A Journal of Practice and Theory* 22 (2): 54-68.

Altman, E. 1968. Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The Journal of Finance* 23 (4): 589-609.

Ashbaugh, H., R. LaFond, and B.W. Mayhew. 2003. Do non-audit services compromise auditor independence? Further evidence. *The Accounting Review* 78 (3): 611-639.

Bell, T.B., J. C. Bedard, K.M. Johnstone, and E.F. Smith. 2002. KRisk^{SM} : A computerized decision aid for client acceptance and continuance risk assessments. *Auditing: A Journal of Practice & Theory*, September 2002: 97-113.

Bedard, J., and K. Johnstone. 2004. Earnings manipulation risk, corporate governance risk, and auditor's planning and pricing decisions. *The Accounting Review* 79 (2): 277-304.

Cassell, C.A., G. Giroux, L.A. Myers, and T.C. Omer. 2007. The effect of the Sarbanes-Oxley Act of 2002 on the relation between the strength of corporate governance and auditor-client alignments. Working paper, September 2007.

Choi, J.H., R.K. Doogar, and A.R. Ganguly. 2004. The riskiness of large audit firm client portfolios and changes in audit liability regimes: Evidence from the U.S. audit market. *Contemporary Accounting Research* 21 (4): 747-85.

Coram, P., J. Ng, and D.R. Woodliff. 2004. The effect of risk of misstatement on the propensity to commit reduced audit quality acts under time budget pressure. *Auditing: A Journal of Practice and Theory*, 23 (2): 159-167.

DeFond, M.L., and K.R. Subramanyam. 1998. Auditor changes and discretionary accruals. *Journal of Accounting and Economics* 25 (1): 35-67.

DuCharme, L.L., P.H. Malatesta, and S.E. Sefcik. 2004. Earnings management, stock issues, and shareholder lawsuits. *Journal of Financial Economics* 71: 27-49.

Ferguson, A., J.R. Francis, and D. Stokes. 2003. The effects of firm-wide and office-level industry expertise on audit pricing. *The Accounting Review* 78:429-448.

Francis, J.R., K. Reichelt, and D. Wang. 2005. The pricing of national and city-specific reputations for industry expertise in the U.S. audit market. *The Accounting Review* 81 (1): 113-136.

_____,D.J. Stokes, and D. Anderson. 1999. City markets as a unit of analysis on audit research and the re-examination of Big 6 market shares. *Abacus* 35 (2): 185-206.

_____, and M.D. Yu. 2008. Office size of big four auditors and client GAAP failures. Working paper, May 2008.

Gaver, J.J., and J.S. Paterson. 2007. The influence of large clients on office-level auditor oversight: Evidence from the property-casualty insurance industry. *Journal of Accounting and Economics* 43 (2-3): 299-320.

Huss, H.F., F.A. Jacobs, and D.M. Patterson. 1993. Managing risk in public accounting firms. *Risk Management*: 51-60.

Johnstone, K.M. 2000. Client acceptance decisions: simultaneous effects of client business risk, audit risk, auditor business risk, and risk adaptation. *Auditing: A Journal of Practice & Theory*: 1-27.

Johnstone, K. M, and J.C. Bedard. 2003. Risk management in client acceptance decisions. *The Accounting Review* 78: 1003-25.

Johnstone, K. M, and J.C. Bedard. 2004. Audit firm portfolio management decisions. *Journal of Accounting Research* 42 (4): 659-690.

Jones, F.L., and K. Raghunandan. 1998. Client risk and recent changes in the market for audit services. *Journal of Accounting and Public Policy* 17 (2): 169-81.

Jones, J. J. 1991. Earnings management during import relief investigations. *Journal of Accounting Research* 29 (Autumn): 193-228.

Kelly, T., and L. Margheim. 1990. The impact of time budget pressure, personality, and leadership variables on dysfunctional auditor behavior. *Auditing: A Journal of Practice and Theory* 9 (Spring): 21-41.

Knechel, W.R., and J.L. Payne. 2001. Additional evidence on audit report lag. *Auditing: A Journal of Practice and Theory* 20 (1): 137-146.

Kothari, S. P., A. J. Leone, and C. E. Wesley. 2005. Performance matched discretionary accrual measures. *Journal of Accounting and Economics* 39: 163-197.

Krishnan, G. 2005. Did Houston clients of Arthur Andersen recognize publicly available bad news in a timely fashion? *Contemporary Accounting Research* 21 (1): 165-193.

Kruetzfeldt, R.W., and W.A. Wallace. 1986. Error characteristics in audit populations: Their profile and relationship to environmental factors. *Auditing: A Journal of Practice and Theory* 6 (Fall): 20-43.

López, D. M., and G. F. Peters. 2007. The effect of workload compression on audit quality. Working paper; February 2007.

Palmrose, Z-V. 1987. Litigation and independent auditors: The role of business failures and management fraud. *Auditing: A Journal of Practice and Theory* 6 (Spring): 90-103.

Park, Y.W., and H. Shin. 2004. Board composition and earnings management in Canada. *Journal of Corporate Finance* 10: 431-57.

Ragunathan, B. 1991. Premature signing-off of audit procedures: An analysis. *Accounting Horizons* 5 (2): 71-79.

Raghunandan, K. and D.V. Rama. 2007. Determinants of audit committee diligence. *Accounting Horizons* 21 (3): 265-279.

Reynolds, J.K., and J.R. Francis. 2000. Does size matter? The influence of large clients on office-level auditor reporting decisions. *Journal of Accounting and Economics* 30 (3): 375-400.

Robertson, J.C., and T.J. Louwers. 1999. *Auditing*. Ninth edition. Boston, MA: Irwin/McGraw-Hill.

Shumway, T. 2001. Forecasting bankruptcy more accurately: a simple hazard model. *Journal of Business* 74 (1): 101-24.

Stice, J. 1991. Using financial and market information to identify pre-engagement factors associated with lawsuits against auditors. *The Accounting Review* 66 (3): 516-33.

Sweeney, J.T. and S.L. Summers. 2002. The effect of the busy season workload on public accountants' job burnout. *Behavioral Research in Accounting* 14: 223-45.

Trompeter, G. 1994. The effect of partner compensation schemes and generally accepted accounting principles on audit partner judgment. *Auditing: A Journal of Practice & Theory* 13 (2): 56-68.

United States House of Representatives, Committee on Financial Services. 2002. *Sarbanes-Oxley Act of 2002 (SOX)*. Public Law No. 107-204. Washington, DC: Government Printing Office.

Willet, C., and M. Page. 1996. A survey of time budget pressure and irregular auditing practices among newly qualified UK Chartered Accountants. *British Accounting Review* 28: 101-120.

Zmijewski, M. 1984. Methodological issues related to the estimation of financial distress prediction models. *Journal of Accounting Research* 22 (Supplement): 59-82.

Table 1
Variable Definitions

NEW_CLIENT = [(audit fees from incoming December FYE clients – audit fees from outgoing December FYE clients) / total audit fees]

WLC = proportion of audit fees from December-year clients generated by each local office, this variable is estimated on a yearly basis

EMR = weighted average of the absolute value of performance adjusted discretionary accruals of all audits performed by each local office (weighted by audit fees), this variable is estimated on a yearly basis

Higher absolute discretionary accruals values are associated with higher levels of earnings management. Thus, higher values for EMR indicate that the overall level of earnings management of the companies in the auditor's client portfolio is higher. The performance-adjusted discretionary accruals for this measure are estimated as follows:

$$TA_t/ASSETS_{t-1} = \alpha + \beta_1\ 1/ASSETS_{t-1} + \beta_2(\Delta SALES_t - \Delta AR_t)/ASSETS_{t-1} + \beta_3 PPE_t/ASSETS_{t-1} + \beta_4\ ROA + \varepsilon_t$$

where:

TA = [Compustat #18] – [Compustat #308]
ASSETS = [Compustat #6]
SALES = [Compustat #12]
AR = [Compustat #2]
PPE = [Compustat #7]
ROA = [Compustat #18] / [Compustat #6 for prior year]
ε_t = discretionary accruals

FINR = weighted average of the Altman Z-score of all audits performed by each local office (weighted by audit fees), this variable is estimated on a yearly basis

Higher Altman-Z score values are associated with a lower likelihood of financial embarrassment. The values of the variable FINR are multiplied by negative one to make higher values for FINR indicative of a higher level of financial risk in the client portfolio of the local office. The Altman Z-scores for this measure are estimated as follows:

$$\text{Z-SCORE} = 1.2(CA-CL)/TA + 0.6(RE/TA) + 10.0(EBITA) + 0.05(MVEQ/TL) + 0.47(SALES/TA)$$

where:

CA = [Compustat #4]
CL = [Compustat #5]
TA = [Compustat #6]
RE = [Compustat #36]
EBITA = ([Compustat #170] + [Compustat #15]) / [Compustat #6]
MVEQ = [Compustat #24] * [Compustat #25]
TL = [Compustat #181]
SALES = [Compustat #12]

Table 1 (continued)

LITR =	proportion of audit fees from clients in litigious industries (SIC 2833-2836, 3570-3577, 3600-3674, 5200-5961, and 7370), this variable is estimated on a yearly basis Higher values for LITR indicate that the litigation risk of the companies in the auditor's client portfolio is higher.
CLIENT_SIZE =	mean of log of audit fees from clients of each local office, estimated on a yearly basis
AUDITOR_SIZE =	log of total audit fees generated by each local office, estimated on a yearly basis
LOCL_DT =	one if audit is performed by a local office of Deloitte & Touche; zero otherwise
LOCL_EY =	one if audit is performed by a local office of Ernst & Young; zero otherwise
LOCL_KMPG =	one if audit is performed by a local office of KPMG; zero otherwise
LOCL_PWC =	one if audit is performed by a local office of PricewaterhouseCoopers; zero otherwise
YEAR =	matrix of year dummies, by signoff year

See Section 3 for a more detailed explanation of the operationalization of these variables.

Table 2
Sample Construction

	Local office-year observations
Total unique local office-year observations available in Audit Analytics for signoff years 2003 to 2007	6,355
Less: observations from offices of smaller, non-Big Four auditors	(3,688)
Less: observations from offices located outside the United States or the District of Columbia	(1,005)
Less: observations missing at least one of the portfolio-based measures	(282)
Final sample	**1,380**

Table 3
Descriptive Statistics by CPA Firm

Number of Observations

Signoff Year	DT	EY	KPMG	PWC	Row Total
2003	67	74	72	65	278
2004	69	72	78	64	283
2005	65	72	80	62	279
2006	64	69	74	64	271
2007	63	68	74	64	269
Column Total	**328**	**355**	**378**	**319**	**1,380**

	DT (n=325)			EY (n=353)			KPMG (n=373)			PWC (n=317)			ALL (n=1,380)		
Variable	**Mean**	**Median**	**Std Dev**	**Mean**	**Median**	**Std Dev**	**Mean**	**Median**	**Std Dev**	**Mean**	**Median**	**Std Dev**	**Mean**	**Median**	**Std Dev**
NEW_CLIENT	**0.206**	**0.000**	**0.742**	**0.308**	**0.000**	**2.323**	**0.287**	**0.000**	**1.374**	**0.125**	**0.000**	**0.416**	**0.236**	**0.000**	**1.441**
2003	0.861	0.247	1.449	1.211	0.255	4.978	0.518	0.142	0.959	0.347	0.130	0.566	0.745	0.188	2.730
2004	0.013	0.000	0.166	0.088	0.000	0.407	0.243	0.000	1.085	0.089	0.000	0.465	0.113	0.000	0.652
2005	0.046	0.000	0.105	0.031	0.000	0.161	0.518	0.000	2.495	0.115	0.000	0.412	0.193	0.000	1.363
2006	0.056	0.000	0.175	0.066	0.000	0.211	0.029	0.000	0.179	0.064	0.000	0.260	0.053	0.000	0.207
2007	0.036	0.000	0.120	0.099	0.000	0.343	0.116	0.000	0.801	0.005	0.000	0.164	0.067	0.000	0.465
WLC	**0.662**	**0.734**	**0.297**	**0.622**	**0.678**	**0.287**	**0.697**	**0.756**	**0.278**	**0.747**	**0.777**	**0.232**	**0.681**	**0.738**	**0.279**
2003	0.606	0.668	0.308	0.591	0.642	0.306	0.679	0.719	0.276	0.710	0.764	0.249	0.645	0.695	0.289
2004	0.671	0.762	0.299	0.657	0.704	0.265	0.691	0.763	0.283	0.738	0.766	0.225	0.688	0.749	0.271
2005	0.674	0.781	0.308	0.613	0.667	0.299	0.702	0.753	0.272	0.756	0.763	0.202	0.685	0.738	0.278
2006	0.689	0.730	0.272	0.604	0.670	0.295	0.708	0.764	0.281	0.751	0.784	0.247	0.687	0.740	0.279
2007	0.671	0.757	0.299	0.647	0.704	0.269	0.704	0.749	0.287	0.780	0.852	0.232	0.700	0.761	0.276
EMR	**0.067**	**0.054**	**0.066**	**0.074**	**0.065**	**0.045**	**0.075**	**0.063**	**0.056**	**0.068**	**0.056**	**0.044**	**0.071**	**0.059**	**0.053**
2003	0.074	0.063	0.052	0.077	0.068	0.049	0.082	0.063	0.059	0.067	0.059	0.036	0.075	0.064	0.050
2004	0.058	0.046	0.047	0.075	0.061	0.044	0.074	0.063	0.058	0.067	0.057	0.043	0.069	0.058	0.049
2005	0.063	0.052	0.057	0.069	0.066	0.036	0.071	0.058	0.056	0.066	0.053	0.047	0.068	0.057	0.050
2006	0.068	0.052	0.079	0.072	0.070	0.041	0.072	0.063	0.045	0.069	0.054	0.045	0.070	0.058	0.054
2007	0.075	0.054	0.089	0.073	0.064	0.052	0.075	0.063	0.060	0.070	0.059	0.050	0.073	0.059	0.064

Table 3 (continued)

FINR	**-0.478**	**-1.305**	**4.548**	**-0.755**	**-1.360**	**2.286**	**-0.886**	**-1.408**	**2.310**	**-1.020**	**-1.324**	**2.386**	**-0.786**	**-1.364**	**3.009**
2003	0.012	-1.177	4.840	0.117	-0.957	3.109	-0.073	-0.807	2.033	-0.003	-1.015	4.531	0.015	-1.052	3.733
2004	-0.513	-0.983	2.891	-0.209	-1.043	2.504	-0.452	-1.095	2.503	-0.909	-1.031	1.633	-0.508	-1.032	2.442
2005	-0.479	-1.409	5.008	-1.005	-1.242	1.713	-1.063	-1.637	2.839	-1.359	-1.504	1.022	-0.978	-1.467	3.022
2006	-0.713	-1.394	4.860	-1.319	-1.569	1.792	-1.284	-1.654	2.137	-1.411	-1.458	1.149	-1.188	-1.535	2.817
2007	-0.723	-1.571	4.971	-1.447	-1.652	1.425	-1.547	-1.721	1.464	-1.443	-1.549	1.166	-1.304	-1.636	2.689
LITR	**0.152**	**0.086**	**0.185**	**0.186**	**0.124**	**0.208**	**0.281**	**0.178**	**0.309**	**0.189**	**0.079**	**0.248**	**0.205**	**0.110**	**0.249**
2003	0.187	0.110	0.211	0.206	0.126	0.240	0.302	0.291	0.299	0.212	0.096	0.257	0.228	0.131	0.257
2004	0.153	0.102	0.169	0.169	0.101	0.194	0.276	0.182	0.316	0.186	0.070	0.250	0.199	0.102	0.245
2005	0.146	0.074	0.191	0.190	0.119	0.220	0.282	0.148	0.335	0.183	0.099	0.237	0.205	0.108	0.260
2006	0.145	0.077	0.181	0.180	0.139	0.190	0.277	0.179	0.306	0.184	0.076	0.256	0.199	0.104	0.245
2007	0.126	0.059	0.172	0.183	0.128	0.192	0.269	0.170	0.292	0.181	0.049	0.245	0.193	0.099	0.237
CLIENT_SIZE	**1.170**	**0.803**	**1.372**	**1.133**	**0.827**	**1.025**	**1.037**	**0.667**	**1.327**	**1.720**	**1.093**	**2.065**	**1.251**	**0.841**	**1.500**
2003	0.755	0.414	1.414	0.483	0.370	0.333	0.440	0.309	0.424	0.742	0.505	0.739	0.598	0.376	0.836
2004	0.774	0.555	0.882	0.721	0.578	0.456	0.602	0.446	0.597	0.893	0.671	0.729	0.740	0.565	0.684
2005	0.929	0.645	1.070	0.880	0.745	0.668	0.836	0.510	1.456	1.255	0.835	1.415	0.962	0.678	1.202
2006	1.587	1.352	1.335	1.810	1.467	1.182	1.628	1.334	1.411	2.819	1.912	2.863	1.946	1.412	1.861
2007	1.869	1.506	1.692	1.859	1.598	1.263	1.704	1.352	1.691	2.890	2.185	2.406	2.064	1.561	1.849
AUDITOR_SIZE	**16.654**	**6.671**	**28.447**	**17.636**	**8.540**	**25.874**	**12.300**	**3.835**	**22.754**	**25.174**	**8.769**	**42.720**	**17.683**	**6.574**	**30.779**
2003	6.133	2.367	8.166	7.001	3.609	10.223	4.537	1.887	7.601	11.611	3.833	22.200	7.231	2.814	13.372
2004	11.823	5.359	15.626	12.672	6.078	16.882	8.022	3.067	12.666	17.161	5.619	29.766	12.198	5.070	19.567
2005	14.267	6.442	21.312	14.874	7.887	18.672	11.841	3.331	28.579	20.730	5.928	30.757	15.164	5.771	25.369
2006	24.063	10.773	34.731	26.824	15.767	33.422	19.428	7.907	27.906	38.454	13.572	56.959	26.899	11.451	39.739
2007	28.070	12.775	43.522	28.067	16.490	35.513	17.729	6.336	25.002	37.988	14.068	55.177	27.584	12.351	41.137

CLIENT_SIZE and AUDITOR_SIZE are expressed in millions of dollars, all other variables are as defined in Table 1.

Table 4
Descriptive Statistics by Auditor Size Quintiles

	MIN (n=276)			Q2 (n=276)			Q3 (n=276)			Q4 (n=276)			MAX (n=276)		
Variable	**Mean**	**Median**	**Std Dev**	**Mean**	**Median**	**Std Dev**	**Mean**	**Median**	**Std Dev**	**Mean**	**Median**	**Std Dev**	**Mean**	**Median**	**Std Dev**
NEW_CLIENT	**0.663**	0.000	3.026	**0.203**	0.000	0.663	**0.117**	0.000	0.393	**0.137**	0.000	0.631	**0.059**	0.011	0.162
WLC	**0.658**	0.762	0.357	**0.686**	0.761	0.296	**0.673**	0.732	0.265	**0.669**	0.706	0.242	**0.718**	0.762	0.209
EMR	**0.074**	0.057	0.070	**0.066**	0.053	0.058	**0.068**	0.056	0.050	**0.071**	0.064	0.045	**0.075**	0.068	0.037
FINR	**-0.345**	-1.520	5.025	**-1.038**	-1.613	2.986	**-1.041**	-1.310	1.724	**-0.693**	-1.180	2.156	**-0.815**	-1.270	1.815
LITR	**0.235**	0.000	0.340	**0.203**	0.081	0.269	**0.204**	0.121	0.234	**0.187**	0.123	0.186	**0.194**	0.149	0.180
CLIENT_SIZE	**0.340**	0.263	0.280	**0.790**	0.561	0.694	**1.153**	0.898	1.003	**1.722**	1.085	2.129	**2.251**	1.806	1.702
AUDITOR_SIZE	**0.809**	0.790	0.459	**3.024**	2.898	0.830	**6.776**	6.574	1.520	**15.566**	14.870	4.247	**62.242**	45.881	45.946
LOCL_DT	**0.279**	0.000	0.449	**0.207**	0.000	0.406	**0.203**	0.000	0.403	**0.257**	0.000	0.438	**0.243**	0.000	0.430
LOCL_EY	**0.141**	0.000	0.349	**0.225**	0.000	0.418	**0.337**	0.000	0.474	**0.330**	0.000	0.471	**0.254**	0.000	0.436
LOCL_KPMG	**0.431**	0.000	0.496	**0.322**	0.000	0.468	**0.239**	0.000	0.427	**0.181**	0.000	0.386	**0.196**	0.000	0.397
LOCL_PWC	**0.149**	0.000	0.356	**0.246**	0.000	0.432	**0.221**	0.000	0.416	**0.232**	0.000	0.423	**0.308**	0.000	0.462

CLIENT_SIZE and AUDITOR_SIZE are expressed in millions of dollars, all other variables are as defined in Table 1.

Table 5
Correlation Table
n = 1,380

	NEW_CLIENT	WLC	EMR	FINR	LITR	CLIENT_SIZE	AUDITOR_SIZE	LOCAL_DT	LOCL_EY	LOCL_KPMG	LOCL_PWC
NEW_CLIENT	**1.000**										
WLC	-0.058 0.031	**1.000**									
EMR	0.024 0.372	-0.087 0.001	**1.000**								
FINR	0.000 0.998	-0.091 0.001	0.412 <.0001	**1.000**							
LITR	-0.006 0.825	-0.209 <.0001	0.131 <.0001	0.043 0.110	**1.000**						
CLIENT_SIZE	-0.061 0.023	0.110 <.0001	-0.135 <.0001	-0.169 <.0001	-0.065 0.015	**1.000**					
AUDITOR_SIZE	0.002 0.942	0.068 0.011	0.008 0.771	-0.031 0.251	-0.064 0.018	0.497 <.0001	**1.000**				
LOCL_DT	-0.012 0.666	-0.038 0.155	-0.038 0.153	0.057 0.034	-0.118 <.0001	-0.027 0.319	-0.029 0.286	**1.000**			
LOCL_EY	0.030 0.269	-0.124 <.0001	0.028 0.307	0.006 0.822	-0.044 0.099	0.009 0.737	0.101 0.000	-0.329 <.0001	**1.000**		
LOCL_KPMG	0.022 0.418	0.035 0.191	0.041 0.132	-0.020 0.450	0.189 <.0001	-0.134 <.0001	-0.188 <.0001	-0.343 <.0001	-0.361 <.0001	**1.000**	
LOCL_PWC	-0.042 0.117	0.130 <.0001	-0.033 0.226	-0.042 0.115	-0.034 0.208	0.159 <.0001	0.123 <.0001	-0.306 <.0001	-0.323 <.0001	-0.337 <.0001	**1.000**

Variables are as defined in Table 1.

Table 6
Time Fixed-Effects Regression of the Impact of Auditor Capacity and Portfolio Risk on New Client Acceptance
Sample Period: 2003 – 2007

$$NEW\_CLIENT_{it} = \alpha + \beta_1 WLC_{it-1} + \beta_2 EMR_{it-1} + \beta_3 FINR_{it-1} + \beta_4 LITR_{it-1} + \beta_5 CLIENT\_SIZE_{it-1} + \beta_6 AUDITOR\_SIZE_{it-1} + \beta_7 LOCL\_DT_{it} + \beta_8 LOCL\_EY_{it} + \beta_9 LOCL\_KPMG_{it} + \beta_{10} LOCL\_PWC_{it} + \beta_{11} EMR_{it-1} * WLC_{it-1} + \beta_{12} FINR_{it-1} * WLC_{it-1} + \beta_{13} LITR_{it-1} * WLC_{it-1} + \beta_{14} WLC_{it-1} * AUDITOR\_SIZE_{it-1} + \beta_{15} EMR_{it-1} * AUDITOR\_SIZE_{it-1} + \beta_{16} FINR_{it-1} * AUDITOR\_SIZE_{it-1} + \beta_{17} LITR_{it-1} * AUDITOR\_SIZE_{it-1} + \Sigma\, \beta_t YEAR_{it} + \varepsilon$$

		Model 1		Model 2		Model 3		Model 4		Model 5	
Variable	**Expected Sign**	**Coef.**	**P-value**	**Coef.**	**P-value**	**Coef.**	**P-value**	**Coef.**	**P-value**	**Coef.**	**P-value**
Intercept		9.505	<.0001	9.414	<.0001	9.487	<.0001	9.544	<.0001	9.430	<.0001
WLC	-	-8.004	<.0001	-8.020	<.0001	-8.020	<.0001	-8.020	<.0001	-8.020	<.0001
EMR	-	-1.011	0.894	-0.775	0.919	-0.775	0.919	-0.775	0.919	-0.775	0.919
FINR	-	-0.131	0.319	-0.120	0.362	-0.120	0.362	-0.120	0.362	-0.120	0.362
LITR	-	-2.115	0.133	-2.143	0.129	-2.143	0.129	-2.143	0.129	-2.143	0.129
CLIENT_SIZE	-	-0.100	0.098	-0.095	0.120	-0.095	0.120	-0.095	0.120	-0.095	0.120
AUDITOR_SIZE	-	-0.496	<.0001	-0.499	<.0001	-0.499	<.0001	-0.499	<.0001	-0.499	<.0001
LOCL_DT	+/			0.016	0.885	-0.057	0.600	-0.114	0.295		
LOCL_EY	+/			0.130	0.239	0.056	0.601			0.114	0.295
LOCL_KPMG	+/-			0.073	0.507			-0.056	0.601	0.057	0.600
LOCL_PWC	+/-					-0.073	0.507	-0.130	0.239	-0.016	0.885
EMR*WLC	+/-	-0.055	0.980	-0.185	0.934	-0.185	0.934	-0.185	0.934	-0.185	0.934
FINR*WLC	+/-	0.089	0.050	0.087	0.053	0.087	0.053	0.087	0.053	0.087	0.053
LITR*WLC	+/-	0.397	0.367	0.359	0.417	0.359	0.417	0.359	0.417	0.359	0.417
WLC*AUDITOR_SIZE	+/-	0.518	<.0001	0.522	<.0001	0.522	<.0001	0.522	<.0001	0.522	<.0001
EMR*AUDITOR_SIZE	+/-	0.151	0.765	0.137	0.785	0.137	0.785	0.137	0.785	0.137	0.785
FINR*AUDITOR_SIZE	+/-	0.005	0.617	0.004	0.672	0.004	0.672	0.004	0.672	0.004	0.672
LITR*AUDITOR_SIZE	+/-	0.112	0.227	0.115	0.214	0.115	0.214	0.115	0.214	0.115	0.214
YEAR	+/-	(not reported)		(not reported)		(not reported)		(not reported)		(not reported)	
F-value		6.88		5.93		5.93		5.93		5.93	
Pr > F		<.0001		<.0001		<.0001		<.0001		<.0001	
Adj r-sq		6.76%		6.68%		6.68%		6.68%		6.68%	
n		1,380		1,380		1,380		1,380		1,380	

Variables are as defined in Table 1.