AUDIT MARKET CONTESTABILITY IN THE POST-ENRON ERA.

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ABSTRACT

The implosion of Enron and the demise of Arthur Andersen in 2002 significantly altered the structure of the US audit market and, it has been argued, enhanced the appeal of smaller auditors relative to the Big N auditors that historically have dominated the US audit industry. We present empirical evidence on the ability of Non-Big-N auditors to compete with the Big N auditors in the post-disruption period (2003-2006) relative to pre-disruption benchmarks (1989-2001). We find that relative to the earlier period, the rate of auditee flow from Big N auditors to Non-Big-N auditors has increased in the post-2002 period, and that the flow from Non-Big-N auditors to Big N auditors has decreased. The average size of auditees switching to Non-Big-N has also increased. In the pre-2002 period, auditees that choose a Big N successor are larger, more profitable and less likely to receive a modified opinion than auditees that choose a Non-Big-N successor. We find this gap persists or even grows in the post-2002 period. For example, in the post-2002 era, the gap between Non-Big-N auditees that switch to Big N in comparison to those that switch to Non-Big-N has increased relative to the pre-2002 era, with larger differences in pre-switch stock returns, likelihood of a clean opinion, leverage and size. Overall, we find little evidence of a post-2002 increase in the relative appeal of Non-Big-N auditors to stronger auditees.

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1. Introduction

Andersen's exit from the audit market with effect from September 2002 triggered a chain of auditor-auditee realignments in the US market. As the audit market cleared after this disruption, the flow of auditees from the Big-N to the Non-Big-N auditors increased significantly from pre-2002 levels. One reading of these changes interprets them as a significant shift in the ability of Non-Big-N auditors to compete with Big N auditors (Sullivan [2006], Ettredge et al. [2007a] Cassell et al. [2007]).[1] Others however argue that these changes simply reflect a culling of less desirable auditees by capacity constrained Big Four auditors.[2]

In this study, we present evidence on three key questions concerning the flow of auditees between Big N and Non-Big-N auditors during the period 2003-2006. *First*, relative to the 1980-2001 period (hereafter, the pre-2002 period), has the rate at which outgoing Big N auditees switch to Non-Big-N auditors increased? *Second*, has the rate at which outgoing Non-Big-N auditees switch to Big N auditors decreased? *Third*, relative to pre-2002 benchmarks, has the ability of Non-Big-N auditors to attract larger, financially safer, more profitable and thus, overall more desirable auditees, increased in the post-2002 era?

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[1] A *USA Today* article noted "Cost is the main reason for the shift. … Additionally, better access to top accounting professionals is a factor." (Krantz [2004]). An article in *Chief Executive* magazine noted that "Partly because of the Big Four's tarnished reputation in light of the accounting scandals, a national or even a regional firm is now a viable option for many companies." (Brewster [2005]).

[2] A *Wall Street Journal* article noted: "Large audit firms, for their part, have seen their resources stretched thin amid new auditing requirements and are bidding adieu to smaller, less-revenue-producing clients" (Plitch and Wei [2004]). The *New York Times* noted "A growing number of companies are being dropped by Big Four auditors – most notably those considered too small to be worth the extra work now required and those judged too risky to work with under the new accounting rules. " (Browning [2005]). A *Pittsburgh Post Gazette* report also noted that "Big Four firms are also being more selective about taking on clients. Their heightened discretion stems from a desire to serve their biggest clients and to avoid those whose management and accounting practices may expose them to unnecessary risks" (Boslevic [2004]). A *CFO Magazine* article reviewing auditor changes in 2004 noted that "In the first nine months of 2004, Big Four accounting firms resigned 157 accounts. While some of those resignations followed equivocal opinions, others reflect a move away from smaller clients that are perceived as riskier bets in today's regulatory climate." (O'Sullivan [2004]).

The first two questions address the direction and magnitude of the shift in post-Enron auditor switching behavior relative to pre-Enron benchmarks.[3] Specifically, the first question addresses the migration of auditees *from* the Big N auditors *to* Non-Big-N auditors (Sullivan 2006) while the second addresses migration in the other direction, namely *from* Non-Big-N auditors *to* Big N auditors. The latter statistic, i.e., the rate of migration from Non-Big-N auditors to Big N auditors offers insights into the ability of Non-Big-N auditors to retain engagements that, in earlier times, might have been lost to Big N auditors.[4]

The *third* question addresses whether the characteristics of auditees that the Non-Big-N auditors are able to attract or retain have changed in the post-2002 era. Prior research argues that Non-Big-N auditors are unable to compete effectively for audit engagements above a certain size (GAO 2003). Moreover, there is a widely held perception that Big N auditors are higher quality providers and therefore more attractive to high quality auditees. Were this appeal to have diminished due to the events related to the demise of Enron and Andersen, one would expect the quality of auditees that find Non-Big-N auditors more appealing to improve, i.e., the pre-2002 quality gap between Big-N and Non-Big-N auditees should decrease or disappear in the post-2002 era.

Our findings with respect to the first two questions, i.e., migration rates, are as follows. Both before and after controlling for multiple determinants of auditor choice we find that the post-2002 proportion of departing Big N auditees switching to Non-Big-N auditors increases while that of Non-Big-N auditees switching to Big N auditors decreases. These findings are consistent with the results reported in prior studies (Doogar et al. [2004], Sullivan [2006]). We

[3] Auditor-auditee realignments (switches) can be initiated by either the auditor (*resignations*) or by the auditee (*dismissals*). We do not distinguish between switches stemming from resignations and those stemming from dismissals.

[4] To the best of our knowledge, auditor switching by Non-Big-N auditees and its implications for their competitive abilities has not been studied before.

also find that, *before controlling for auditee quality*, the average size of auditees switching from Big N auditors to Non Big N auditors has increased in the post-2002 period. Prima-facie, this pattern of evidence suggests an increase in the post-2002 appeal of Non Big N auditors relative Big N auditors.

With respect to the *third* question, i.e., post-2002 changes in quality of auditees Non Big N auditors are able to attract, our findings, by the type of auditor switch involved, are as follows. First, examining choices of successor auditor made by departing Big N auditees, multiple logit analyses reveal that in the pre-2002 era, Big N auditees switching to a Big N auditor tend to have better pre-switch stock market performance and lower likelihood of losses, and are larger than Big N auditees switching to a Non-Big-N auditor. In the post-2002 era, Big N auditees that move to another Big N auditor are even larger and healthier than Big N auditees that move to Non-Big-N auditors. Overall, there is no evidence of an increase in the post-2002 appeal of Non-Big-N auditors to larger and stronger departing Big N auditees.

Examining the choices of successor auditor made by departing Non-Big-N auditees reveals a similar pattern. In the pre-2002 period, departing Non Big N auditees switching to a Big N auditor are more likely to have obtained a clean opinion and are, on average, larger than those switching to another Non Big N auditor. In the post-2002 era, the gap in auditee pre-switch stock returns, likelihood of a clean opinion, leverage and size between the two groups *increases*. Relative to the pre-2002 differences between the two groups, post-2002 period departing Non-Big-N auditees switching to Big N auditors are even larger and financially stronger than those switching to Non-Big-N auditors. Overall, we find little evidence of an increase in the post-2002 relative appeal of Non Big N auditors to high quality departing Non Big N auditees either.

Finally, comparing departing Non Big N auditees switching to Big N auditors to continuing Non Big auditees, we find pre-2002, auditees that switch to a Big N successor are larger in size and more likely to have better pre-switch stock returns, higher leverage and lower likelihood of a loss than continuing Non-Big-N auditees. Post-2002, Non Big N auditees switching to a Big N auditor are more likely to be yet larger, have a clean opinion from the predecessor auditor, enjoy lower leverage and have lower asset growth rates than continuing Non- Big N auditees. In this contrast, as in the other two reported earlier, there is little evidence of Non Big N auditors being able to better retain their largest and strongest auditees.

The overall pattern of evidence from all three contrasts discussed above provides little support for the hypothesis that the events of 2001 and 2002 diminished the relative appeal of Big N auditors. We find very little increase in the post-2002 appeal of Non Big N auditors to either departing Big N auditees or to departing auditees of other Non Big N auditors or in the ability of Non Big N auditors to retain large and profitable extant auditees. Rather the pattern of auditor switches observed in our data is consistent with larger and stronger auditees migrating to Big N auditors and with Big N auditors practicing greater risk-screening in the post-2002 period.

The rest of the paper is organized as follows. In Section 2 we review prior and concurrent related research and state the research expectations. In Section 3 we describe our research methods and data. We present results in Section 4 and concluding remarks in Section 5.

2. Related Research and Research Expectations

2.1 BACKGROUND

Our study most closely relates to prior studies of *lateral*, *downward* and *upward* auditor switches.[5] In order to more precisely classify the comparisons made in prior research we identify the type of switches being examined by the type of previous auditor and the type of replacement auditor. For auditees that do switch auditors, i.e. auditees whose auditor in the current fiscal year is known to differ from the auditor of record in the previous fiscal year, we classify auditees as *BtB*, *NtN*, *NtB* and *BtN* auditees respectively, where the first letter (*B*, *N*) identifies the type of the predecessor (outgoing) auditor (*B*ig N or *Non*-Big-N) and the last letter, the type of the successor (incoming) auditor. We refer, depending upon the identity of the auditor in question, to the two types of auditees that do not change auditors as *NCB* (no-change Big N) and *NCN* (no-change Non-Big-N) auditees respectively.[6]

2.2 SWITCHES FROM BIG N AUDITORS

Prior research examines characteristics of clients switching from Big N firms to other Big N firms (*BtB*, lateral Big N switch) or from Big N firms to smaller firms (*BtN*, downward switches). Studies find that during the pre-2002 era, downward switchers (*BtN*) are generally smaller and riskier than lateral (*BtB)* switchers (Chow and Rice [1982], Nichols and Smith [1983], Schwartz and Menon [1985], Francis and Wilson [1988], Johnson and Lys [1990], DeFond [1992], Chaney, Jeter and Shaw [1997], Krishnan and Krishnan [1997], Shu [2000], Sankaraguruswamy and Whisenant [2004]). Choi, Doogar and Ganguly [2004] find that *BtN* switchers during the 1980-1998 period are, on average, smaller and riskier than continuing Big N

[5] Auditor switching is a long-standing topic of interest to professional accountants, regulators and researchers. Consequently the literature is vast in scope and a full review is beyond the scope of this study. We review only the notable prior studies most directly related to our topic.

[6] For 2002, around the time of Arthur Andersen's demise, we refer to former Andersen auditees that switched to Big N auditors as *AtB* auditees and those that switched to Non-Big-N auditors as *AtN* auditees.

auditees (the *NCB* and *BtB* subgroups taken together). Landsman et al. [2006] find that both pre- and post-Enron, lateral Big N switchers are smaller and riskier than continuing Big N auditees (Big N auditees that do not change auditors) but are larger than downward switchers.

Post-2002 switches have been investigated in several recent studies. Doogar et al. [2004] and Sullivan [2006] find that post-Enron rates of switching away from Big N auditors to smaller auditors (*BtN*) are significantly higher than pre-Enron levels. Ho and Wang [2007] examine the impact of post-2002 switching patterns on audit fees and audit fee premiums. Ettredge et al. [2007a] find that expectations of lower audit fees are a significant factor in client dismissals of auditors in the immediate post-SOX period. Cassell et al. [2007] investigate the ex-ante cost of capital of a large sample of firms in the post-Enron era and find that "financial reports audited by Second-Tier audit firms are perceived as more credible than those audited by smaller audit firms, and are perceived as comparable to those audited by Big N audit firms." There is also some evidence of realignment of riskier clients: Ettredge et al. [2007b] find that Big 4 auditors are less likely to serve as successive auditors when the prior auditor resigned from a company with a disclosed material weakness in internal control. Landsman, Nelson and Rountree [2006] find that for both auditor resignations and dismissals *BtB* switchers are larger and faster growing than *BtN* switchers.[7]

Our study complements these recent studies by examining characteristics of clients making lateral and downward auditor switches in the post-2002 period. Consistent with these studies, particularly Doogar et al. [2004] and Sullivan [2006], we expect an increase in the probability of downward (*BtN)* switches in the post-2002 period. Given the competing interpretations for the

[7] A key difference between Landsman et al. [2007] and our study is the choice of reference groups: given their focus, the reference group in Landsman et al. is the continuing Big N auditee group. By contrast our tests focus on contrasts between BtB and BtN auditees, between NtB and NtN auditees and between NtB and NCN (no-change Non-Big-N auditees). That is, since we are interested in changes in the competitive abilities or appeal of Non-Big-N auditors, the reference group in our comparisons is always some group of Non-Big-N auditees.

increased rate of downward switches in this period (increased appeal of Non-Big-N auditors versus increased risk-shedding by Big N auditors), we are agnostic about the relationship between risk and the likelihood of a downward switch. If the increased Non-Big-N appeal hypothesis is correct, we expect that the pre-2002 size and risk gap between Big N lateral and downward switchers will decrease post-2002. If the Big-N risk-shedding hypothesis is correct, we expect the pre-2002 size and risk-gap between these two auditee groups to stay constant or increase in the post-2002 era.

2.3 SWITCHES FROM NON-BIG-N AUDITORS

To provide additional insights into the post-2002 landscape of auditor competitiveness, we also examine the ability of Non-Big-N auditors as a group to retain their own auditees. There is a general presumption that growing and successful Non Big N auditees will, at some point, tend to switch to a Big N auditor. However there is relatively little academic research on auditor switches *away* from Non Big N auditors. Our investigation fills this gap.

We make two contrasts. First, we contrast characteristics of auditees switching *upward*, i.e., from Non-Big-N auditors to Big N auditors (*NtB*) to those of auditees switching laterally, i.e., to another Non-Big-N auditor (*NtN*). Second we contrast characteristics of auditees switching upward (*NtB*) to those Non Big N auditees not switching auditors (*NCN*). If Big 4 auditors are more selective in accepting clients in the post-2002 period then we would expect that the quality gap between auditees making *NtB* switches and either *NtN* auditees or *NCN* auditees to widen post-2002: *NtB* auditees would , in this case be expected to be higher quality (less risky) than pre-2002 levels. If however the competitiveness of Non-Big 4 auditors in the post-2002 period has increased, then we would expect the quality gap to decrease.

Collectively, the three sets of contrasts (*BtB versus BtN*, *NtB versus NtN*, and *NtB versus NCN*) shed light on changes in the competitive ability of Non-Big-N auditors to attract (*BtB versus BtN*) and retain *(NtB versus NtN*, and *NtB versus NCN)* higher quality auditees. Increased competitiveness would be consistent with a decline over time in the gap in client riskiness, profitability and overall attractiveness. However, if the switching reflects increased screening by Big-N auditors then we would expect an increase in the post-2002 gap relative to the magnitude of the pre-2002 gap in auditee riskiness, profitability and overall attractiveness.

3. Methods and Data

3.1 METHODOLOGY

We estimate three multiple logit models to conduct pair-wise comparisons of *BtB* versus *BtN* swtiches, *NtB* versus *NtN* switches and *NtB* versus *NCN* switches The pair-wise contrast of *BtB* and *BtN* switches restricts attention to departing Big N auditees and reveals whether the differences in characteristics of *BtB* and *BtN* switches have changed after 2002. The results of the two other models have similar interpretations. A review of the literature reveals that the primary determinants of switching are thought to be the auditor's litigation risk and the auditee's switching and agency costs. We include in our analysis surrogates for each of these three factors.[8]

Financial Performance

Prior studies find that less profitable firms pose more litigation risk to audit firms, which may induce auditor-initiated changes (Shu [2000]; Johnstone and Bedard [2004]; Chaney et al. [2004]; Krishnan [1994]; Schloetzer [2006]; Ho and Wang [2006]; Landsman et al.[2006]).

[8] Many variables have been used to surrogate for these three primary factors in prior research, however only a few variables have consistently been found to be significant in explaining auditor choice. An analysis of measures used in seventeen prior studies is available from the authors upon request.

Since stock returns anticipate accounting performance, we include *Return*, measured as the size-adjusted stock return over the twelve months *prior* to the switch, as a comprehensive measure of forthcoming auditee performance that captures factors known to the incumbent auditor and possibly to an incoming auditor but not yet publicly reflected in the auditee's financial statements. More formally, *Return* is measured as stock return after deducting the corresponding size decile portfolio return accumulated over the twelve month period covering the fiscal year prior to the switch. We also include an indicator variable to indicate unprofitable firms. *Loss* is a measure based on accounting net income, and takes value 1 if a firm reports negative earnings, 0 otherwise.[9]

Audit risk

We include *Opinion* and *Growth* to proxy for the audit risk factor in our auditor switching models. Prior studies find that clients with a modified (Non-standard) opinion are more risky and therefore increase auditor litigation risk (Krishnan [1994]; Krishnan and Krishnan [1997]; Johnstone and Bedard [2004]; Landsman et al. [2005]; Ho and Wang [2006]). *Opinion* takes a value of 1 if a firm receives a modified (other than clean) opinion and 0 otherwise. Stice (1991) argues that high growth is associated with a higher litigation risk. Several other studies also find that a firm growth is related to auditor switches (Krishnan and Krishnan [1997]; Shu [2000]; DeFond [1992]; Francis and Wilson [1988]; Ettredge et al.[2007b]). *Growth* is measured as a change in total assets scaled by the beginning year's total assets.

We expect the coefficient on *Opinion* to be negatively associated with the choice of a Big N auditor and the coefficient on *Growth* to be positive in the *BtB* vs. *BtN* comparison and

[9] We also considered return on assets (ROA) but excluded this variable from the primary model to avoid multicollinearity.

negative in the *NtB vs.NtN* and *NtB vs. NCN* comparisons. The primary reason for this reversal in predicted signs across models is that departing Big N auditees possess, by virtue of their past affiliation with a higher quality. Big N, auditor, a different level of quality certification than do departing auditees of Non Big N auditors. Thus Big N auditors can be expected to treat former auditees of other Big N auditors differently than they treat former Non Big auditees: if a rapidly growing auditee seeks to switch from one Big N auditor to another, the higher quality implicit in the association of the auditee with its former Big N auditor will make another Big N auditor more willing to accept that auditee. An auditee with a comparably high growth rate coming from a Non Big N auditor will, however, because of the implicitly lower quality of its former auditor's certification, pose a greater threat to a Big N auditor and thus Big N auditors would want to be more conservative in accepting high-growth clients from Non Nig N auditors.[10]

Agency costs (Leverage)

Dopuch and Simunic [1980], Datar, Feltham and Hughes [1991], and Dye [1995] argue that information asymmetry between investors and entrepreneurs or managers will lead auditees to reduce the cost of capital by appointing a higher quality auditor. A substantial body of work, including Nichols and Smith [1983], Francis and Wilson [1988], DeFond [1992], Lys and Johnson [1990], Healey and Lys [1986], and Blouin, Grein Rountree [2007] provides empirical evidence consistent with the proposition that auditees facing higher agency costs are more likely to seek out Big N auditors. We therefore expect auditees with higher financial leverage to be more likely to choose an auditor perceived by lenders to be "more reputable" and the sign on *Leverage*, measured as the ratio of total liability to total assets, to be positively associated with the choice of a Big N successor by an outgoing Big N auditor. On the other hand, when a Big N

[10] An analogy would be the set of job opportunities open to a PhD student with a risky dissertation graduating from a leading doctoral program vs. those open to a student with a similarly risky dissertation graduating from a less well established doctoral program.

auditor accepts a Non Big N auditee, we expect the sign on Leverage to be negative if Big N auditors, given their deeper pockets and higher reputation, are screening out risky auditees.

Switching cost (Size)

Due to higher start-up costs, firms have incentives to continue with the existing auditor. Size has been used as a proxy for client complexity, geographic spread and other factors that drive higher switching costs (DeAngelo [1981]). We therefore expect a positive association between auditee *Size* measured as the natural log of the market capitalization of the firm at the end of the fiscal year and switching to a Big N auditor.

Period

To examine the ability of Non-Big-N auditors to compete with the Big-N auditors in the post-disruption period (2003-2006), relative to pre-disruption (1989 -2001) period, we include an indicator variable *Period* that takes the value one if the observation pertains to Compustat fiscal year 2003 or later, and 0 otherwise. An increase in the post-2002 rate of switches to Non Big N auditors would show up as a negative coefficient on *Period*. The interactions between period and client characteristics speak to the change in Non Big N competitiveness in the post-2002 era: we expect each of coefficients on the interaction of *Period* with *Loss*, *Opinion* and *Growth* to be negative. The resulting model is *fully nested*, i.e., all post-2002 effects are estimated using the complete data set (and a single variance-covariance matrix).[11]

More formally, the model we use is (excluding firm and year subscripts) is as follows:

[11] Some studies estimate separate regressions for each period (e.g. Landsman et al. 2007). The resulting coefficient estimates from separate estimations are not strictly comparable across models because the samples from which each set of coefficients is estimated are different. We adopt a fully nested approach to avoid this problem.

$$AudChg = \alpha + \mathrm{Re}turn + Loss + Opinion + AsstGrowth + Leverage + Size$$

$$+ Period * (\alpha 2 + \mathrm{Re}turn + Loss + Opinion + AsstGrowth + Leverage + Size) + \varepsilon$$

AudChg is an indicator variable taking the value one for a particular type of switch and zero otherwise. Three contrasts are estimated. In the first the dependent variable takes the value one for a *BtB* auditee, zero for a *BtN* auditee. In the second the dependent variable takes the value one for *NtB* auditees and zero for *NtN* auditees. In the third the dependent variable takes the value one for *NtB* auditees and zero for *NCN* auditees.

Return is twelve-month size adjusted returns during the fiscal year immediately preceding the fiscal year audited by the incoming auditor.

The following variables are computed using financial statement data from the fiscal year immediately preceding the first fiscal year audited by the incoming auditor:

Loss takes the value one if ROA < 0 and zero otherwise.

Opinion takes the value one if the last digit of *Compustat* data item number 149 is other than one (standard opinion), zero otherwise. That is, the auditee has a non-standard opinion.

ROA is Earnings before extraordinary income scaled by assets (data 18/data 6).

AsstGrowth is the growth in total assets calculated as the percent change in *Assets* (data 6) from year t-1 to t.

Leverage is total liabilities/total Assets (data 181/data 6).

Size is the market capitalization (data 199 * data 25).

Period takes the value one if the auditee's Compustat fiscal year is 2003 or later, and zero otherwise.

3.2 DATA AND DESCRIPTIVE STATISTICS

Table 1 reports details of the sample selection process. The sample includes all available observations listed on both *CRSP* and *Compustat* reporting assets, sales, market capitalization and auditor identity for fiscal years 1989 to 2006. The remaining 100,411 observations comprise the set of usable observations for the purposes of this study. Since the pattern of auditor changes during *Compustat* fiscal year 2002 was greatly affected by the demise of Arthur Andersen LLP, we omit the 5,055 observations related to that year from our main analyses, yielding a final sample of 95,356 observations of auditor-auditee alignments during 1989-2001 and 2003-2006.

Table 2 presents descriptive statistics on selected measures of auditee size, performance and risk that prior research identifies as potential determinants of auditor choice. Columns 1 through 3 present data for the full sample of 95,356 observations for the period 1989-2001 and 2003-2006. Subsequent columns of Table 2 (columns 4 through 15) present analogous statistics for the four principal subgroups of interest. Columns 4 through 6 reports data for auditees with no

change in Big N auditor (*NCB)*, columns 7 through 9 for auditees switching from Big N (to either Big N (*BtB)* or Non-Big-N (*BtN)* auditor), columns 10 through 12 for auditees switching from a Non-Big-N (*NtB* and *NtN* auditees), and finally columns 13 through 15 for Non-Big-N auditees not changing auditor (*NCN)*.

The results reported in Table 2 are consistent with comparable data from past studies: Big N auditees (*NCB*) are larger (the mean and median *Asset*, *MCap* and *Sales* are the highest for this group), more likely to be profitable (the mean and median *ROA* for this subgroup are the highest and the mean *Loss* the lowest of all subgroups). *Opinion* and *Leverage* show no distinct differences between *NCB* and other subgroups. *NCB* auditees also have the highest median *PreRet* and *PostRet* of all subgroups: their stock price performance in the year before and following a switch is somewhat better. Departing Big N auditees (*DB*) are, on average, smaller than Big N auditees not changing auditors (*NCB*), but larger than either departing Non-Big auditees (*DNB*) or Non-Big-N auditees not changing auditors (*NCN*). Departing Big N auditees (*DB)* are less profitable than auditees retained (*NCB*), but about equally profitable as either Non-Big-N comparison group (DNB or *NCN* auditees). Overall, Table 2 presents a picture consistent with systematic differences in auditee attributes between auditees retained by the Big N and other subgroups. The following section presents the results of the substantive analyses investigating changes in the pattern of auditee movements before and after 2002 and whether these changes are systematically associated with auditee attributes.

4. Results

4.1 AUDITEE MOVEMENT

Table 3 shows the distribution of observations by year and type of auditor. The sample is partitioned into one of eight mutually exclusive types of engagements based on the identities of the current auditor and the predecessor auditor. The last row of Table 3, panel A shows that of the 95,536 observations pertaining to the years 1989-2001 and 2003-2006, 88,732 cases (*NCB* 76325 + *NCN* 12407) or about 93% of the sample observations involve no auditor change. Of the remaining 6,624 observations (95,536-88,732), 4,419 cases involve departing Big N auditees (*BtB* 2641 + *BtN* 1778) while the remaining 2,205 cases involve departing Non-Big-N auditees (*NtB* 1269 + *NtN* 936). Overall, Table 3, panel A shows that about 7% of the sample engagements involve some type of auditor change, about two-third of which involve movement away from a Big N auditor and one-third, movement away from a Non-Big-N auditor.

Panel B of Table 3 summarizes the auditee movements. The first row of Panel B shows that between 1989 and 2001 approximately 4.2% of the sample (*BtB* 2.9% + *BtN* 1.3%) move away from a Big N auditor. Of the departing Big N group 68% finds another Big N auditor, while 32% (the *BtN* subgroup) moves to a Non-Big-N auditor. The second row of Panel B shows that between 2003 and 2006, departing Big N auditees comprise about 6.2% of the sample (*BtB* 2.2% + *BtN* 4.0%). Only 35% of these auditees (the *BtB* subgroup) finds another Big N auditor while the remaining 65% move to a Non-Big-N auditor. Of the 2.3% of auditees moving away from a Non-Big-N auditor during 1989-2001 in row one of Panel B, about 62% (the *NtB* subgroup) moves to a Big N auditor, the rest find another Non-Big-N auditor. During 2003-2006 the total fraction of auditees moving away from a Non-Big-N auditor remains constant at about 2.2% of the sample, but the proportions moving to Big N and Non-Big-N auditors are reversed: during

the latter period, only 40% of departing Non-Big-N auditees moves to a Big N auditor (in contrast to 62% during 1989-2001) while 60% find another Non-Big-N auditor (in contrast to 38% during 1989-2001). This pattern of changes in auditor switching behavior is consistent with reports in the business press and findings in prior research (Doogar et al. [2004], Sullivan [2006]) that the pattern of movement during 2003-2006 differs from the pre-2002 pattern.

4.2 AUDITOR MARKET REACH IN THE POST-2002 ERA

Table 4 presents evidence on whether, post-2002, Non-Big-N auditors have been able to extend their market reach by attracting larger auditees than before 2002. Every year, we rank all auditees in decreasing order of size (measured one of three ways: *Assets*, *MCap* and *Sales*). In this scheme, every year, the largest auditee by size is, by construction assigned rank=1. Let the i^{th} auditee be assigned rank r_i and let the rank of the smallest auditee in any year be MAX. We next compute the percentile rank of the i^{th} auditee as $p_i = \frac{100 * r_i}{MAX}$. This process assigns $p_i = \frac{100}{MAX}$ to the largest auditee and $p_i = 100$ to the smallest auditee. Table 4 reports, for the two time periods of interest (1989-2001 and 2003-2006), for each of the six subgroups of auditees listed in panels A through F of Table 4, the following statistics: the average number of auditees in that group (*Nobs*, columns 1 and 5), the fraction of all auditees in that period represented by that subgroup of auditees (*Fraction*, columns 2 and 6), the percentile rank of the largest auditee in that subgroup (*Min*, columns 3 and 7) and the mean percentile rank of all observations in that group (*Mean*, columns 4 and 8).

Table 4, Panel A, Columns 1 through 4 show that in the 1989-2001 period, there are an average of about 4,800 *NCB* auditees per year that do not change their Big N auditor, and that these auditees comprise, on average, 81.3% of the sample, that the largest auditee is always in this *NCB* auditee group, and that the average size rank of an *NCB* auditee is around the 45^{th}

percentile of the size distribution. The corresponding statistics for the 2003-2006 period, shown in columns 5 through 8 of Panel A show that the mean number of *NCB* auditees in the latter period is about 3450, NCB auditees comprise about 75% of the sample during this period, the largest auditee is, again, always and *NCB* auditee and that the average size rank of *NCB* auditees is around the 42nd percentile of the size distribution. Overall, during 2003-2006, the market share of *NCB* auditees has fallen relative to the earlier period as has the size rank of the remaining *NCB* auditees as a whole: on average, the Big N auditees that do not change auditors during this period are larger than in the past.

Panel B of Table 4 shows that the annual proportion of auditees that move from one Big N auditor to another (*BtB* auditees) falls from 2.9% in 1989-2001 to 2.2% in 2003-2006 and that the mean size percentile rank of these auditees has grown over time. That is, while the proportion of auditees that choose to leave a Big N auditor and find another Big N auditor has fallen, their relative size has, on average, increased.

Table 4, panel C shows a pattern for *BtN* auditees that is quite different from the pattern shown in panel B. The proportion of sample auditees moving from a Big N auditor to a Non-Big-N auditor increases from 1.3% to 4% and more tellingly, the size rank of the largest auditee in this category falls from the 20th (or 15th percentile) percentile to the 11th (or 7th percentile). The average size rank of all auditees in this category also increases somewhat, but the increase is not as dramatic as that shown in Panel B. Overall, the drop in the *Min* rank in column 7 over that in column 3 indicates that during 2003-2006, the Non-Big-N auditors have been able to attract substantially larger former Big N auditees than they were able to in past years. One other feature of the results reported in Table 4 is worthy of note: in panel F, the proportion of *NCN* auditees rises from 12.1% in the earlier period to about 16.6% in 2003-2006. This finding, coupled with

the finding in Panels D and E about the fraction of auditees leaving Non-Big-N auditors suggests that (1) the proportion of Non-Big-N auditees increases from about 14.5% of the pre-2002 sample (Panel D 1.4% + Panel E 0.9% + Panel F 12.1%) to about 18.8% (Panel D 0.9% + Panel E 1.3% + Panel F 16.6%) and (2) fewer Non-Big-N auditees change their auditors during 2003-2006 than did during 1989-2001. This increase of about 4.5% in the sample proportion of *NCN* auditees during 2003-2006 over 1989-2001 levels stands in stark contrast to the approximately 6.3% decline in the sample proportion of *NCB* auditees over the same period.

4.3 AUDITEE ATTRIBUTES AND AUDITOR CHOICE IN THE POST-2002 ERA

Table 5 presents the results of three logit analyses that address the three principal research questions of the study. The analysis reported in column 1 investigates whether Non-Big-N auditors have become more competitive with the Big N auditors by contrasting the attributes of departing Big N auditees that find a successor Big N auditor (*BtB*) and those that do not (*BtN*).

The first seven rows of Column 1 of Table 5 show that, as would be expected, during the 1989-2003 period, relative to departing Big N auditees that find a successor Non-Big-N auditor, departing Big N auditees that find a successor Big N auditor are more likely to have had better stock market performance (the coefficient on *Return* is positive and significant at the 5% level), are less likely to be loss-making (the coefficient on *Loss* is negative and significant at the 5% level) and are larger (the coefficient on *MCap* is positive and significant at the 1% level).

The next eight rows of column 1 of Table 5 show the following statistically significant *incremental* changes during the 2003-2006 period: *BtN* auditees have, on average, higher *Leverage*, slower *AsstGrowth*, are less likely to incur a *Loss* and are larger (have higher *MCap*). This pattern of incremental changes is consistent with Big N auditors accepting departing Big N auditees that are larger and more profitable but have higher agency costs (higher *Leverage*) and

pose fewer risks associated with rapid auditee growth (*AsstGrowth*). That is, relative to pre-2002 differences between the two groups, *BtB* auditees seem to be even larger and safer than *BtN* auditees in the post-2002 era. The overall picture from column 1 of Table 5 is, therefore is consistent with Big N auditors practicing greater risk-screening in the 2003-2006 period. The evidence does *not* support the view that the ability of Non-Big-N auditors to attract relatively larger, lower-risk auditees has increased in the 2003-2006 period.

Column 2 of Table 5 reports on a contrast between two subgroups of departing Non-Big-N auditees: auditees that find a successor Big N auditor (*NtB*) and those that do not (*NtN*). This analysis speaks to the ability of Non-Big-N auditors to attract former Non-Big-N auditees looking to change auditors, i.e., to attract auditees moving away from similar, Non-Big-N auditors. The primary discriminant between departing Non-Big auditees that find Big N auditors and those that do not is auditee size. There is also some evidence (at the 10% level) that auditees finding a Big-N auditor are more likely to have a modified audit opinion.[12] The next eight rows of column 2 show that relative to *NtN* switches, *NtB* switches in the post-2002 era are associated with better auditee pre-switch stock market performance (*Period*Return*), larger size (*Period*MCap*), lower likelihood of a modified audit opinion (*Period*Opinion*) and marginally with lower risk due to *Leverage* and *AsstGrowth*. As with column 1, the overall evidence reported in column 2 suggests that, relative to the pre-2002 benchmarks reported in the first seven rows of each column, Big N auditors seem to have raised client acceptance standards in the post-2002 era.

[12] While the notion that auditees for which the predecessor Non-Big-N auditor has issued a Non-standard opinion are more likely to move to a Big N successor is on the face of it counterintuitive, it is consistent with at least two scenarios, one in which the auditee has information that future performance will improve and the other in which the auditee wants to gain credibility even if the successor Big N auditor will, to reduce its risk, issue a modified opinion.

Column 3 of Table 5 sheds light on changes in the ability of Non-Big-N auditors to retain their auditees by contrasting attributes of Non-Big auditees switching to Big N auditors (*NtB*) and Non-Big-N auditees not changing auditors (*NCN*). The results reported in column 3 of Table 5 speak to the ability of Non-Big-N auditors to retain their auditees. The first seven rows of column 3 show that in the pre-2002 era, relative to auditees that do not change their Non-Big-N auditor, auditees that move to a Big N successor have better pre-switch stock returns (*Returns*), have higher *Leverage*, are more likely to be growing somewhat faster (*AsstGrowth*) and to have losses (*Loss*) and are larger *(MCap*). Overall these results suggest that during the pre-2002 era, bigger, faster growing Non-Big-N auditees with higher agency costs and better pre-switch stock market performance but poor accounting results are more likely to migrate to Big N auditors.

In the post-2002 era, the following *incremental* effects are observed: Non-Big-N auditees that move to a successor Big N auditor are more likely to obtain a clean opinion, have lower leverage, are slower growing and are (marginally) larger. These results are without exception consistent with the corresponding results reported in column 2. The only difference between columns 2 and 3 with respect to the post-2002 period measures is that in column 3, *Period*Return* is not significant suggesting that in the post-2002 era, the superior pre-switch stock return performance of *NtB* auditees relative to *NCN* auditees remains unaltered (whereas in column 2, the post-2002 pre-switch stock return performance superiority of *NtB* auditees relative to *NtN* auditees increases). Finally, the significant coefficient on *Period* in each column of Table 5 shows that after controlling for all other factors, the base rate of switches to Big N auditors has decreased while the rates at which Non-Big-N auditors are able to attract departing Big N and Non-Big-N auditees, and to retain their own auditees, has increased post-2002.

Overall, the results reported in columns 2 and 3 of Table 5 suggest that departing Non-Big-N auditees that move to another Non-Big-N auditor (*NtN*) are on average smaller, financially weaker and poorer performers than either *NtB* auditees or *NCN* auditees. Cumulatively, the three columns of Table 5 suggest that post-2002, the ability of the Non-Big-N auditors to attract larger, financially stronger and better performing clients has not increased even though their overall share of the market has increased.

Table 6 presents the results of the contrasts reported in Table 5 using post-switch measures in lieu of the pre-switch measures used in Table 5. The motivation for using ex-post measurements is to shed light on the forward-looking information likely to be observable by the successor auditor at the time of the auditor switch but not fully reflected in the auditee's pre-switch attributes used in this study. Table 6 corroborates the Big N risk-shedding interpretation of the results reported in Table 5. In column 1 of Table 6, relative to the pre-2002 benchmarks reported in the first seven rows, post-2002, *BtB* auditees are yet larger than and less likely to incur losses in the year of the auditor switch. Consistent with the signaling value of a Big N affiliation, *BtB* auditees have higher *Leverage* in the year of the switch than do *BtN* auditees. In sum, in the year of the switch auditees that move to Big N auditors are larger, more profitable and have greater need for a higher-credibility auditor. Column 2 shows that auditees migrating from a Non-Big-N auditor to a Big N auditor are larger yet and have lower post-switch *Leverage* than pre-2002 benchmarks. Much the same is true of the results reported in column 3 as well with the addition that relative to Non-Big-N auditees that do not change auditors, *NCN* auditees are more likely to incur a loss in the post-2002 period than they were pre-2002.

5. Conclusion

The implosion of Enron and the demise of Arthur Andersen in 2002 significantly altered the structure of the US audit market. It has been argued that SOX and other influences have enhanced the appeal of smaller auditors relative to the Big N auditors that have historically dominated the US audit industry. We present empirical evidence on the ability of Non-Big-N auditors to compete with the Big N auditors in the post-disruption period (2003-2006), relative to pre-disruption benchmarks (1989-2001).

Consistent with previous studies we also document that, relative to the 1980-2001 period, the rate at which outgoing Big N auditees switch to Non-Big-N auditors has increased. After controlling for all other factors, the base rate of switches to Big N auditors has also decreased. The rates at which Non-Big-N auditors are able to attract auditees departing from both Big N and Non-Big-N, and to retain their own auditees, has increased post-2002. This would suggest that Non-Big-N auditors have become more competitive.

Overall, however, when auditee quality is accounted for, the results suggest that post-2002, the ability of the Non-Big-N auditors to attract larger, financially stronger and better performing auditees clients has *not* increased. For example, for departing Non-Big-N auditees in the pre-2002 period, auditees that switch to Big N auditors are larger and more likely to have obtained a clean opinion from the predecessor auditor than auditees switching to Non-Big-N. In the post-2002 era, the gap between these two groups in pre-switch stock returns, likelihood of a clean opinion, leverage and size increases. In general, pairwise comparisons suggest that groups of auditees acquired or retained by Big N auditors are larger and have better stock market performance in the pre-2002 period, but that in the post-2002 era these clients are incrementally larger, have an incrementally lower probability of having received a modified audit report, and

have incrementally lower risks arising from growth or leverage. The results are therefore consistent with increased risk-screening by Big N auditors in the post-2002 period, and a growth in Non-Big-4 market share arising from attracting clients with higher levels of risk.

The contestability of the audit market is an important ongoing issue for practitioners and regulators. The results of this study shed light on the competitive appeal of Non-Big-N auditors to auditees in the post-Enron era and should be of interest to regulators, practitioners and scholars interested in audit market competition. Our results also provide a benchmark for future studies of the evolving competitiveness of the audit market. As the practices of the Non-Big-N auditors grow, will the reputation of the largest Non-Big-N auditors increase? Does the audit of larger clients lead to more credibility relative to the Big N auditors? Our results provide a benchmark for future studies of such questions.

References

BARTON, J. "Who Cares about Auditor Reputation?" *Contemporary Accounting Research 22* (2005): 549-586.

BAUMOL, W.J.;J.C. PANZAR; AND R.P. WILLIG. "Contestable Markets and the Theory of Industrial Structure." San Diego: Harcourt Brace Jovanovich.

BLOKDIJK, H.; F. DRIEENHUIZEN; D.A. SIMUNIC; AND M.T. STEIN. "Determinants of the Mix of Audit Procedures: Key Factors that Cause Auditors to Change What they Do." Working paper, Vrije Universiteit Amsterdam, Limperg Instituut, University of British Columbia and University of Oregon, 2006.

BLOUIN, J.; B.M. GREIN; AND B.R. ROUNTREE. An Analysis of Forced Auditor Change: The Case of Former Andersen Clients." *The Accounting Review* 82 (2007): 621-650.

BOSELOVIC, L. "New Sox Law Rocks Accounting Industry." *Pittsburgh Post-Gazette* November 28, 2004.

BREWSTER. M. "Are the Big Four Gouging?" *Chief Executive,* March 2005.

BROWNING, L. "Sorry, the Auditor Said, But We Want a Divorce" *The New York Times* February 6, 2005

BUSINESS WIRE. "Accounting's Big Four All Suffer Audit Client Losses in 2003; Strafford Publications' Auditor-Track: PricewaterhouseCoopers Lost Most Clients; KPMG Fewest. *Buisness Wire* (January 27)

JOHNSTONE, K.M., AND J.C. BEDARD. "Risk Management in Client Acceptance Decisions" *The Accounting Review* 78 (2003): 1003-1025.

CHANEY P.; AND K. PHILIPICH. "Shredded reputation: The cost of audit failure." *Journal of Accounting Research* 40 (2002): 1221-1245.

CHANEY, P.K.; D.C. JETER; AND P.E. SHAW. "Client-Auditor Realignment and Restrictions on Auditor Solicitation." *The Accounting Review* 72 (1997): 433-453

CHOI, J-H; R. DOOGAR; AND A. GANGULY. "The Riskiness of Large Audit Firm Client Portfolios and Changes in Audit Liability Regimes: Evidence from the US Audit Market." *Contemporary Accounting Research* 21 (2004): 747-786.

CHOW, C.W. AND S.J. RICE. "Qualified audit opinions and auditor switching." *The Accounting Review* (1982): 326-335.

DATAR, S.M., G.A. FELTHAM, AND J.S. HUGHES. "The role of audits and audit quality in valuing new issues. *Journal of Accounting and Economics* 14 (1991): 3-49.

DEANGELO, L.E. "Auditor Size and Audit Quality." *Journal of Accounting and Economics* 3(1981): 183-199.

DEFOND, M. "The Association Between Changes in Client Firm Agency Costs and Auditor Switching." *Auditing: A Journal of Practice and Theory* 11 (1992): 16-31.

DOOGAR,R.; N.FARGHER; AND K.P. HONG. "Leveling the playing field" or "Crumbs from the table"? The contestability of the audit market to middle tier firms. Working paper, University of Illinois.

DOPUCH, N.; AND D. SIMUNIC. "The Nature of Competition in the Auditing Profession: A Descriptive and Normative View," in J.W. Buckley and J.F. Weston, Eds., *Regulation and the Accounting Profession* (Lifetime Learning 1980): 77-94.

DYE, R.A. "Incorporation and the Audit Market" *Journal of Accounting and Economics* 19 (1995): 75-114.

ETTREDGE, M.; C. LI.; AND S. SCHOLZ. "Audit Fees and Auditor Realignments in the Sarbanes-Oxley Era." Working paper, University of Kansas, 2007a.
ETTREDGE, M., J. HEINTZ, C. LI, AND S. SCHOLZ. "Auditor Realignments Accompanying Implementation of SOX 404 Reporting Requirements." Working paper, University of Kansas, 2007b.
FRANCIS, J.R. "What Do We Know about Audit Quality." *The British Accounting Review* 36 (2004): 345-368.
FRANCIS, J.; AND E. R. WILSON. "Auditor Changes: A Joint Test of Theories Relating to Agency Costs and Auditor Differentiation." *The Accounting Review* 63 (1988): 663–682.
FRANCIS, J.R.; AND J. KRISHNAN. "Accounting Accruals and Auditor Reporting Conservatism." *Contemporary Accounting Research 16* (1999): 135–165.
GENERAL ACCOUNTING OFFICE (GAO). "Public Accounting Firms: Mandated Study on Consolidation and Competition." 2003.
HEALY, P.; AND T. LYS. "Auditor Changes Following Big Eight Mergers with Non-Big Eight Audit Firms." *Journal of Accounting and Public Policy 5* (Winter):251-265..
HO, J; AND WANG. "Examination of Audit Fee Premiums and Auditor Switching Pre and Post the Demise of Arthur Andersen and the Enactment of Sarbanes-Oxley Act." Working paper, University of California, Irvine, 2007.
JOHNSON, W. B.; AND T. LYS. "The Market for Audit Services: Evidence from Voluntary Auditor Changes. *Journal of Accounting and Economics* 12 (1990): 281–308.
JOHNSTONE, K.M.; AND J.C. BEDARD. "Audit Firm Portfolio Management Decisions." *Journal of Accounting Research 42* (2004): 659-690.
KHURANA, I.K. AND K.K. RAMAN. "Litigation Risk and the Financial Reporting Credibility of Big 4 versus Non-Big 4 Audits: Evidence from Anglo-American Countries." *The Accounting Review* 79 (2004): 473-495.
KRANTZ, M. "More Firms Flee Big Four Accountants; Smaller Companies Get More Business As Audit Costs Rise" *USA Today*, September 27, 2004.
KRISHNAN, J. "Auditor Switching and conservatism" *The Accounting Review* 69 (1994): 200-215.
KRISHNAN, J. AND J. KRISHNAN. "Litigation Risk and Auditor Resignations." *The Accounting Review* 72 (1997): 539-560.
LANDSMAN, W.; K. NELSON; AND B. ROUNTREE. "An Empirical Analysis of Big N Auditor Switches: Evidence from the pre- and post-Enron Eras." Working paper, University of North Carolina and Rice University, 2006.
NICHOLS, D.R. AND D.B. SMITH. "Auditor Credibility and Auditor Changes." *Journal of Accounting Research* 21 (1983): 534-544.
O'SULLIVAN, K. "Big Four Moves Away from Smaller Clients" *CFO Magazine*, December 9, 2004.
PALMROSE, Z.V. 1987. "Litigation and Independent Auditors: The Role of Business Failures and Management Fraud". *Auditing: A Journal of Practice & Theory 7: 90-103.*
PITTMAN, J.A. AND S. FORTIN. "Auditor Choice and the Cost of Debt Capital for Newly Public Firms." *Journal of Accoutnign and Economics 37.* (2004): 113-136.
PLITCH AND WEI. "Auditor Client Breakups Rise, While Disclosure Often Lags." *The Wall Street Journal* August 8, 2004.

SANKARAGURUSWAMY, S. AND J.S. WHISENANT. "An Emirical Analsyis of Voluntarily Supplied Client-Auditor Realignment Reasons." *Auditing: A Journal of Practice & Theory 23* (2004): 107-121.
SCHLOETZER J.D. "Arthur Andersen, SOX Section 404 and Auditor Turnover: Theory and Evidence." Working paper, University of Pittsburgh, 2006.
SCHWARTZ K.B. AND M. MENON. "Auditor Switches by Failing Firms." *The Accounting Review 58* (1983): 248-261.
SHU, S.Z. "Auditor Resignations: Clientele Effects and Legal Liability" *Journal of Accounting and Economics* 29 (2000): 173-205.
SIMUNIC, D. 1980. "The Pricing of Audit Services: Theory and Evidence." *Journal of Accounting Research* 18: 161-190.
SIMUNIC, D. AND M. STEIN. 1990. "Audit Risk in a Client Portfolio Context." *Contemporary Accounting Research* 6 (Spring): 329-343.
STICE, J.D. "Using Financial and market Information to Identify Pre-Engagement Factors Associated with Lawsuits Against Auditors" *The Accounting Review* 66 (1991): 516-533.
SULLIVAN, M. "Great Migration: How Recent Events Changed the Switching Behavior of Top-Tier Audit Clients." Working paper, The George Washington University. 2006.
TAUB, S. "More Companies Pick Smaller Audit Firms." *CFO Magazine*, September 8, 2004.

Table 1
Sample selection

The sample selection process starts by considering all observations available in the CRSP-Compustat universe and omitting observations for which insufficient data (Compustat data item numbers noted in parentheses) is available to compute auditee size or identify the auditor.

Observations common to CRSP and Compustat (1989-2006)	125,545
From which subtract	
Observations for which Total Assets (data 6), Sales (data 12) and Market Capitalization (data 25*data 199) are all missing	(2,336)
Observations for which auditor identity information (data 149) is missing	(22,798)
Residual sample, number of observations used in Table 2	100,411
Of which	
Observations pertaining to *Compustat* fiscal year 2002	(5,055)
Final sample of engagements for the period 1989-2001 and 2003-2006	95,356

Table 2

Descriptive statistics for full sample and key sub-samples 1989-2006

The *Full Sample* consists of all 95, 356 observations in the *CRSP-Compustat* universe selected as described in Table 1. *NCB* auditees do not change their Big N auditor during the year in question. *DB* auditees switch from a Big N auditor to another Big N auditor or to a Non-Big-N auditor during the fiscal year in question (switches during 2002 by former Arthur Andersen auditees excluded). *DNB* auditees switch from a Non-Big-N auditor to another Non-Big-N auditor or to a Big N auditor during the fiscal year in question. *Nobs* is the number of observations for the variable in question, *Mean* and *Median* are the pooled mean and median across all years. Variables are defined as follows (Compustat data item number in parentheses). For any auditee fiscal year, *PreReturn* is twelve-month size adjusted returns during the immediately preceding fiscal year and *PostReturn* is twelve-month size adjusted returns during the current fiscal year. *Opinion* takes the value 1 if the last digit of *Compustat* data item number 149 indicates other than a standard opinion, 0 otherwise. *Leverage* is Total liabilities/Total Assets (data 181/data 6). *ROA* is Earnings before extraordinary income scaled by assets (data 18/data 6). *Assets* is Total Assets (data 6). *AsstGrowth* is Total Asset growth rate computed as the percent change in *Assets* from year t-1 to t. *Loss* takes the value 1 if ROA < 0 , 0 otherwise. *MCap* is Market Capitalization (data 199*data 25). *Sales* is Sales Revenue (data 12).

				NCB			*DB*			*DNB*			*NCN*		
	Full sample			*No change from Big N*			*Switch from Big N*			*Switch from Non-Big-N*			*No change from Non-Big-N*		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Nobs	*Mean*	*Median*	*Nobs*	*Mean*	*Median*	*Nobs*	*Mean*	*Median*	*Nobs*	*Mean*	*Median*	*Nobs*	*Mean*	*Median*
PreRet	86978	0.05	-0.10	69997	0.05	-0.08	4069	0.07	-0.15	1930	0.08	-0.15	10982	0.03	-0.18
PostRet	84481	0.04	-0.10	68630	0.04	-0.08	3719	0.09	-0.13	1870	-0.03	-0.23	10262	0.03	-0.19
Opinion	95351	0.28	0	76322	0.28	0	4417	0.29	0	2205	0.29	0	12407	0.28	0
Leverage	95214	0.52	0.51	76198	0.52	0.51	4413	0.57	0.53	2205	0.52	0.50	12398	0.50	0.45
ROA	88581	-0.03	0.06	71149	0.00	0.07	4032	-0.16	0.03	2047	-0.16	0.03	11353	-0.14	0.03
Asset	95354	2535.00	127.36	76324	3049.10	183.56	4419	1239.70	72.03	2205	589.66	30.70	12406	178.97	19.86
AsstGrowth	95335	3.25	0.08	76315	1.00	0.08	4418	0.93	0.05	2203	1.85	0.08	12399	18.16	0.07
Loss	88581	0.29	0	71149	0.26	0	4032	0.42	0	2047	0.44	0	11353	0.42	0
MCap	94877	1691.40	123.67	76014	2036.70	180.28	4396	769.28	63.31	2187	277.83	30.75	12280	135.40	21.40
Sales	95235	1268.40	107.36	76237	1525.50	156.72	4412	599.56	58.64	2199	252.39	25.22	12387	104.34	18.29

Table 3

Distribution of engagements, by type of predecessor and successor auditor, 1989-2006.

The sample consists of 100,411 observations in the *CRSP-Compustat* universe selected as described in Table 1 (including the 5,055 observations pertaining to 2002). *NCB* auditees do not change their Big N auditor during the year in question. *BtB* auditees switch from one Big N auditor to another during the year in question. *BtN* auditees switch from a Big N auditor to a Non-Big-N auditor during the year in question. *AtB* auditees switch from Arthur Andersen to another Big N auditor in 2002. *AtN* auditees switch from Arthur Andersen to another Non-Big-N auditor in 2002. *NCN* auditees do not change their Non-Big-N auditor during the year. *NtB* auditees switch from a Non-Big-N auditor to a Big N auditor during the year in question. *NtN* auditees are auditees that switch from one Non-Big-N auditor to another during the year in question. The Big N auditors are Arthur Andersen LLP (defunct 2002), Arthur Young (Ernst & Young LLP w.e.f. 1989), Coopers & Lybrand LLP (PricewaterhouseCoopers w.e.f. 1998), Deloitte Haskins and Sells (Deloitte and Touche LLP w.e.f. 1989), Ernst & Young LLP (w.e.f 1989), Ernst and Whinney (Ernst & Young LLP w.e.f. 1989), KPMG LLP, Price Waterhouse LLP (PricewaterhouseCoopers w.e.f. 1998), Touche Ross (Deloitte and Touche LLP w.e.f. 1989). In every case, transitions from a predecessor Big N auditor to a successor Big N auditor in the year of merger (1989 for Arthur Young, Ernst and Whinney and for Deloitte, Haskins and Sells and Touche Ross and 1998 for Coopers and Lybrand and Price Waterhouse) or thereafter have been coded as *NCB*.

Panel A. Number of engagements, by type of predecessor and successor auditor, 1989-2006

	NCB	*BtB*	*BtN*	*AtB*	*AtN*	*NCN*	*NtB*	*NtN*	*Total*
Switch from	*No*	*Big N*	*Big N*	*AA*	*AA*	*No*	*Non-B*	*Non-B*	
Switch to	*Change*	*Big N*	*Non-B*	*Big N*	*Non-B*	*Change*	*Big N*	*Non-B*	
1989	3863	166	62			766	95	39	4991
1990	3901	149	59			701	103	55	4968
1991	4074	155	55			711	57	33	5085
1992	4192	137	168			676	56	23	5252
1993	4558	125	56			845	88	19	5691
1994	4949	139	72			820	154	31	6165
1995	5312	168	59			817	90	24	6470
1996	5781	163	56			825	83	44	6952
1997	5789	207	55			823	82	30	6986
1998	5498	179	97			619	58	133	6584
1999	5190	204	108			599	67	89	6257
2000	4956	229	93			606	98	92	6074
2001	4457	223	98			530	76	79	5463
2002	3439	72	85	771	70	536	33	49	5055
2003	3845	110	134			573	48	47	4757
2004	3675	100	227			664	37	54	4757
2005	3394	107	236			829	44	65	4675
2006	2891	80	143			1003	33	79	4229
Total	79764	2713	1863	771	70	12943	1302	985	100411
Total excluding 2002	76325	2641	1778			12407	1269	936	95356

Panel B. Average proportion of observations in each category as a fraction of the total.

	NCB	*BtB*	*BtN*	*AtB*	*AtN*	*NCN*	*NtB*	*NtN*	*Total*
Switch from	*No*	*Big N*	*Big N*	*AA*	*AA*	*No*	*Non-B*	*Non-B*	
Switch to	*Change*	*Big N*	*Non-B*	*Big N*	*Non-B*	*Change*	*Big N*	*Non-B*	
Average (89-01)	81.3%	2.9%	1.3%			12.1%	1.4%	0.9%	100%
Average (03-06)	75.0%	2.2%	4.0%			16.7%	0.9%	1.3%	100%

Table 4

Average size rank percentile, by type of engagement, 1989-2001 and 2003-2006.

The sample consists of 95, 356 observations in the *CRSP-Compustat* universe selected as described in Table 1. Auditees are classified as follows. *NCB* auditees do not change their Big N auditor during the year in question. *BtB* auditees switch from one Big N auditor to another during the year in question. *BtN* auditees switch from a Big N auditor to a Non-Big -N auditor during the year in question. *NtB* auditees switch from a Non-Big-N auditor to a Big N auditor during the year in question. *NtN* auditees switch from one Non-Big-N auditor to another during the year in question. The Big N auditors are as defined in Table 2. *Nobs* is the average over 1989-2001 and 2003-2006 of the number of auditees in each panel. *Fraction* is average over 1989-2001 and 2003-2006 of the proportion of the number of auditees in each panel to the total number of auditees in the sample for that year. *Sales* is auditee Sales Revenue (Compustat data item 12), *MCap* is auditee market capitalization (data item 25 *times* data item 199) and *Assets* is auditee total assets (data item 6). *Min* and *Mean* are computed as follows. We first rank, for each fiscal year, all auditees in descending order of *Sales*, *MCap* or *Assets* (so that the largest auditee is always assigned rank 1 and the smallest auditee is assigned rank MAX). *Min* is the average over 1989-2001 and over 2003-2006 of the rank of the largest auditee in each panel scaled by *MAX*. *Mean* is the average over 1989-2001 and 2003-2006 of the mean rank of all auditees in the panel scaled by *MAX*. Each panel reports separately estimates of *Min* and *Mean* computed after ranking all auditees in descending order of *Sales*, *MCap* and *Assets* respectively.

	Average (1989-2001)				Average (2003-2006)			
	1	2	3	4	5	6	7	8
	Nobs	*Fraction*	*Min*	*Mean*	*Nobs*	*Fraction*	*Min*	*Mean*
Panel A. NCB (No-change Big N)								
Sales Rank	4803	81.3%	0.02	45.62	3450	75.0%	0.02	42.94
MVE Rank	4787	81.4%	0.02	45.40	3447	75.0%	0.02	41.96
TA Rank	4809	81.3%	0.02	45.24	3451	75.0%	0.02	42.62
Panel B. BtB (Big N to Big N) switches								
Sales Rank	172	2.9%	1.61	53.67	99	2.2%	1.28	43.57
MVE Rank	172	2.9%	1.39	54.53	99	2.2%	1.58	43.69
TA Rank	173	2.9%	1.79	53.21	99	2.2%	0.84	42.55
Panel C. BtN (Big N to Non-Big-N) switches								
Sales Rank	80	1.3%	20.02	73.33	185	4.0%	10.78	70.99
MVE Rank	79	1.3%	15.59	76.99	185	4.0%	10.48	74.15
TA Rank	80	1.3%	16.19	75.09	185	4.0%	6.56	71.17
Panel D. NtB (Non-Big-N to Big N) switches								
Sales Rank	85	1.4%	7.76	65.23	41	0.9%	7.89	67.26
MVE Rank	84	1.4%	6.45	62.80	40	0.9%	7.89	63.60
TA Rank	85	1.4%	8.10	64.43	41	0.9%	6.83	64.71
Panel E. NtN (Non-Big-N to Non-Big-N) switches								
Sales Rank	53	0.9%	30.36	77.62	61	1.3%	33.32	77.34
MVE Rank	53	0.9%	31.74	78.23	61	1.3%	37.15	81.25
TA Rank	53	0.9%	27.23	80.34	61	1.3%	27.77	77.64
Panel F. NCN (No-change Non-Big-N)								
Sales Rank	717	12.1%	5.51	73.02	766	16.6%	4.87	75.60
MVE Rank	709	12.1%	3.78	74.28	766	16.7%	5.40	77.61
TA Rank	718	12.1%	3.71	75.32	767	16.7%	5.72	76.64

Table 5

Auditee attributes and auditor choice during 1989-2001 and 2003-2006: pre-switch attributes

Auditees are classified as follows and described in more detail in Table 3. *BtB* auditees switch from one Big N auditor to another during the year in question. *BtN* auditees switch from a Big N auditor to a Non-Big -N auditor during the year in question. *NtB* auditees switch from a Non-Big-N auditor to a Big N auditor during the year in question. *NtN* auditees are auditees that switch from one Non-Big-N auditor to another during the year in question. *NCN* auditees do not change their Non-Big-N auditor during the year in question. The Big N auditors are as defined in Table 2. Variables are defined as follows (Compustat data items noted in parentheses). In column (1) the dependent variable takes the value 1 for a *BtB* auditee, 0 for a *BtN* auditee. In column (2) the dependent variable takes the value 1 for *NtB* auditees and 0 for *NtN* auditees. In column (3) the dependent variable takes the value 1 for *NtB* auditees and 0 for *NCN* auditees. Variables are defined as follows (*Compustat* data item numbers in parentheses). *Return* is twelve-month size adjusted returns during the fiscal year immediately preceding the fiscal year audited by the incoming auditor. The following variables are computed using financial statement data from the fiscal year immediately preceding the first fiscal year audited by the incoming auditor. *Opinion* takes the value 1 if the last digit of *Compustat* data item number 149 is other than 1 (modified opinion), 0 otherwise. *Leverage* is Total liabilities/Total Assets (data 181/data 6). *ROA* is Earnings before extraordinary income scaled by assets (data 18/data 6). *Assets* is Total Assets (data 6). *AsstGrowth* is Total Asset growth rate computed as the percent change in *Assets* from year t-1 to t. *Loss* takes the value 1 if ROA < 0 , 0 otherwise. *MCap* is Market Capitalization (data 199 * data 25). *Period* takes the value 1 if the auditee's Compustat fiscal year is 2003 or later, 0 otherwise. *C-Score* is the area under the Receiver Operating Characteristic curve.

	Comparisons		
	1	2	3
	BtB vs. BtN	*NtB vs. NtN*	*NtB vs. NCN*
Return	0.117 **	0.025	0.073 ***
Loss	-0.214 **	0.015	0.283 ***
Opinion	-0.138	0.237 *	-0.009
AsstGrowth	0	-0.002	0.005 **
Leverage	0.004	0.272	0.439 ***
MCap	0.265 ***	0.306 ***	0.345 ***
Period	-4.67 ***	-2.789 ***	-1.796 ***
*Period*Return*	0.01	0.526 ***	-0.023
*Period*Loss*	-0.425 **	0.389	0.162
*Period*Opinion*	0.286	-0.873 **	-0.604 **
*Period*AsstGrowth*	-0.398 **	-0.523 *	-0.344 ***
*Period*Leverage*	1.408 ***	-0.587 *	-0.66 **
*Period*MCap*	0.501 ***	0.277 ***	0.113 *
Constant	-0.245	-0.556 ***	-3.646 ***
Goodness of fit measures			
R^2	.268	.151	.084
C-Score	.760	.684	.678
Sample composition			
Observations			
Dependent variable = 1	2172	991	991
Dependent variable = 0	1482	753	9850
Period = 1	956	307	2400
Period = 0	2698	1437	8441

*, ** and *** indicate significance at 10%, 5% and 1% levels of significance.

Table 6

Auditee attributes and auditor choice during 1989-2001 and 2003-2006: post-switch attributes

Auditees are classified as follows and described in more detail in Table 3. *BtB* auditees switch from one Big N auditor to another during the year in question. *BtN* auditees switch from a Big N auditor to a Non-Big -N auditor during the year in question. *NtB* auditees switch from a Non-Big-N auditor to a Big N auditor during the year in question. *NtN* auditees are auditees that switch from one Non-Big-N auditor to another during the year in question. *NCN* auditees do not change their Non-Big-N auditor during the year in question. The Big N auditors are as defined in Table 2. Variables are defined as follows (Compustat data items noted in parentheses). In column (1) the dependent variable takes the value 1 for a *BtB* auditee, 0 for a *BtN* auditee. In column (2) the dependent variable takes the value 1 for *NtB* auditees and 0 for *NtN* auditees. In column (3) the dependent variable takes the value 1 for *NtB* auditees and 0 for *NCN* auditees. Variables are defined as follows (*Compustat* data item numbers in parentheses). *Return* is twelve-month size adjusted returns during the fiscal year audited by the incoming auditor. The following variables are computed using financial statement data from the first fiscal year audited by the incoming auditor. *Opinion* takes the value 1 if the last digit of *Compustat* data item number 149 is other than 1 (modified opinion), 0 otherwise. *Leverage* is Total liabilities/Total Assets (data 181/data 6). *ROA* is Earnings before extraordinary income scaled by assets (data 18/data 6). *Assets* is Total Assets (data 6). *AsstGrowth* is Total Asset growth rate computed as the percent change in *Assets* from year t-1 to t. *Loss* takes the value 1 if ROA < 0 , 0 otherwise. *MCap* is Market Capitalization (data 199 * data 25). *Period* takes the value 1 if the auditee's Compustat fiscal year is 2003 or later, 0 otherwise. *C-Score* is the area under the Receiver Operating Characteristic curve.

	Comparisons		
	1	2	3
	BtB vs BtN	*NtB vs NtN*	*NtB vs NCN*
Return	0.014	-0.005	-0.017
Loss	0.03	0.143	0.287 ***
Opinion	-0.129	0.243 *	0.231 ***
AsstGrowth	0.005	0.021	0.003 *
Leverage	-0.042	0.378	0.179
MCap	0.286 ***	0.345 ***	0.335 ***
Period	-4.985 ***	-2.193 ***	-1.648 ***
*Period*Return*	0.143	-0.143	-0.015
*Period*Loss*	-0.491 **	0.463	0.416 *
*Period*Opinion*	0.319	-0.107	-0.148
*Period*AsstGrowth*	-0.077	-0.189	-0.082
*Period*Leverage*	1.172 **	-1.293 **	-0.837 *
*Period*MCap*	0.553 ***	0.348 ***	0.161 **
Constant	-0.313 **	-0.699 ***	-3.274 ***
Goodness of fit measures			
R^2	.259	.153	.076
C-Score	.753	.691	.671
Sample composition			
Observations			
Dependent variable = 1	2153	1073	1073
Dependent variable = 0	1260	680	9553
Period = 1	734	233	1762
Period = 0	2679	1520	8866

*, ** and *** indicate significance at 10%, 5% and 1% levels of significance.