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The auditing oligopoly and lobbying on accounting standards

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Abstract

We examine how the tightening of the U.S. auditing oligopoly over the last twenty-five years—from the Big 8 to the Big 6, the Big 5, and, then, the Big 4—has affected the incentives of the Big N, as manifest in their lobbying preferences on accounting standards. We find, as the oligopoly has tightened, Big N auditors are more likely to express concerns about decreased "reliability" in FASB-proposed accounting standards (relative to an independent benchmark); this finding is robust to controls for various alternative explanations. The results are consistent with the Big N auditors facing greater political and litigation costs attributable to their increased visibility from tightening oligopoly and with decreased competitive pressure among the Big N to satisfy client preferences (who, relative to auditors, favor accounting flexibility over reliability). The results are inconsistent with the claim that the Big N increasingly consider themselves "too big to fail" as the audit oligopoly tightens.

I. INTRODUCTION

Since at least the 1970s, the audit market in the U.S. has functioned as an oligopoly, with a few large firms providing audit services for the vast majority of public companies. The past twenty-five years have witnessed a steady tightening of the oligopoly, with the number of big audit firms (hereafter, the Big N) declining from eight in the 1980s to four by 2002, while their combined market share has remained largely unchanged (e.g., GAO 2008). The tightening oligopoly in auditing is frequently discussed as a matter of public policy. Referring to the Big 4's 99% market share among public companies in 2003, then SEC chairman William Donaldson called it "a national problem" (Dwyer 2003). The Government Accountability Office (GAO) — the U.S. Congress' investigative arm — issues periodic studies on the matter: its 2008 study was focused on reforms aimed at enhancing "the potential for smaller accounting firms' growth to ease [audit] market concentration," although the report did not call for immediate action (GAO 2008). Similarly, the media has from time to time raised concerns about the tightening audit oligopoly. Writing about the issue in 2005, *The New York Times* columnist Joseph Nocera described it as a "huge problem," inviting readers to propose solutions because "accounting is too important to be left to the accountants." And, in 2011, Reuters columnist Felix Salmon wrote of the "impunity of the Big Four auditors."

The tightening oligopoly in auditing likely affects the relationship between the Big N and the broader business and political environment, which, in turn, alters the Big N's incentives. Concerns regarding the tightening oligopoly can involve the Big N's auditing practices. On the one hand, the GAO has been concerned that the Big N may engage in collusive pricing against their clients. On the other hand, some in the media have speculated that the increasingly oligopolistic Big N, less fettered by regulators, will favor their clients — who are their primary

revenue source — compromising their due diligence role in capital markets. Additionally, beyond the Big N's auditing practices, the tightening oligopoly can affect their incentives in accounting standard setting. After all, auditors are hardly restricted to assessing clients' adherence to financial reporting standards; rather, they routinely lobby and influence those standards at their very genesis to opportunistically suit their subsequent practice (e.g., Watts and Zimmerman 1982; Puro 1984). Our focus is to inform the debate on the tightening audit oligopoly by examining the evolving incentives of the Big N as evidenced in their lobbying behavior on proposed accounting standards.

We begin with a simple yet powerful characterization of auditors' incentives: increase client satisfaction and decrease the expected costs of litigation and regulatory intervention arising out of perceived failures in the discharge of their fiduciary responsibilities. As these incentives evolve, so will the nature of their comment-letter lobbying on the FASB's financial reporting proposals. To capture auditors' incentives, we focus on their assessments of a key attribute of proposed standards: their impact on accounting's "reliability." Specifically, we examine the influence of a tightening audit oligopoly on Big N auditors' changing propensity to express concerns regarding the decreased reliability of proposed standards, conditional on such concerns actually being present in those proposed standards (as measured through an independent, informed benchmarking process).

Reliability of reporting standards is a key attribute of accounting, as identified by the FASB and numerous basic accounting textbooks (e.g., FASB 1980; Stickney, Weil, Schipper, and Francis 2010). Reliability limits managers' discretion in accounting choice to reporting

methods that are verifiable, while additionally being representationally faithful.[1] Thus, more reliable standards demand objectivity in accounting estimates, facilitating audits and potentially reducing litigation and regulatory costs by restricting client firms' ability to misreport. While clients and auditors both have incentives to favor reliable standards, clients also prefer discretion in reporting standards because it provides the flexibility to choose the reporting option that is best suited to an underlying economic transaction.[2] Such discretion, however, can confound verifiability and thus reduce the reliability of standards. Thus, the inherently fiduciary nature of the auditor-client relationship implies that auditors, in a static equilibrium, can be expected to favor reliability over discretion more than their clients.

A tightening audit oligopoly often generates anxiety among regulators and in the popular press because it can alter the static equilibrium discussed above, by motivating Big N audit firms to promote standards that favor their clients at the expense of objectivity and auditability. A tightening oligopoly can be associated with a weakening of the forces that typically discipline auditor behavior and ensure that they maintain standards of due diligence. Fewer Big N firms available to undertake audits of large and complex clients implies that the potential systemic instability and cost to the financial system that could result from the failure of a single oligopolistic audit firm rises. This can make regulators reluctant to aggressively pursue auditors in the event of irregularities, effectively rendering them "too big to fail." For example, in 2005, the Big 4 audit firm KPMG was revealed to be "peddling illegal tax shelters" among its clients

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[1] In 2010 the FASB modified its conceptual framework to move away from "reliability" towards "representational faithfulness." Since this change went into effect after our sample period (1973–2006), we use "reliability," not "representational faithfulness," in our analyses.

[2] Some clients might prefer to constrain accounting discretion for competitive reasons (e.g., to prevent competitors' access to discretion).

(Nocera 2005). The U.S. Justice Department signed a deferred prosecution agreement with KPMG, forcing the firm to admit wrongdoing, but sparing it from criminal prosecution. Less fettered by the need to manage the risk of regulatory intervention, a tighter Big N oligopoly can be expected to care less about reliability and shift towards a preference for standards favored by their clients, which can help them increase revenue.[3]

Developing informed predictions regarding systematic shifts in the Big N's incentives requires consideration of circumstances inclusive of but not limited to their potential too-big-to-fail status. Specifically, there are two additional factors that evolve with a tightening audit oligopoly: the legal and political "visibility" of the remaining Big N; and the bargaining power the Big N enjoy with respect to clients. A decline in the number of Big N firms without a decline in their collective market share has translated into the remaining firms becoming more visible, making them more noticeable targets for litigation. The perception of deep pockets heightens motives among capital market participants, including investors, to launch class-action lawsuits against Big N auditors alleging dereliction of fiduciary duties. Increased visibility to regulators is also a potential issue, as it can conceivably increase regulators' incentives to scrutinize big audit firms more carefully (this phenomenon is sometimes described as 'political costs'). If a tightening oligopoly indeed increases auditors' visibility, they are more likely to highlight concerns about the reliability of proposed standards when such concerns are present. Reliable standards restrict the exercise of reporting flexibility by managers (e.g., Watts 2003). Compounding the effect of higher visibility is the improved bargaining power vis-à-vis clients

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[3] Catering to client preferences can help auditors increase revenues in a number of ways: e.g., more satisfied clients will probably be more willing to accept higher audit rates, more receptive of cross-sold services such as business-process consulting, and less prone to switch auditors.

the Big N enjoy when their numbers decline. As Big N audit firms have fewer competitors, the market-driven need to be responsive to clients' preferences is weaker, and auditors can focus on managing their exposures to litigation and regulatory risk. This can further shift the Big N's preferences towards standards that are more reliable.[4]

Thus, increased visibility along with a less competitive environment yields predictions — with respect to comment-letter lobbying on reliability — that are opposite to what one would expect if the Big N perceived themselves too big to fail. In that sense, the Big N's expressed preferences with respect to reliability of proposed standards provide a useful setting to examine which forces have a dominating influence on the Big N's incentives as their oligopoly tightens.

We measure Big N auditors' changing propensity to express concerns about decreased reliability as follows. We first measure the Big N auditors' "raw" mentions of decreased reliability in their comment letters on exposure drafts issued by the FASB. Subsequently, we obtain the benchmark (or "true") incidence of decreased reliability in the exposure draft based on the evaluations of two highly experienced research assistants blind to the study's objective (the data are from Allen and Ramanna 2013). The changing correlations between the Big N auditors' raw mentions of decreased reliability and the benchmark serve as our proxy for the auditors' changing incentives to raise concerns about decreased reliability.[5] We test the validity of our metric by examining whether the Big N auditors' incentives to focus on decreased reliability vary predictably with the intensity of the litigation regime across the 34 years in our sample

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[4] More generally, auditors can shift their preferences towards standards that are more compliance oriented and less judgment-based. Our formal prediction is limited to "reliability," consistent with our empirical design and strategy.

[5] Our use of this benchmark presumes no systematic hindsight bias in research assistants' evaluations of exposure drafts.

(1973 through 2006).[6] If the metric is sensible, Big N auditors' should exhibit a greater focus on decreased reliability in regimes with higher litigation risk. The results are consistent with this expectation, providing some evidence that our empirical proxy is capturing auditors' incentives. This result and subsequent results are robust to time-series controls.

In our primary tests, we observe that Big N auditors are increasingly concerned with the decreased reliability of proposed standards as the audit oligopoly tightens. Thus, the findings are consistent with Big N audit firms' preferences for standards reflecting heightened concerns about the litigation and political costs associated with their rising visibility. A greater focus among Big N auditors on reliability could also be facilitated by lower competition among Big N audit firms for clients, with the consequence that Big N auditors have less incentive to cater to their clients' preferences for higher reporting discretion. The results do not offer any support for the notion that Big N audit firms are less concerned with reliability because their declining numbers effectively make them "too big to fail".

The changing incidence of Big N auditors' concerns around decreased reliability can be a function of factors that are at least partial determinants of their tightening oligopoly (factors such as changing litigation risk). However, the objective of our study — to examine the relation between the declining number of Big N audit firms and their incentives vis-à-vis accounting standard setting — would be defeated by controlling for the determinants of that decline. Indeed, if we had a full theory of the determinants, the results we report likely would be subsumed in a comprehensive analysis of their impact on Big N auditors' incentives. Our study is motivated by

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[6] Our sample begins in 1973 because that is the first year of the FASB's operation. Because our sample ends in 2006, our data do not speak to the possible impact of PCAOB inspection reports and of the Financial Crisis of 2008 on Big N lobbying at the FASB. These are important issues for future research.

the public policy interest in the tightening oligopoly (described earlier), not the determinants of that tightening.

Other factors influencing auditors' concerns with decreased reliability are of issue to our statistical inferences to the extent that they influence the correlation with "true" concerns as measured by our benchmark. Given the use of year fixed effects in our analysis, these factors would be alternative explanations only if they manifest in a time series that is similar to changes in the audit oligopoly. While identifying such factors is not easy, we develop four that might confound our inferences: (a) macroeconomic cycles, (b) stock market conditions, (c) the growth of fair-value accounting standards, and (d) the changing preferences of standard setters. We find that our primary result — auditors increasingly focus on the reliability of proposed standards as the oligopoly tightens — is robust to including controls for these factors. Additionally, we explain why our results for the post-2002 period are unlikely to be driven by the Big N auditors' support for convergence of U.S. GAAP with International Financial Reporting Standards (IFRS). Finally, we conduct robustness tests, including a jackknife analysis to determine whether our inferences are driven by any one exposure draft in the sample (given the relatively small sample size in our tests). Our conclusions are robust to this analysis, although in three cases, we lose some statistical significance: details are discussed in Section IV.

The remainder of this paper is organized as follows. Section II develops the hypotheses connecting the tightening audit oligopoly with auditors changing incentives on decreased reliability. Section III describes the data and research design. Section IV presents and interprets the results. Section V concludes with a discussion of the study's implications.

II. HYPOTHESIS DEVELOPMENT

The Tightening Audit Oligopoly

The audit business in the US has since at least the 1970s functioned as a relatively tight oligopoly, with a few big firms providing a disproportionately large share of audit services. The dominance of the audit firms has been particularly pronounced among larger clients. In 1988, only eight firms collectively audited approximately 98% of all public companies by sales (82% by number). Thereafter, the concentration of audit firms increased progressively to the point that in 2002, there were only four firms auditing almost 99% of all public companies by sales (78% by number).[7] The specific consolidations that led to the emergence of a Big 4 from a Big 8 are outlined in Table 1. Briefly, the consolidations characterize four distinct oligopoly "eras" in our sample period from 1973 through 2006: the Big 8 era (1973-1989), the Big 6 era (1990-1998), the Big 5 era (1999-2002) and the Big 4 era (2003-2006).

The primary factor driving the increasing concentration of Big N audit firms has been mergers between existing firms. The mergers, in turn, appear to have been motivated by Big N audit firms' attempts to achieve economies of scale in servicing a client base that increasingly spans diverse operational and geographic boundaries. The academic literature has long recognized the benefits associated with economies of scale in the audit industry (e.g., DeAngelo 1981; Benston 1985). More recently, the GAO provides survey evidence attributing the growing concentration in the audit industry to the ability of Big N audit firms to make the large investments in technology and human capital that are necessary to provide services to larger,

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[7] See GAO (2003), a study conducted by Government Accountability Office for the Senate Committee on Banking, Housing, and Urban Affairs and the House Committee on Financial Services.

more complex, more global clients (GAO 2008). Changing litigiousness over time may have also contributed towards auditors' proclivity to merge. Bigger firms with a wider pool of resources are presumably in a better position to withstand the threats, and costs, arising from class-action lawsuits (GAO 2008). Higher concentration does not, however, *guarantee* the ability to survive litigation and political threats, as the case of Arthur Andersen demonstrates. In 2002, the criminal indictment of Arthur Andersen for its culpability as auditor in the accounting fraud perpetuated by Enron Corporation led to unprecedented client flight, as well as voluntary departures of several of its partners and staff, ultimately resulting in its dissolution. Indeed, the disappearance of Arthur Andersen represents the one instance in which voluntary mergers were not responsible for the tightening audit oligopoly.

Auditors' Incentives for Reliability in Accounting Standards

In building a sustainable business model, auditors are expected to be guided by their incentives to increase profits while ensuring that they fulfill their fiduciary responsibilities. These incentives are also likely to be driving auditors' preferences regarding financial accounting standards.[8] We operationalize auditors' preferences regarding standards as the extent to which they express their concerns about the standards' decreased reliability conditional on such concerns being actually present.

In a competitive equilibrium, auditors' wealth is eventually dependent on that of its clients. Clients typically encounter a heterogeneous range of transactions in their operations. Ceteris paribus, they would thus prefer standards that allow them flexibility to choose the most

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[8] The implicit assumption is that auditors lobby in their self-interest, which is consistent with Kinney's (1986) findings on lobbying at the Auditing Standards Board. Auditors might well lobby in "the general interest." Our empirical strategy controls for this possibility.

appropriate reporting method for a given transaction, conditional on the economic circumstances underlying that transaction. For example, when Apple originally entered the cellphone business, it was expected to recognize revenue from iPhone sales over a two-year period, consistent with subscription accounting rules (the typical cellular-service contract duration on iPhones was two years). Apple argued that the subscription model did not reflect the economics of iPhone sales because the company met a substantial fraction of its obligations to iPhone customers at contract initiation. The company lobbied for (and successfully secured) revised accounting standards that allowed it to recognize the bulk of revenue at an iPhone's sale (the fraction of revenue recognized at sale is at Apple's and its auditor's discretion; e.g., Brochet, Palepu, and Barley 2011). Watts and Zimmerman (1986) argue that managers choose accounting methods to suit their firms' contracting, information, regulatory, and tax environments. Kothari, Ramanna, Skinner (2010, 277) argue that "accounting is of strategic importance rather than a compliance tool," so there are "rents to be earned" by firms from customizing their accounting metrics. Both studies provide arguments for firms preferring, on average, greater accounting flexibility (although, in specific circumstances, clients may desire reduced accounting flexibility, e.g., to harm competitors). Such flexibility is effected through accounting discretion, which can come at the expense of objectivity, a key component of reliability. Thus, ceteris paribus, clients' preferences for flexibility in accounting standards provides auditors incentives to support accounting rules that can decrease reliability (assuming auditors have an interest in supporting standards that their clients would prefer, e.g., Watts and Zimmerman 1982; Puro 1984).

Auditors also have to consider that the primary consumers of their services are capital market participants. Auditors bear the responsibility of scrutinizing the financial reports prepared by their clients and assessing whether the reports meet generally accepted accounting principles,

and whether they provide a true and fair representation of their clients' financial position and performance. Capital market constituents such as investors and regulators can subject auditors to significant penalties for negligence, misrepresentation, and fraud. The penalties include class-action lawsuits by the investing community (litigation costs, e.g., Lys and Watts 1994) and enhanced scrutiny, fines, and imprisonment by regulatory authorities (political costs). To mitigate litigation and political costs, auditors are likely to prefer standards that allow less room for discretion. Accounting choices of clients are easier to audit when they are verifiable. Further, certain verifiable accounting choices that are questioned in litigation or regulatory action ex post are more defensible because they have met ex ante objectivity standards (e.g., Ramanna and Watts 2012). Both arguments suggest that, ceteris paribus, expected litigation and political costs provide auditors incentives to oppose accounting rules that decrease reliability.

The Tightening Audit Oligopoly and Auditors' Changing Incentives

We expect Big N audit firms' assessments of the reliability of proposed financial reporting standards to reflect changes in their own incentives. With a decrease in the number of Big N audit firms, auditors' considerations regarding the management of both their clients' preferences and their legal and regulatory environment are likely to evolve. We argue the tightening audit oligopoly influences Big N auditors' incentives on "reliability" via two primary channels: (a) the increasingly secure business environment of the surviving Big N audit firms and (b) the increasing visibility of each individual Big N auditor.

Increasingly Secure Business Environment

With the tightening audit oligopoly, both the regulatory climate and the competitive landscape of the audit firms can become more secure, with countervailing effects on their concerns regarding the reliability of proposed accounting standards.

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The increasing significance of each audit firm for the economy can act as a safety net against regulatory enforcement. Litigation and regulatory intervention have the power to severely damage an audit firm's wealth and reputation, and cause it to fail completely (as was the case with Arthur Andersen). As the number of big audit firms declines, a failure of any of the remaining firms would severely restrict the choices available to the client base and additionally, cause a crisis of confidence with investors questioning the reporting quality of the clients audited by the failed firm. The macroeconomic and political consequences of a Big N audit firm failure can generate a classic "too big to fail" scenario, in which regulators are reluctant to pursue enforcement actions against big auditors suspected of malfeasance or of negligence with respect to their fiduciary duties. The "too big to fail" audit scenario has been discussed in academia (e.g., Cunningham 2006) and the press (e.g., Dwyer 2003; Nocera 2005). If Big N auditors in a tighter oligopoly perceive themselves as being increasingly insulated against political costs, they are expected to shift their focus from managing the regulatory climate to satisfying the preferences of their clients (or, more generally, to other profit increasing activities), to the extent that there are trade-offs involved. Thus, as auditor concentration rises, we would expect Big N audit firms to exhibit a greater tendency to support standards that grant discretion to their clients, i.e., auditors become less concerned with decreased reliability of proposed accounting standards.

However, a more secure business environment can also generate incentives for auditors opposite to that of the too-big-to-fail phenomenon. As the Big N decline in number, surviving firms face reduced competition for audit business, which can make them less responsive to their clients' demands, and instead more focused on managing their litigation and political costs. As a consequence, Big N auditors would be more concerned about the decreasing reliability of proposed standards as the auditing oligopoly tightens.

Increasing Visibility

Intensifying the increasingly oligopolistic Big N's incentives to express concerns about decreased reliability of proposed standards is the heightened legal and political visibility resultant from a tightening oligopoly. As fewer audit firms account for an approximately constant share of the audit market, their perceived growth in size, wealth, and power makes them more prominent economic entities and, in that sense, more "visible." This, in turn, has implications for both their litigation risk as well their expected political costs.

The "deep pocket" theory of litigation suggests that the threat of class-action lawsuits against big audit firms is increasing in the perceived wealth and financial resources of these firms (e.g., Calabresi 1970; Palmrose 1988). As the audit market becomes increasingly oligopolistic, a smaller number of big audit firms assume a greater risk of facing class-action lawsuits. Further, the political costs literature also points to an increased probability and intensity of regulatory scrutiny for more visible corporate entities (Watts and Zimmerman 1978). Big audit firms have the largest clients and are often regarded as more reputable (DeAngelo 1981), with an influence on audit practices across the rest of the industry. The more visible big audit firms are, the more anxious regulators are likely to be, at least in perception, that the auditors maintain prudent and ethical reporting.

Thus, the threat of both litigation and regulatory intervention are predicted to increase as the visibility of the big audit firms rises with increased consolidation. The failure of Arthur Andersen in 2002, instrumental in reducing the number of big audit firms from five to four, made investors and regulators more sensitive to the possibility of audit failures and malfeasance even at large firms. If the big audit firms perceive their litigation risk and political costs as increasing

with a tightening oligopoly, they are expected to exhibit a stronger preference for standards that provide lower discretion to managers and are easier to audit (more "verifiable").

To summarize the arguments in this section: If, as some commentators have argued, individual members of a tighter Big N oligopoly are "too big to fail," they are less likely to be concerned about litigation and political costs: the Big N, now secure, will cater to clients' preferences for flexibility in accounting standards, which translates into a lower likelihood of highlighting decreased accounting reliability. However, a tighter audit oligopoly also implies decreased competitive pressure among the Big N to satisfy client preferences, and heightened visibility to regulatory bodies and the investor community, with attendant political and litigation costs. This can make auditors more concerned about standards that compromise reliability, making the Big N more likely to highlight decreased reliability in their comment letters.

There are additional arguments on how a tightening auditing oligopoly might affect the incentives of the Big N on matters beyond decreased reliability in accounting standards. In particular, a tightening oligopoly can lower costs to collusion, enabling the Big N to erect competitive barriers via accounting standards — that is, they might lobby for standards that are so complex that only large auditors can afford the human and technological capital to implement; such "complex" standards can also generate additional revenue by creating "busy work." We do not develop these arguments since our empirical tests are focused on decreased reliability and it is unclear how auditors' incentives to support "complex" standards would influence their lobbying preferences on the issue of decreased reliability.

Our objective is to study the impact of the changing auditing oligopoly on accounting standards. We execute on this objective by investigating whether consolidation in the audit industry has significantly impacted Big N auditors' propensity to discuss decreased reliability in their evaluation of proposed accounting standards, conditional on such concerns existing. We estimate this conditional propensity as the association in a multivariate regression between Big N auditors' reported assessment of decreased reliability and the "true" incidence of decreased reliability as measured by an independent benchmark. Changes in the correlation between Big N auditors' reported assessments and an independent benchmark can provide evidence as to the prevailing incentives in a tightened audit oligopoly.

In the first subsection we describe construction of our primary regression variables: the dependent variable, Big N auditors' reported assessments of decreased reliability; and the primary independent variable, the benchmark assessment of decreased reliability. In the following subsections we detail our multivariate regression design and statistical tests, and describe our construct validity test. The final subsection describes our control variables and statistical tests for alternative explanations.

Primary Regression Variables

Dependent Variable: Big N Auditors' Assessments of Decreased Reliability

We conduct our analysis of Big N audit firms' assessments of decreased accounting reliability through the lens of the comment letters written by these firms on FASB exposure drafts. Due process for the FASB provides constituents the opportunity to weigh in on a proposed standard by submitting comment letters. Prior research has shown that comment letters

have an impact on final standards, so they are meaningful indicators of constituent views (e.g., Ramanna, 2008). Our sample includes comment letters submitted by Big N auditors on the 170 exposure drafts issued from 1973 through 2006 that resulted in one or more SFAS: these data have been used by Allen and Ramanna (2013). In total there are 908 Big N auditor comment letters covering 149 exposure drafts (and 157 SFAS), which represents a participation rate of approximately 80%. See Table 2.

We measure Big N auditors' reported evaluations of decreased reliability as in Allen and Ramanna (2013). A paper copy of each Big N auditor comment letter was obtained from the FASB public library in Norwalk, Connecticut, digitized using optical character recognition and manual transcription, and analyzed using a custom designed Perl script, which extracted all sentences containing the word stem "reliab." Next, using the output from Perl, a research assistant blind to the intent of our study but trained in accounting principles manually examined the extracted sentences from each comment letter to assess the substance of the auditors' reference. Based on this evaluation, comment letters where auditors reported decreased reliability as a result of the exposure draft were identified.

Using the above procedure we find that 98 (10.8%) of the Big N auditors' comment letters express the opinion that an exposure draft will decrease accounting reliability. Our construction of the dependent variable (*dec_relb_aud*) is as in Allen and Ramanna (2013):

$$dec\_relb\_aud_{ij} = 1 - \frac{WC_{dec_{relb} \ ij}}{WC_{ij}} \qquad (1)$$

In equation (1), $WC\_dec\_relb_{ij}$ is the word count of the first instance of the word stem "reliab" used in a negative ("decreasing") context in comment letter i on exposure draft j; and WC_{ij} is the total word count of comment letter i on exposure draft j. By construction,

dec_relb_aud is bounded [0,1] and is intended to capture the relative importance a Big N auditor places on its assessment of decreased reliability by using relative word position as a proxy for sentiment intensity. As discussed in Allen and Ramanna (2013), this linguistic assumption is justified by the propensity of comment letters to begin with an introductory paragraph that highlights key issues. The variable construction should result in higher values of *dec_relb_aud* for comment letters in which the author views reliability as sufficiently important in her overall evaluation of an exposure draft to allude to it earlier in the comment letter.[9]

Primary Independent Variable: Benchmark Assessment of Decreased Reliability

To create a benchmark of an exposure draft's "true" impact on reliability that is independent of auditor incentives, we utilize the variable *manual_dec_relb* from Allen and Ramanna (2013), which we rename *benchmark* for clarity of interpretation in our setting. *benchmark* is constructed from the evaluations of two highly experienced research assistants who were instructed to manually assess each exposure draft's impact on reliability relative to the status quo of GAAP at the time of issuance. The research assistants employed in this task had a combined total experience in the fields of accounting and finance of over 30 years, as well as MBA degrees from top ranked U.S. business schools. The research assistants were blind to the objectives of the study. By construction, *benchmark* is a binary indicator for each exposure draft, which takes a value of one for exposure drafts categorized by the research assistants as decreasing accounting reliability. Of the 170 exposure drafts in our population, 145 were available to us from the FASB archives for manual evaluation. Merging this sample with our

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[9] In untabulated tests, we use a dummy variable set to one if *dec_relb_aud*>0 in lieu of *dec_relb_aud*; results are substantively invariant to the substitution in the regression specification with all control variables.

auditor comment letters yields a common sample of 774 auditor comment letters on 126 unique

exposure drafts manually evaluated by our research assistants. See Table 2.

Summary Statistics

Table 3 provides summary statistics for our dependent variable (*dec_relb_aud*) and

primary independent variable (*benchmark*) across each of the four Big N auditor concentration

eras (Big8, Big6, Big5, and Big4). As seen in Table 3, raw auditor mentions of decreased

reliability are monotonically increasing across the eras: average *dec_relb_aud* increases from a

low of 0.04 in the Big 8 era to a high of 0.27 in the Big 4 era. By contrast, the true incidence of

decreased reliability in proposed standards (as measured by *benchmark*) shows no analogous

increasing trend. Figures 1 and 2 present plots of averaged *dec_relb_aud* and *benchmark*,

respectively, by year. For both variables we observe substantial time-series variation. The break

at 1987 in Figures 1 and 2 is due to the fact that no exposure drafts were issued by the FASB in

that year. Figure 2 has three additional breaks at 1973, 1975, and 1997; across these three years

the FASB issued ten exposure drafts, none of which were available when creating our

benchmark variable.

Research Design

Our empirical tests are designed to assess the changing correlations between

dec_relb_aud and *benchmark* over different audit oligopoly regimes. Formally, we estimate the

betas from the following regression:

$$dec\_relb\_aud_{ij} = \begin{bmatrix} \alpha_1 \\ \alpha_2 \\ \vdots \\ \alpha_t \end{bmatrix}' * yr\_dummies + \begin{bmatrix} \beta_1 \\ \beta_2 \\ \vdots \\ \beta_t \end{bmatrix}' * yr\_dummies * benchmark_j \quad (2)$$

In the above equation *yr_dummies* is a *t* x 1 vector of year dummies, which allows variation across the intercept and slope estimates by year. There are a variety of factors (e.g., macroeconomic and market conditions) that can impact Big N auditors' mentions of *dec_relb_aud* in ways that may be unrelated to the "true" incidence of decreased reliability (*benchmark*). These factors are likely to vary by exposure draft and time, and their impact in equation (2) is captured in the alphas (we develop additional tests for alternative explanations in a subsequent subsection). By interacting *yr_dummies* with our *benchmark* variable the above regression, we generate separate beta estimates of the correlation between Big N auditors' assessments and "true" assessments for each year in our sample. For ease of interpretation we include a full set of year dummies and interactions, and accordingly omit a constant term and the main effect on *benchmark* to avoid multicollinearity.

As discussed in Section II, there are four distinct auditor concentration "eras" across our sample of SFAS: the Big 8 era (1973-1989), Big 6 era (1990-1998), Big 5 era (1999-2002), and Big 4 era (2003-2006). To test whether year-estimated betas differ significantly across these four audit eras we use linear combinations of betas to calculate era-average coefficients and standard errors per the following equations.

$$Regime\ Average\ Coefficient = l'\beta = \sum_{k=1}^{K} l_k \beta_k \quad (3)$$

$$se(l'\beta) = [\hat{\sigma}^2 l'(x'x)^{-1} l]^{\frac{1}{2}} \quad (4)$$

In equations (3) and (4), *l* is an *t* x 1 matrix (where *t* is the sample length) that has element *k* set to one for each β_k being averaged across a regime and zero otherwise; thus $l'\beta$ is a the simple average of coefficients on *benchmark* from 1973 through 1989 for the Big 8 era, 1990

to 1998 for the Big 6 era, 1999 to 2002 for the Big 5 era, and 2003 to 2006 for the Big 4 era. In equation (4), $\hat{\sigma}^2$ is the regression's sum of squared residuals divided by the degrees of freedom and x is the matrix of explanatory variables.

To test for significance of differences between era-averaged coefficients (say between Big 8 and Big 6), equations (3) and (4) are re-estimated setting l such that $l'\beta$ is the difference between the era-averaged coefficients for each era pair. For example, in estimating the difference between Big 8 and Big 6 era coefficients $l_{Big8\text{-}Big6}$ is constructed such that $l'_{Big8-Big6}\beta = l'_{Big8}\beta - l'_{Big6}\beta$. Significance tests of era-averaged coefficients and differences across era-averaged coefficients are based on a Student's t-distribution with $n\text{-}K$ degrees of freedom, where n is the sample size and K is the number of regression covariates.

Note that if the Big N auditors' incentives are unchanged across eras or if the auditors are, on average, not self-serving in their lobbying, we are unlikely to find significant differences across era-averaged beta coefficients. If, on the other hand, Big N auditors' lobbying on exposure drafts is influenced by changing incentives, significant differences across era-averaged coefficients provide evidence as to which incentives dominate as the oligopoly tightens.

Construct Validity

As discussed in Section I, auditor incentives in standard setting, particularly in highlighting decreased accounting reliability, are likely driven in part by the litigation environment. Specifically, ceteris paribus, in the face of increased (decreased) litigation risk auditors are more (less) likely to highlight decreased reliability in accounting standards. We use this prediction to examine the validity of our regression design: we test whether the correlation between *dec_relb_aud* and *benchmark* varies predictably with changes in the litigation

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environment in the thirty-four years of our sample period. Specifically, following the evolution of tort law related to auditor liability in our sample period, we identify four distinct litigation eras from 1973 to 2006:

(1) 1973-1982 constitutes our baseline period. During this period tort law governing auditor liability to non-clients for negligence was largely governed by the doctrine of "privity" (Feinman, 2003). Under the doctrine of privity, auditors can only be held liable for negligence to third parties with whom they have a direct contractual relationship.[10]

(2) 1983-1991 was a period marked by increase in litigation pressure felt by the large auditing firms. Two major court rulings in 1983, Rosenblum v. Adler and Citizens State Bank v. Timm Schmidt and Co., set precedents for the use of "reasonable foreseeability" rather than "privity" as the standard for negligence (Kothari et al. 1988). Under the doctrine of "reasonable foreseeability," auditor litigation risk is significantly increased; an auditor is potentially liable to any party that might have been reasonably expected to rely on a client's audited financial statements. Also in 1983, the U.S. courts held that auditors could be sued under the Racketeer Influenced and Corrupt Organization Act (RICO) of 1970 (Lys and Watts 1994).

(3) 1992-2002 was a period that saw a series of reforms aimed at decreasing auditor liability. In 1992, two court cases Bily v. Arthur Young and Co. and Security Pacific Business Credit v. Peat Marwick Main, reversed the precedent set in Rosenblum. Rejecting the doctrine of "reasonable foreseeability", both court cases instead applied the doctrine of "known users"

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[10] Kothari, Lys, Smith, and Watts (1988) in their discussion of auditor liability eras identify the Ernst & Ernst v. Hochfelder case in 1976 as demarking a reduction in auditor liability. Applied to our setting, this would suggest that we treat the periods 1973–1976 and 1977–1982 differently. We do not do so because we lack sufficient observations (based on limited data to construct the *benchmark* variable) to generate regression betas for the 1973-1976 period.

(Feinman 2003). By this standard auditor liability for negligent misrepresentation to non-clients is limited to third parties whom the auditor *knows* rely on its audit reports. Also, in 1992 the AICPA amended Section 505 of its Code of Professional Conduct to allow member firms to incorporate as limited liability partnerships; and, the Big N firms all converted shortly thereafter (Choi, Doogar, and Ganguly 2004). In 1994, the Supreme Court eliminated auditors' liability for aiding and abetting rule 10b-5 violations (Central Bank of Denver v. First Interstate Bank of Denver). And finally, in 1995 the Private Securities Litigation Reform Act of 1995 further reduced auditor liability by limiting key aspects of their liability under the 1934 Securities Act and under RICO (Ali and Kallapur 2001). The sum effect of these changes was a reduction in litigation risk for auditors relative to the prior period.

(4) 2003-2006 was a period marked by increased litigation risk relative to the prior period. The provisions of the Sarbanes Oxley Act of 2002 (SOX) left largely untouched the private civil liability standards for auditors, but established the Public Company Accounting Oversight Board for increased oversight and visibility of Big N audit firms. Further, the high visibility of corporate accounting scandals from 2001-2002, the demise of Arthur Andersen, and the ensuing wave of investigations and penalties for public accounting firms likely heightened Big N audit firms incentives to minimize litigation risk (Cahan and Zhang 2006). We note that this period coincides directly with the "Big 4" era identified in our primary analysis.

To the extent that our regression design allows us to generate estimates of the correlation between auditor assessments of an exposure draft and the benchmark assessments that are meaningful proxies for auditor incentives, a distinct pattern in average regression betas should present across the four litigation eras defined above. The specific predictions are summarized in the chart below:

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Era	Legal Liability Standard	Beta Predictions (relative to preceding period)
1973-1983	Privity	Baseline
1984-1992	Reasonable Foreseeability	Increased Beta
1993-2002	Known Users (and Limited Liability)	Decreased Beta
2003-2006	SOX	Increased Beta

In these construct validity tests, the statistical significance of regime-average betas and comparisons across betas are made using the linear-combination process described in the prior subsection (Eq 3 and Eq 4).

Control Variables and Tests of Alternative Explanations

The incidence of Big N auditors' "raw" concerns about decreased reliability (*dec_relb_aud*) can be a function of numerous factors that vary over time, such as macroeconomic and market conditions. To the extent that these factors are unrelated to the "true" incidence of decreased reliability (*benchmark*), our use of year fixed-effects in equation (2) serves as a control in the multivariate regressions. But these factors may affect the *benchmark* variable as well. If such factors are unrelated to the tightening audit oligopoly but manifest in a time series that is similar to the auditor eras, our interpretation of the linear combinations (over auditor eras) of betas in equation (2) as representing the association between Big N auditor incentives and the tightening audit oligopoly is confounded. We are not aware of any theory that exhaustively specifies these factors (largely because the literature is lacking a theory for the tightening auditor oligopoly), but we identify four factors that nevertheless warrant consideration as potential alternative explanations: macroeconomic cycles, market conditions, increased fair-value-based accounting, and standard setters' ideologies.

Macroeconomic Cycles and Market Conditions

Periods of recession increase the probability of financial distress and corporate failure, and accordingly may heighten auditor concern with legal liability (St. Pierre and Anderson 1984). If this is the case, Big N audit firms may be more likely, ceteris paribus, to recognize and highlight issues of decreased reliability in their responses to exposure drafts proposed during recessions than during periods of macroeconomic growth. The same argument can be made with regards to the prevailing market conditions. To control for these possibilities, we generate two control variables: *macro_growth* is a binary variable set equal to one for exposure drafts issued during a period of economic growth, as defined by the NBER, and zero for exposure drafts issued during a period of economic contraction; *market_ret* is a continuous variable set equal to the annual value-weighted market return for the 12 months directly preceding the month in which an exposure draft was issued.

Fair-Value Accounting

Audit firms may have preferences against the increased use of fair value in financial reporting. Fair value estimates can be more difficult to audit than historical costs, and the use of fair values can increase litigation risk for auditors (e.g., Watts 2003). Accordingly, Big N auditors, hoping to deter the increased use of fair value methods, may be more likely to voice concerns regarding decreased reliability for exposure drafts that increase the use of fair values than for those that do not. To control for this possibility we rely on data from Allen and Ramanna (2013), who construct a variable based on independent research assistants' evaluations of exposure drafts' use of fair-value methods. For our analysis, we generate a binary control variable (*fair_value*) that takes the value of one for exposure drafts that increase the use of fair

values for asset write downs, asset recognition and measurement, liability recognition and measurement, disclosure, or recognition in the income statement; zero otherwise.

Standard-Setters' Ideologies

Allen and Ramanna (2013) show that standards proposed by FASB boards with a higher proportion of members from the financial services industry (*pct_fin_fasb*) are more likely to be viewed by the Big N audit firms as decreasing accounting reliability. Accordingly, we include *pct_fin_fasb* as a control variable in our analysis; *pct_fin_fasb* is a continuous variable equal to the proportion of FASB members in office at the issuance of an exposure draft who were employed in the financial services industry (defined as investment banking and investment management) immediately prior to their appointment to the board.

Tests of Alternative Explanations

Table 4 provides summary statistics for each of the four control variables described above. As shown in Figures 3 through 6, none of these factors manifest in a pattern that is identical to the changes in the audit oligopoly, suggesting they are unlikely to confound inferences in our multivariate regressions. Nevertheless, to understand better the potential impact of these factors in our setting, we perform two separate tests. First, we separate our sample into periods of high and low macro conditions, market returns, fair-value use, and proportion of financial-services members on the FASB. Segregation of years into high and low periods on each variable is achieved as follows:

Variable	*Classification Criteria*	*"High" subsample*	*"Low" subsample*
macro_growth	Years are denoted as "growth" if the mean value of *macro_growth*>.5 across all exposure drafts in our sample	"Growth:" 1975-1979, 1981, 1983-2000, 2002-2006	"Recession:" 1973-1974, 1980, 1982, 2001

	for that year, and "recession" otherwise.		
market_ret	Years are denoted as "positive" if the mean value of *market_ret* >0 across all exposure drafts in our sample for that year and "negative" otherwise	"Positive:" 1975-1981, 1983, 1985-1987, 1989, 1991-1993, 1995-1997, 1999, 2003-2006	"Negative:" 1973, 1974, 1982, 1984, 1988, 1990, 1994, 1998, 2000-2002
fair_value	Years are denoted as "No FV" if *fair_value* = 0 for all sample exposure drafts proposed during that year, and "FV increasing" otherwise	"FV increasing:" 1977, 1983-1984, 1989, 1992, 1994, 1996, 1998-2006	"No FV:" 1974, 1978-1982, 1985-1986, 1988, 1990, 1991, 1993, 1995, 1997
pct_fin_fasb	Years are denoted as "Financial FASB" if *pct_fin_fasb*>0 for at least one exposure draft in our sample from that year and "No Financial FASB" otherwise	"Financial FASB:" 1993-2006	"No Financial FASB:" 1973-1992

For each of the above subsamples, we compute era-average betas from our primary regression results (Eq 2). Two sided *t*-tests are used to assess whether there is a significant difference between the era-average betas from "growth" versus "recession" years, "positive" versus "negative" market return years, "fair value increasing" versus "no fair value" years; and years with "no financial FASB" versus at least one "financial FASB" member serving.

Second, we re-estimate our primary regression (Eq 2), including the additional controls for *macro_growth, market_ret, fair_value*, *pct_fin_fasb*, and their respective interaction controls with *benchmark* (*macro_growth*benchmark, market_ret*benchmark, fair_value*benchmark, pct_fin_fasb*benchmark*). Using this regression output we re-compute the era-average betas for

each auditor concentration era (Eq 3 and Eq 4) and test for significance of differences. The full specification of this model is as follows:

$$dec\_relb\_aud_{ij} = \begin{bmatrix} \alpha_1 \\ \alpha_2 \\ \vdots \\ \alpha_t \end{bmatrix}' * yr\_dummies + \begin{bmatrix} \beta_1 \\ \beta_2 \\ \vdots \\ \beta_t \end{bmatrix}' * yr\_dummies * benchmark_j$$

$$+ \begin{bmatrix} \gamma_1 \\ \gamma_2 \\ \vdots \\ \gamma_8 \end{bmatrix}' * \begin{bmatrix} macro\_growth \\ market\_ret \\ fair\_value \\ pct\_fin\_fasb \\ macro\_growth * benchmark \\ market\_ret * benchmark \\ fair\_value * benchmark \\ pct\_fin\_fasb * benchmark \end{bmatrix} \quad (5)$$

Beyond the four potential alternative explanations discussed above — macro and market conditions, increased fair-value-based accounting, and standard setters' ideologies — the globalization of accounting standard setting, particularly the convergence project between the FASB and the International Accounting Standards Board (IASB) since 2002, may have affected the Big N auditors' incentives on decreased reliability. Specifically, IFRS standards proposed by the IASB, of which the Big N has been largely supportive (e.g., Botzem and Quack 2009), are generally considered to be "principles-based," emphasizing flexibility and fair-value accounting at the expense of reliability. Thus, if support for the convergence of U.S. GAAP with IFRS determined the Big N auditors' lobbying positions on decreased reliability post 2002, we would expect it to lower the era-average beta coefficient from the Big 4 era (2003-2006). Further, under this explanation, the difference between the Big 4 era-averaged beta coefficient and prior era-averaged beta coefficients would not be positive. We use this prediction to test the alternative

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explanation that support for IFRS convergence determined the Big N auditors' incentives on decreased reliability post 2002.

IV. RESULTS

Construct Validity Tests

Table 5 presents the results of our construct validity tests to determine whether average regression coefficients vary predictably with changes in the litigation environment. The underlying regression for Table 5 is from Eq 2; beta coefficients measure the propensity of Big N auditors to express concerns about decreased reliability (*dec_relb_aud*) relative to our *benchmark* assessment of an exposure draft's "true" impact on decreased reliability. Column (1) of Table 5 reports the average beta observed for each of the four auditor litigation eras. Differences in average coefficients for each pair of eras are presented in columns (2) through (4). Statistical significance is reported based on heteroskedastic-robust standard errors.

As shown in column (1), litigation era averaged coefficients vary according to our predictions (see subsection 'Construct Validity' in Section III): Big N auditor concern with decreased reliability conditional on an exposure drafts "true" impact, is lowest under the legal standard of "privity" (-0.03), increases under the more relaxed doctrine of "reasonable foreseeability" (0.31), decreases under the more stringent standard of "known users" (0.18), and increases again post-SOX (0.34). Pairwise differences across each of these eras are presented in columns (2) through (4). All predicted differences (diagonal elements) are statistically significant at the 90% confidence level (p-value<0.10). The comparison between "reasonable foreseeability" and "SOX" is not statistically significant. We had no ex-ante prediction on this comparison since "reasonable foreseeability" and "SOX" represent two relatively high litigation-risk eras. Overall,

Table 5 offers assurance that the regression design can provide meaningful estimates for the changing incentives of Big N audit firms in standard setting.

Multivariate Results

Table 6 presents the results of our multivariate tests to determine how auditor incentives in standard setting have changed with a tightening audit oligopoly. The underlying regression and presentation of Table 6 is identical to that of Table 5, except that regression coefficients are averaged across the four auditor concentration eras as opposed to litigation eras. Column (1) of Table 6 suggests average coefficients are monotonically increasing across eras; average beta is 0.09 in the Big 8 era, 0.14 in the Big 6 era, 0.24 in the Big 5 era and 0.34 in the Big 4 era. This trend is consistent with predictions that a tightening oligopoly will heighten auditor concern with litigation and political visibility risk, as well as decrease the competitive pressure for Big N auditors to advocate for greater flexibility in standards on their clients behalf. Increasing average coefficients suggest these factors subsume any decrease in auditor concern resulting from an increased perception of being "too big to fail". Differences are significant (p-value<.05) when comparing: Big 8 to Big 5 and Big 4; and Big 6 to Big 4. The other differences are not statistically significant, warranting restraint in drawing strong inferences from the analysis in Table 6.

Tests of Alternative Explanations

Table 7 presents our analysis on the impact of four factors that may be correlated with both Big N auditor "raw" concerns about decreased reliability (*dec_relb_aud*) and the "true" incidence of decreased reliability (*benchmark*) for each exposure draft: macroeconomic cycles (Panel A), average market returns (Panel B), fair-value use in proposed standards (Panel C), and the proportion of FASB members most recently employed in financial services (Panel D). Each

panel has two columns: column (1) presents era-averaged betas for "high" and "low" values of the four factors as defined in subsection 'Control Variables and Tests of Alternative Explanations' of Section III; column (2) shows the difference between these era-averaged coefficients. Statistical significance is reported using heteroskedastic-robust standard errors.

Panels A and B of Table 7 suggest that the average correspondence between "raw" auditor concern with decreased reliability and the "true" incidence of decreased reliability is largely invariant to both macroeconomic cycles (*macro_growth*) and average market returns (*market_ret*). Columns (1) of Panels A and B show average betas are 0.17 across years with macro-economic "growth" and with macro-economic "recession" as well as across those years with positive average market returns and negative average market returns. As shown in columns (2) of Panels A and B, differences are, in both cases, statistically insignificant.

By contrast, Panels C and D of Table 7 suggest that the fair-value impact of an exposure draft as well as the proportional membership of FASB members having a financial services background has a significant effect on Big N auditors' propensity to express concern about decreased reliability, conditional on such concern being present. Panel C suggests that the average beta increases from -0.03 in years for which no fair-value increasing standards are proposed, to 0.25 in years that have at least one fair-value increasing exposure draft. The difference in average betas (0.28) is statistically significant (p-value<.01). Similarly, Panel D suggests that the average beta is significantly higher (p-value<0.01) in years where at least one FASB member was previously employed in the financial-services sector (0.23) compared to years in which no FASB member has a financial-services background (0.10).

Collectively Panels C and D of Table 7 suggest that the fair-value impact of a proposed standard as well as the proportional composition of FASB board members may affect the correlation between "raw" propensities of Big N auditors to comment on decreased reliability (*dec_relb_aud*) and the "true" instance of decreased reliability in an exposure draft (*benchmark*). Accordingly, including controls for these variables in our primary regression design is important to generating unbiased estimation of betas that are consistent with our intended interpretation for them. By contrast, Panels A and B suggest that macroeconomic cycles and average market returns do not affect the correlation between Big N auditor concerns with decreased reliability and true concerns; as such, the inclusion of year-fixed effects in our primary specification should adequately capture the effect of these factors.

Multivariate Results after Controlling for Alternative Explanations

Table 8 presents average auditor concentration era betas obtained by re-estimating our primary regression after including both main effect and interaction controls for those factors observed to be statistically significant in Table 7: the fair-value impact of an exposure draft (*fair_value* and *fair_value*benchmark*), and the proportion of FASB members with financial services background (*pct_fin_fasb* and *pct_fin_fasb*benchmark*). Table 8 is otherwise identical to Table 6. Column (1) of Table 8 suggests that Big N auditor concern with decreased reliability, conditional on an exposure statements "true" impact, is increasing monotonically with increased concentration of the audit oligopoly, consistent with the results of Table 6. Columns (2) through (4) provide pairwise differences between era-averaged betas, which are all positive and statistically significant (p-values<0.5). Thus, results of Table 8, similar to those of Table 6, are consistent with Big N auditors facing greater political and litigation costs attributable to their increased visibility from tightening oligopoly and with decreased competitive pressure among

the Big N to satisfy client preferences (who usually demand accounting flexibility at the expense of reliability). These forces appear to dominate any increased perception by the Big N that they are "too big to fail" as the audit oligopoly tightens.

In Table 8, the era-average beta coefficient from the Big 4 era is greater than that from any other era. This positive difference is inconsistent with the proposition that support for IFRS convergence determined the Big N auditors' incentives on decreased reliability post 2002. As noted earlier, support for IFRS convergence is expected to decrease the Big 4 era coefficient, given the principles-based nature of IFRS that emphasizes flexibility and fair-value accounting at the expense of reliability.

For completeness Table 8 also reports the coefficients on the control variables *fair_value*, *fair_value*benchmark*, *pct_fin_fasb*, and *pct_fin_fasb*benchmark*. The coefficient on *fair_value* is positive and statistically significant, suggesting higher average raw concern about decreased reliability among the Big N auditors on fair-value-related standards. Additionally, the coefficient on *pct_fin_fasb*benchmark* is negative and statistically significant, suggesting a greater proportion of financial-services veterans on the FASB attenuates incentives among the Big N to raise concerns about decreased reliability when such concerns are present.

In un-tabulated analysis we also test whether the results of Table 8 are robust to the inclusion of *macro_growth* and *market_ret* and the corresponding interaction terms (*macro_growth*benchmark*, *market_ret*benchmark*). The results presented in Table 8 are substantively unchanged when we include these additional controls with one exception: the pair-wise difference between Big 6 and Big 5 era average coefficients is no longer significant at conventional levels. This change can be related to decreased power: observed variance inflation

factors (a test for multicollinearity) for *macro_growth*benchmark* and *market_ret*benchmark* are 39.8 and 23.0, respectively.

Jackknifing and Other Robustness Tests

Because the inferences from the regressions described thus far are based on a relatively small sample of 126 exposure drafts, we conduct a jackknife analysis to test whether any one exposure draft is critical to our conclusions. Specifically, we successively eliminate each exposure draft that is used in the calculation of era-average coefficients and determine whether the statistical inferences from Table 8 continue to hold. We find that the inferences are robust to the jackknife analysis in all but three cases, where the difference between Big 6 and Big 5 era-averaged coefficients is positive but not statistically significant. All three cases pertain to exposure drafts issued in the Big 5 era.[11] The exclusion of these exposure drafts (and associated comment letters) lowers the precision of the Big 5 era coefficient and thus the power to detect the statistical difference between that coefficient and the Big 6 era coefficient.

Additionally, we test whether our results are affected by the changing industry dependence of individual Big N auditors. Certain audit firms develop expertise in — and accordingly dependence on — certain industries. As the number of Big N firms declines, the nature of this industry dependence changes. Auditors dependent on an industry might have different incentives in lobbying, particularly on standards specific to that industry: The auditors might place a greater emphasis on client interests or, alternatively, they might be especially wary

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[11] The three exposure drafts are: (1) "Accounting for Derivative Instruments and Hedging Activities—Deferral of the Elective Date of FASB Statement No. 133: an amendment of FASB Statement No. 133," issued May 1999; (2) "Business Combinations and Intangible Assets—Accounting for Goodwill," issued February 2001; and (3) "Rescission of FASB Statements No. 4, 44, and 64 and Technical Corrections," issued November 2001.

of political and litigation costs. To test whether such heightened incentives are driving our main results, we conduct robustness tests of our regressions to the inclusion of an indicator (*AudIndDep*) to isolate the effect of industry-dependent auditors lobbying on industry-specific standards; the indicator is also interacted with *benchmark*.

To construct *AudIndDep*, 'industry-dependent auditors' is defined as auditors with an above market-average proportion of clients in each of 12 Fama-French industries:[12] these are the audit firms highlighted in grey in Panel A of Table 9. As seen from Panel A, there exists some auditor-time series variation in industry dependence across the four eras in our sample: for example, from Big 8 to Big 4, PwC and KPMG experienced growth in the 'business equipment' and 'money' industries, respectively. In general, however, Big N client mix over time is relatively dispersed across industries, diluting any potential dependencies. Furthermore, as shown in Panel A, the majority of FASB proposals are not industry specific; thus, it seems unlikely that auditor industry dependence is driving our results. Panel B of Table 9 reports the results of the regression including *AudIndDep* and its interaction with *benchmark* (for completeness, an additional indicator for industry-specific standards is also included). The results are substantively similar to those in Table 8, suggesting that changing auditor incentives from changing industry dependence of individual Big N auditors is not a confounding factor.

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[12] The averages are computed by weighting by the natural log of total assets, consistent with prior literature on the determinants of audit fees (e.g., Palmrose, 1986); the results are also robust to using simple averages.

V. CONCLUSION

The U.S. auditing industry has been characterized as an oligopoly for at least the last forty years, but the structure of that oligopoly has successively tightened from eight key players to four over the last twenty-five years. The tightening oligopoly is likely to change the incentives of the surviving Big N auditors, with implications for their role in our market economy. The U.S. Government Accountability Office, the Congress' key independent oversight agency, has investigated the tightening oligopoly and, from time to time, issued reports aimed at increasing the number of major players in the audit industry (e.g., GAO 2008). Market regulators, such as the SEC, and the press have also expressed concerns about the tightening audit oligopoly. Motivated by the economic and public policy implications of the tightening audit oligopoly, we investigate the changing relation between the Big N and accounting standards.

Accounting standards are a key input in the audit process and, through their effects on financial reporting, can impact capital allocation decisions in the economy. We study the impact of the tightening audit oligopoly on Big N auditors' propensity to discuss decreased "reliability" in accounting standards proposed by the FASB. "Reliability" is a key attribute of accounting, as recognized by the FASB and several accounting textbooks (e.g., FASB 1980; Stickney et al. 2010). Moreover, reliability is directly relevant to auditors because it entails "verifiability," which is a key aspect of auditing. Verifiable standards mitigate the litigation and regulatory risks embedded in auditors' certification of financial reports (e.g., Watts 2003). Beyond reliability, there are likely to be other accounting properties such as comparability, consistency, and relevance that are important to auditors: future work can explore the impact of changing audit oligopoly on these properties as well.

We find that Big N auditors are more likely to identify decreased reliability in proposed standards as the auditing oligopoly has tightened. Our inferences are facilitated through the use of a "benchmark" assessment of proposed standards' decreased reliability: the benchmark is obtained through a standard dual-coder model using highly experienced accounting and finance professionals blind to the study's objectives. The findings are consistent with Big N auditors perceiving higher litigation and political costs from the increased visibility that accompanies tighter oligopoly. The findings are also consistent with tighter oligopoly decreasing competition among the surviving Big N to satisfy client preferences in accounting standards (preferences for accounting flexibility at the expense of verifiability). The findings are not consistent with the concern that tightening oligopoly has rendered the surviving Big N "too big to fail."

Collectively, the results suggest that, as the oligopoly in auditing has tightened, Big N auditors are more prone to eschew the judgment and risks inherent in less reliable accounting standards. If these sentiments — measured in the auditors' comment letters on proposed standards — manifested in the final standards issued by the FASB, the results provide some descriptive evidence on the evolution of "rules" over "principles" in U.S. GAAP. The growth of rules-based accounting standards is significant because it can result in a collectivization of auditing and financial reporting risks in ways that can be sub-optimal for capital allocation (Kothari et al. 2010).

The results are robust to the inclusion of controls that capture other time-based factors that can impact auditors' propensity to identify decreased reliability in proposed standards (factors such as extant macroeconomic or stock market conditions). The findings are also robust to controls for the incidence of fair-value methods in proposed accounting standards and for the proportion of FASB members from the financial services sector. Fair-value accounting, which is

expected to decrease accounting reliability, is one of the major developments in accounting standards over the last twenty years, and prior research has shown that the incidence of fair-value methods in proposed standards is tied to the proportion of financial-services FASB members (Allen and Ramanna 2013).

More generally, the nature of our multivariate regression design is such that alternative explanations that do not manifest in a time series that is similar to the consolidation of the audit industry are unlikely to confound our inferences. That said, our empirical strategy is focused on the effects of tightening oligopoly, not its causes. Numerous factors such as globalization, the increased scale and complexity of business, improved information technology, and changing litigiousness are thought to have precipitated changes in the audit industry (e.g., GAO 2008). Our findings are likely to be explained by a full consideration of the determinants of audit oligopoly (although the literature currently lacks such a theory), and thus must be interpreted accordingly. The results herein provide a pivot for future research on the changing audit oligopoly, its determinants and consequences.

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Watts, R., and J. Zimmerman. 1982. *Auditors and the Determination of Accounting Standards*. Working Paper, University of Rochester.

Watts, R., and J. Zimmerman. 1986. *Positive Accounting Theory*. Cliffs, NJ: Prentice-Hall.

Figure 1:

Big N Auditor assessments of decreased reliability in proposed standards

The sample is based on 149 exposure drafts issued between 1973 and 2006. *dec_relb_aud* is an assessment that a proposed SFAS will decrease accounting "reliability" as expressed by the Big 8/6/5/4 auditors (hereafter "Big N auditors") in their comment letters. See subsection 'Primary Regression Variables' of Section III for details.
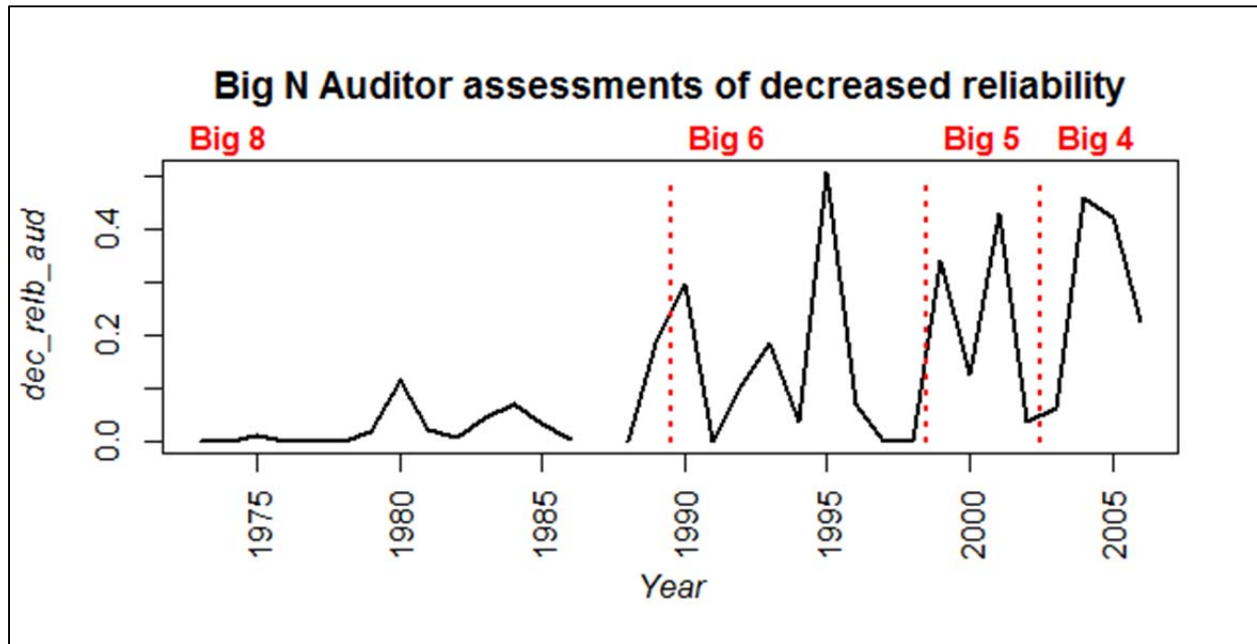
Figure 2:

Independent research assistant "benchmark" assessments of decreased reliability in proposed standards

The sample is based on 126 exposure drafts issued between 1973 and 2006. *benchmark* is an assessment that a proposed SFAS will decrease "reliability" as determined by two independent reviewers. See subsection 'Primary Regression Variables' of Section III for details.
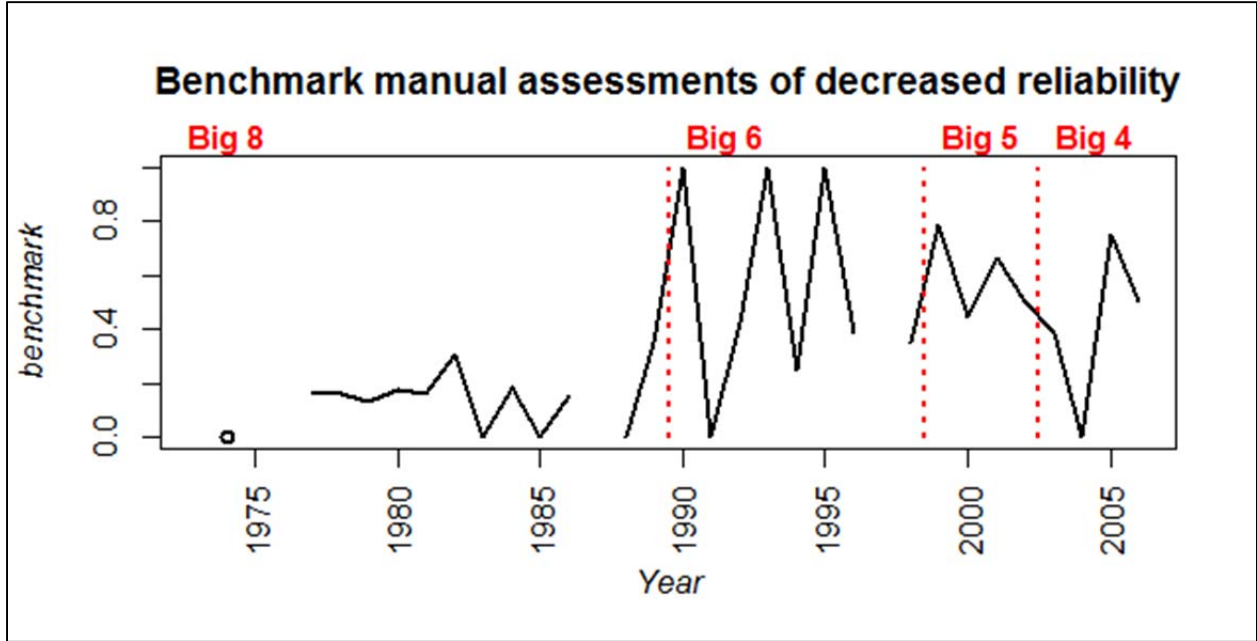
Figure 3:

Average growth versus recession macroeconomic trends by year

The sample is based on 149 exposure drafts issued between 1973 and 2006. *macro_growth* is a binary variable set equal to one for exposure drafts (EDs) issued during a period of economic growth, as defined by the NBER, and zero for EDs issued during a period of economic contraction. See subsection 'Control Variables and Tests of Alternative Explanations' of Section III for details.
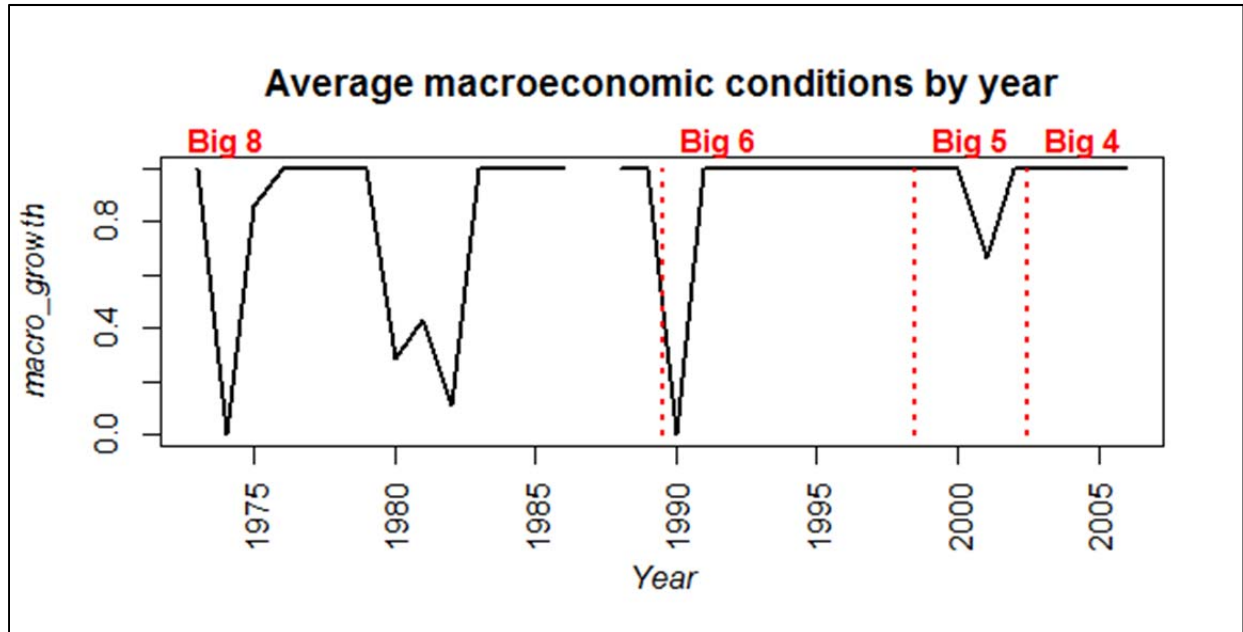
Figure 4:

Average value-weighted market returns by year

The sample is based on 149 exposure drafts issued between 1973 and 2006. *market_ret* is the annual value-weighted market return for the 12 months directly preceding the month in which an ED was issued. See subsection 'Control Variables and Tests of Alternative Explanations' of Section III for details
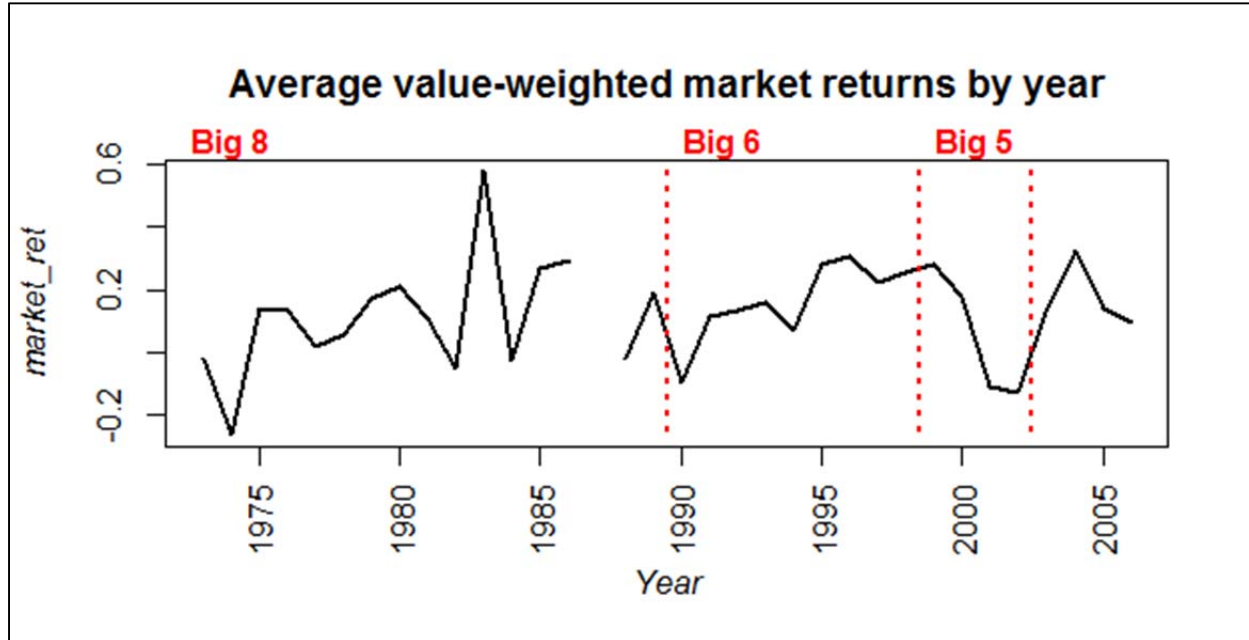
Figure 5:

Proportion of proposed standards issued that increase the use of fair values

The sample is based on 126 exposure drafts issued between 1973 and 2006. *fair_value* is a binary variable that takes a value of one for EDs determined by independent research assistant evaluation to increase the use of fair values. See subsection 'Control Variables and Tests of Alternative Explanations' of Section III for details.
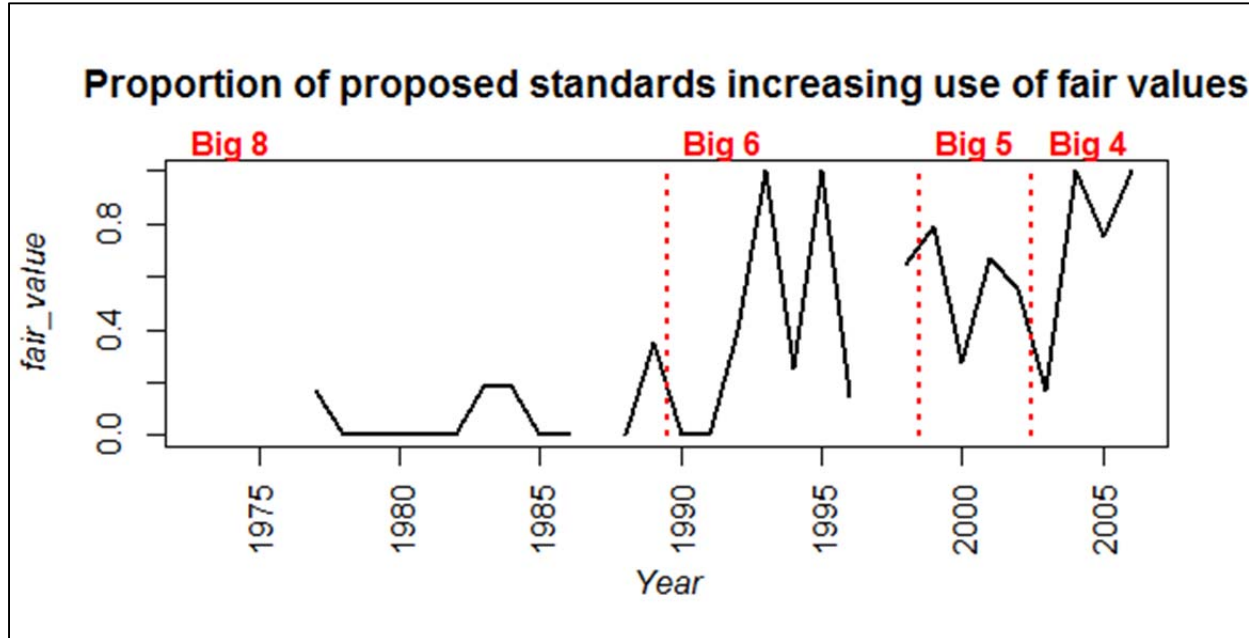
Figure 6:
Proportion of FASB members most recently employed in financial services
The sample is based on 149 exposure drafts issued between 1973 and 2006. *pct_fin_fasb* is an ED-level measure of the proportion of extant FASB members with most recent former employ in financial services. See subsection 'Control Variables and Tests of Alternative Explanations' of Section III for details.
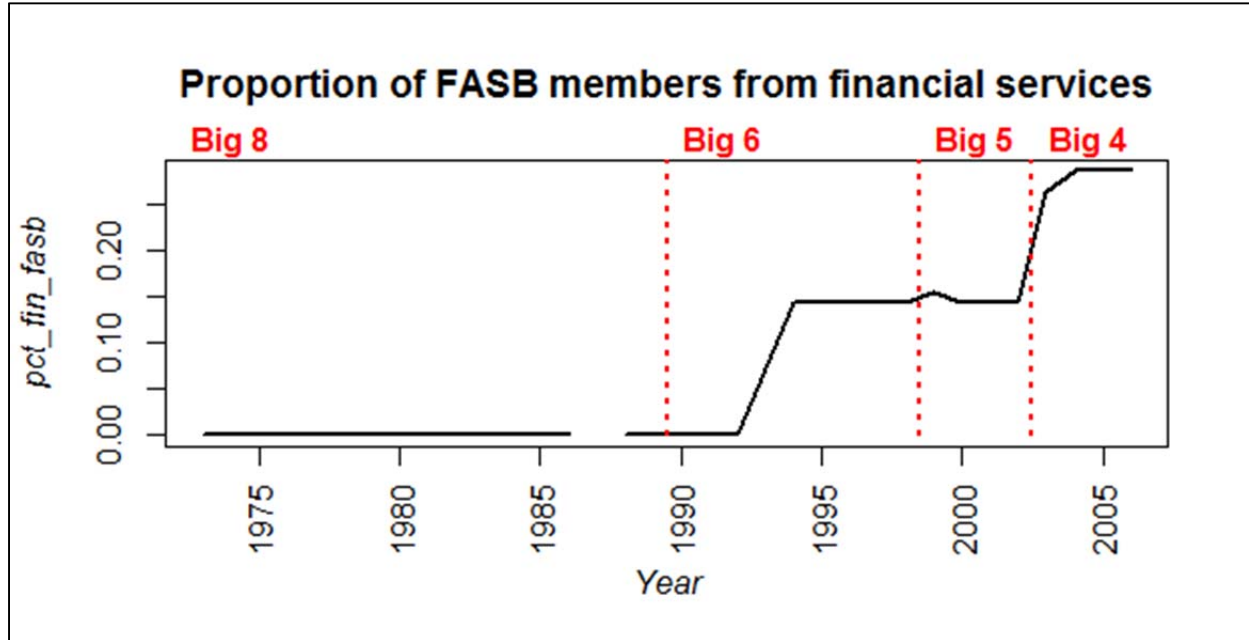
Table 1:
Evolution of the "Big N" audit oligopoly: From the Big 8 to the Big 4 audit firms.

Era	Big 8	Big 6	Big 5	Big 4
Period	1973-1989	1989-1998	1998-2002	2002-2007
Audit Firms	Arthur Andersen	Arthur Andersen	Arthur Andersen	
	Arthur Young Ernst & Whinney/ Ernst & Ernst	Ernst & Young	Ernst & Young	Ernst & Young
	Touche Ross Deloitte, Haskin & Sells	Deloitte Touche	Deloitte Touche	Deloitte Touche
	Peat Marwick	KPMG	KPMG	KPMG
	Coopers Lybrand Price Waterhouse	Coopers Lybrand Price Waterhouse	PwC	PwC

Table 2:

Inventory of Big N auditor comment letter and FASB exposure draft availability

The sample is based on 126 exposure drafts issued between 1973 and 2006 on which the Big N auditors filed comment letters and for which we were able to obtain copies of the original exposure draft from the FASB archives.

Era	Big 8	Big 6	Big 5	Big 4	Total
Period	1973-1989	1989-1998	1998-2002	2002-2006	
EDs issued	109	33	13	15	170
EDs without Big N comment letters	16	3	0	2	21
Initial Sample					
EDs	93	30	13	13	149
SFAS	100	28	10	19	157
Comment Letters	615	173	70	50	908
EDs unavailable for manual review	23	0	0	0	23
Final Sample					
EDs	70	30	13	13	126
SFAS	76	28	10	19	133
Comment Letters	487	167	70	50	774

Table 3:
Summary statistics for Big N auditor and research assistant evaluations of decreased "reliability" in proposed standards

The sample is based on 126 exposure drafts issued between 1973 and 2006. *dec_relb_aud* is an assessment that a proposed SFAS will decrease accounting "reliability" as expressed by the Big N auditors in their comment letters. *benchmark* is an assessment that a proposed SFAS will decrease "reliability" as determined by two independent reviewers. See subsection 'Primary Regression Variables' of Section III for details.

Variable	Mean	Med	S.D.	Max	Min	n
dec_relb_aud						
Big 8	0.04	0	0.16	0.98	0	487
Big 6	0.10	0	0.26	0.98	0	167
Big 5	0.23	0	0.36	0.94	0	70
Big 4	0.27	0	0.39	0.99	0	50
Total	0.08	0	0.24	0.99	0	774
benchmark						
Big 8	0.16	0	0.37	1.00	0	487
Big 6	0.46	0	0.50	1.00	0	167
Big 5	0.60	1	0.49	1.00	0	70
Big 4	0.46	0	0.50	1.00	0	50
Total	0.29	0	0.50	1.00	0	774

Table 4:
Summary statistics for potential control variables
The sample is based on 126 exposure drafts issued between 1973 and 2006. *macro_growth* is a binary variable set equal to one for exposure drafts (EDs) issued during a period of economic growth, as defined by the NBER, and zero for EDs issued during a period of economic contraction; *market_ret* is the annual value-weighted market return for the 12 months directly preceding the month in which an ED was issued. *fair_value* is a binary variable that takes a value of one for EDs determined by independent research assistant evaluation to increase the use of fair values. *pct_fin_fasb* is an ED-level measure of the proportion of extant FASB members with most recent former employ in financial services. See subsection 'Control Variables and Tests of Alternative Explanations' of Section III for details.

Variable	Mean	Med	S.D.	Max	Min
macro_growth	0.78	1.00	0.41	1.00	0.00
market_ret	0.13	0.11	0.18	0.67	-0.31
fair_value	0.20	0.00	0.40	1.00	0.00
pct_fin_fasb	0.05	0.00	0.08	0.29	0.00

Table 5:
Construct validity tests: Average auditor litigation era coefficients from an OLS regression of *dec_relb_aud* on *benchmark* assessments of decreased reliability

The sample is based on 126 exposure drafts issued between 1973 and 2006. *dec_relb_aud* is an assessment that a proposed SFAS will decrease accounting "reliability" as expressed by the Big N auditors in their comment letters. *benchmark* is an assessment that a proposed SFAS will decrease "reliability" as determined by two independent reviewers. See subsection 'Primary Regression Variables' of Section III for details. Regression structure includes year fixed effects and interacts *benchmark* with year dummies to allow variation across the intercept and slope estimates by year. Average era coefficients and heteroskedastic robust standard errors are obtained using linear combination as detailed in subsection 'Research Design' of Section III. See subsection 'Construct Validity' of Section III for detail on auditor litigation eras. ***, **, and * denote statistical significance at the 99%, 95%, and 90% confidence levels, respectively.

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Auditor litigation era				*Foreseability*	*Known Users*	*SOX*
1977-1983	*Privity*	-0.03 ***		0.34 ***	0.22 ***	0.37 ***
1984-1992	*Foreseability*	0.31 ***			-0.12 *	0.03
1993-2002	*Known Users*	0.18 ***				0.16 *
2003-2006	*SOX*	0.34 ***				
		(1)		(2)	(3)	(4)

Table 6:

Average Big N audit era coefficients from an OLS regression of *dec_relb_aud* on *benchmark* assessments of decreased reliability

The sample is based on 126 exposure drafts issued between 1973 and 2006. *dec_relb_aud* is an assessment that a proposed SFAS will decrease accounting "reliability" as expressed by the Big N auditors in their comment letters. *benchmark* is an assessment that a proposed SFAS will decrease "reliability" as determined by two independent reviewers. See subsection 'Primary Regression Variables' of Section III for details. Regression structure includes year fixed effects and interacts *benchmark* with year dummies to allow variation across the intercept and slope estimates by year. Average era coefficients and heteroskedastic robust standard errors are obtained using linear combination as detailed in subsection 'Research Design' of Section III. ***, **, and * denote statistical significance at the 99%, 95%, and 90% confidence levels, respectively.

Big N audit era				*Big 6*	*Big 5*	*Big 4*
1973-1989	*Big 8*	0.09 ***		0.05	0.15 **	0.25 ***
1990-1998	*Big 6*	0.14 ***			0.10	0.20 **
1999-2002	*Big 5*	0.24 ***				0.10
2003-2006	*Big 4*	0.34 ***				
		(1)		(2)	(3)	(4)

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Table 7:
Tests of alternative explanations: Coefficients from an OLS regression of *dec_relb_aud* on *benchmark* assessments of decreased reliability

The sample is based on 126 exposure drafts issued between 1973 and 2006. *dec_relb_aud* is an assessment that a proposed SFAS will decrease accounting "reliability" as expressed by the Big N auditors in their comment letters. *benchmark* is an assessment that a proposed SFAS will decrease "reliability" as determined by two independent reviewers. See subsection 'Primary Regression Variables' of Section III for details. Regression structure includes year fixed effects and interacts *benchmark* with year dummies to allow variation across the intercept and slope estimates by year. Average era coefficients are calculated over years of "high" versus "low" *macro_growth*, *market_ret*, *fair_value* and *pct_fin_fasb* using linear combination as detailed in subsections 'Research Design' and 'Control Variables and Tests of Alternative Explanations' of Section III. *macro_growth* is a binary variable set equal to one for exposure drafts (EDs) issued during a period of economic growth, as defined by the NBER, and zero for EDs issued during a period of economic contraction; years are denoted as "growth" if the mean value of *macro_growth*>.5 and "recession" otherwise. *market_ret* is the annual value-weighted market return for the 12 months directly preceding the month in which an ED was issued; years are denoted as "positive" if the mean value of *market_ret*>0 and "negative" otherwise. *fair_value* is a binary variable that takes a value of one for EDs determined by independent research assistant evaluation to increase the use of fair values; years are denoted as "No FV" if *fair_value*=0 for all EDs proposed during that year and "FV increasing" otherwise. *pct_fin_fasb* is an ED-level measure of the proportion of extant FASB members with most recent former employ in investment banking/ investment management; years are denoted as "Financial FASB" if *pct_fin_fasb*>0 and "No Financial FASB" otherwise. Standard errors are heteroskedastic-robust. ***, **, and * denote statistical significance at the 99%, 95%, and 90% confidence levels, respectively.

Panel A: *macro_growth*				Panel B: *market_ret*		
		Recession				Negative
Growth	0.17 ***	0.00		Positive	0.17 ***	0.00
Recession	0.17 ***			Negative	0.17 ***	
	(1)	(2)			(1)	(2)

Panel C: *fair_value*				Panel D: *pct_fin_fasb*		
		No FV				No Fin FASB
FV increasing	0.25 ***	-0.29 ***		Fin FASB	0.23 ***	-0.13 ***
No FV	-0.03 ***			No Fin FASB	0.10 ***	
	(1)	(2)			(1)	(2)

Table 8:

Average Big N audit era coefficients from an OLS regression of *dec_relb_aud* on *benchmark* assessments of decreased reliability, after controlling for alternative explanations

The sample is based on 126 exposure drafts issued between 1973 and 2006. *dec_relb_aud* is an assessment that a proposed SFAS will decrease accounting "reliability" as expressed by the Big 8/6/5/4 auditors (hereafter "Big N auditors") in their comment letters. *benchmark* is an assessment that a proposed SFAS will decrease "reliability" as determined by two independent reviewers. See subsection 'Primary Regression Variables' of Section III for details. Regression structure includes year fixed effects and interacts benchmark with year dummies to allow variation across the intercept and slope estimates by year. Control variables *fair_value*, *fair_value*benchmark*, *pct_fin_fasb* and *pct_fin_fasb*benchmark* were also included in regression. *fair_value* is a binary variable that takes a value of one for EDs determined by independent research assistant evaluation to increase the use of fair values. *pct_fin_fasb* is an ED-level measure of the proportion of extant FASB members with most recent former employ in financial services. Average era coefficients and heteroskedastic robust standard errors are obtained using linear combination as detailed in subsection 'Research Design' of Section III. ***, **, and * denote statistical significance at the 99%, 95%, and 90% confidence levels, respectively.

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Big N audit era			Big 6	Big 5	Big 4
1973-1989	Big 8	0.08	0.38 **	0.60 ***	1.14 ***
1990-1998	Big 6	0.46 ***		0.22 **	0.76 **
1999-2002	Big 5	0.68 **			0.54 ***
2003-2006	Big 4	1.22 ***			
		(1)	(2)	(3)	(4)

Controls	
fair_value	0.15 **
fair_value*benchmark	-0.13
pct_fin_fasb	0.57
pct_fin_fasb*benchmark	-2.99 **

Table 9: Panel A
Distribution of Big N audit firm clients across 12 Fama-French industries

The sample is all public clients listed in Compustat from 1973-2006. The table reports the proportion of Big N audit-firm clients in each of 12 Fama-French industries as well as the market-average distribution across each of the Big 8, Big 6, Big 5, and Big 4 eras, weighted by the natural log of total assets. Highlighted cells indicate a Big N firm's above average market-proportion of clients in a particular industry (See subsection 'Jackknifing and Other Robustness Tests' of Section IV).

BIG 8

	Arthur Andersen	Arthur Young	Ernst & Ernst	Coopers Lybrand	Price Waterhouse	Deloitte Touche	Touche Ross	Peat Marwick	Other	Total Market	Industry Specific Standards
BusEq	12.9%	33.5%	14.1%	17.3%	16.7%	11.7%	13.3%	11.5%	11.2%	13.3%	1
Chems	0.4%	0.4%	0.8%	0.8%	1.3%	0.8%	0.5%	1.4%	0.4%	0.6%	0
Durbl	0.6%	0.6%	2.2%	1.0%	0.9%	1.4%	1.2%	0.9%	1.0%	1.0%	0
Enrgy	5.3%	3.5%	0.5%	3.6%	2.3%	2.4%	1.6%	4.5%	3.2%	3.3%	4
Hlthc	2.6%	2.9%	2.3%	2.4%	2.7%	2.2%	1.9%	1.6%	2.2%	2.3%	1
Manuf	25.5%	20.0%	37.0%	31.9%	32.3%	20.4%	19.8%	16.3%	18.6%	22.9%	0
Money	5.1%	7.4%	7.6%	7.6%	5.5%	15.8%	7.6%	12.4%	10.2%	8.9%	7
NoDur	4.1%	5.3%	9.0%	4.4%	7.4%	7.8%	6.0%	5.2%	6.7%	6.2%	0
Other	22.4%	16.2%	13.2%	13.9%	17.1%	15.0%	17.2%	27.5%	28.2%	23.0%	4
Shops	11.1%	7.6%	12.7%	9.7%	11.6%	12.3%	30.7%	17.2%	18.0%	15.5%	0
Telcm	1.8%	2.4%	0.4%	6.0%	0.5%	0.6%	0.1%	0.5%	0.3%	1.0%	0
Utils	8.2%	0.2%	0.1%	1.4%	1.7%	9.6%	0.1%	1.1%	0.0%	2.0%	0

BIG 6

	Arthur Andersen	Ernst & Young	Coopers Lybrand	Price Waterhouse	Deloitte Touche	KPMG	Other	Total Market	Industry Specific Standards
BusEq	17.4%	27.9%	31.7%	36.4%	20.1%	27.2%	20.7%	24.4%	0
Chems	0.3%	0.3%	0.6%	0.8%	0.7%	0.8%	0.5%	0.5%	0
Durbl	0.5%	0.5%	0.9%	0.8%	0.8%	0.6%	0.6%	0.6%	0
Enrgy	2.5%	0.4%	2.1%	1.8%	0.8%	1.4%	1.6%	1.5%	0
Hlthc	6.5%	16.8%	7.8%	5.7%	5.1%	6.9%	7.1%	9.0%	0
Manuf	14.7%	12.3%	13.7%	14.6%	10.4%	6.6%	11.1%	11.8%	0
Money	7.1%	12.3%	14.3%	4.7%	12.9%	16.8%	12.0%	11.6%	7
NoDur	2.2%	3.6%	1.9%	4.4%	4.8%	2.1%	4.4%	3.3%	0
Other	27.2%	14.4%	13.2%	13.3%	16.3%	21.5%	29.9%	20.6%	0
Shops	12.4%	9.6%	9.7%	14.9%	23.4%	14.6%	10.6%	13.0%	0
Telcm	1.9%	1.6%	2.3%	0.7%	0.7%	0.9%	0.7%	1.3%	0
Utils	7.1%	0.1%	1.9%	1.9%	3.8%	0.5%	0.8%	2.3%	0

BIG 5

	Arthur Andersen	Ernst & Young	PwC	Deloitte Touche	KPMG	Other	Total Market	Industry Specific Standards
BusEq	25.4%	37.9%	51.7%	29.1%	44.8%	30.4%	37.6%	0
Chems	0.2%	0.2%	0.4%	0.9%	0.4%	0.7%	0.4%	0
Durbl	0.4%	0.4%	0.5%	0.7%	0.2%	0.5%	0.5%	0
Enrgy	2.3%	0.3%	0.7%	0.7%	1.0%	1.5%	1.1%	0
Hlthc	6.3%	15.9%	5.9%	3.9%	6.5%	8.5%	8.5%	0
Manuf	10.3%	10.3%	8.4%	8.1%	3.4%	7.5%	8.4%	0
Money	8.0%	11.2%	8.7%	13.8%	15.5%	9.0%	10.3%	1
NoDur	1.3%	2.5%	1.6%	4.7%	1.4%	2.8%	2.3%	0
Other	27.2%	11.6%	12.0%	14.8%	15.3%	31.9%	19.1%	1
Shops	9.8%	7.9%	6.3%	16.6%	10.0%	6.2%	8.4%	0
Telcm	3.1%	1.7%	0.9%	1.0%	1.4%	0.9%	1.5%	0
Utils	5.7%	0.1%	2.8%	5.7%	0.2%	0.0%	2.0%	0

BIG 4

	Ernst & Young	PwC	Deloitte Touche	KPMG	Other	Total Market	Industry Specific Standards
BusEq	23.9%	36.1%	16.8%	26.2%	27.4%	26.6%	0
Chems	0.2%	0.8%	0.7%	0.4%	0.4%	0.4%	0
Durbl	0.4%	0.4%	0.5%	0.2%	0.4%	0.4%	0
Enrgy	1.0%	0.8%	1.0%	1.6%	2.1%	1.6%	0
Hlthc	22.7%	11.8%	3.9%	5.8%	10.1%	11.7%	0
Manuf	8.9%	9.1%	7.1%	2.9%	4.5%	6.0%	0
Money	18.9%	16.3%	21.0%	37.3%	32.2%	27.2%	2
NoDur	1.3%	1.8%	2.8%	1.5%	1.2%	1.5%	0
Other	14.2%	9.9%	13.8%	13.7%	17.8%	15.4%	1
Shops	7.1%	5.1%	11.4%	8.7%	3.4%	5.6%	0
Telcm	1.2%	1.1%	1.0%	1.5%	0.5%	0.9%	0
Utils	0.2%	6.9%	20.1%	0.2%	0.0%	2.8%	0

Table 9: Panel B

Average Big N audit era coefficients from an OLS regression of *dec_relb_aud* on *benchmark* assessments of decreased reliability, after controlling for industry specific standards and Big N audit-firm industry dependence

The sample is based on 126 exposure drafts issued between 1973 and 2006. *dec_relb_aud* is an assessment that a proposed SFAS will decrease accounting "reliability" as expressed by the Big 8/6/5/4 auditors (hereafter "Big N auditors") in their comment letters. *benchmark* is an assessment that a proposed SFAS will decrease "reliability" as determined by two independent reviewers. See subsection 'Primary Regression Variables' of Section III for details. Regression structure includes year fixed effects and interacts *benchmark* with year dummies to allow variation across the intercept and slope estimates by year. Panel B re-estimates the coefficients reported in Table 8 after controlling for additional variables to capture industry specific exposure drafts and Big N audit firm industry dominance: *indspec* is a dummy variable that takes a value of 1 for exposure drafts identified as being industry specific as described in subsection 'Jackknifing and Other Robustness Tests' of Section IV; *AudIndDep* takes a value of 1 for comment letters for which *indspec*=1 and that were written by an audit firm with an above market-average proportion of clients in each of 12 Fama-French industries (as shown in Table 9 Panel A); the latter variable is also interacted with *benchmark*. As in Table 8 control variables *fair_value*, *fair_value*benchmark*, *pct_fin_fasb* and *pct_fin_fasb*benchmark* were also included in regression. *fair_value* is a binary variable that takes a value of one for EDs determined by independent research assistant evaluation to increase the use of fair values. *pct_fin_fasb* is an ED-level measure of the proportion of extant FASB members with most recent former employ in financial services. Average era coefficients and heteroskedastic robust standard errors are obtained using linear combination as detailed in subsection 'Research Design' of Section III. ***, **, and * denote statistical significance at the 99%, 95%, and 90% confidence levels, respectively.

Big N audit era			Big 6	Big 5	Big 4
1973-1989	**Big 8**	0.08 **	0.36 **	0.59 ***	1.12 ***
1990-1998	**Big 6**	0.45 ***		0.22 **	0.75 ***
1999-2002	**Big 5**	0.67 ***			0.53 **
2003-2006	**Big 4**	1.20 ***			
		(1)	(2)	(3)	(4)

Controls

indspec	-0.01
AudIndDep	0.09 **
*AudIndDep*benchmark*	-0.01
fair_value	0.16 *
*fair_value*benchmark*	-0.14
pct_fin_fasb	0.47
*pct_fin_fasb*benchmark*	-2.90 **