**Do Auditors Perceive Non-articulation between Financial Statements
as a Source of Audit Risk?**

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ABSTRACT

Prior studies find that changes in noncash current assets and in current liabilities from comparative balance sheets often do not articulate with (i.e., are not equal to) their corresponding changes on the statement of cash flows. Labeling the difference between these two changes as non-articulation amounts, we examine the association of absolute non-articulation amounts with misreporting, accruals quality, audit fees, and auditor opinions, respectively. We find that absolute non-articulation amounts are positively associated with misreporting and negatively associated with accruals quality. In addition, auditors are more likely to charge higher audit fees and to issue a modified or going-concern audit opinion to firms with larger absolute non-articulation amounts. Our findings are consistent with the view that larger absolute non-articulation amounts indicate lower financial reporting quality and that auditors charge higher audit fees and/or issue modified audit opinions to compensate for higher audit risk associated with larger absolute non-articulation amounts.

1. Introduction

Prior studies find that changes in noncash current assets and current liabilities from comparative balance sheets often do not articulate with (i.e., are not equal to) their corresponding changes on the statement of cash flows (Drtina and Largay 1985; Huefner, Ketz, and Largay 1989; Bahnson, Miller, and Budge 1996; Hribar and Collins 2002). Labeling the difference between these two changes as non-articulation amounts (hereafter NARTAs), Gong et al. (2014) find that signed NARTAs are positively associated with signed abnormal operating cash flows (OCFs), a proxy for cash flow management. In addition, they find that larger *absolute* NARTAs are associated with (1) lower persistence of and higher volatility in OCFs, (2) greater default risk, (3) higher loan yield spreads, (4) higher likelihood of loan collateral, and (5) shorter loan maturity. Gong et al. (2014) conclude that NARTAs captures cash flow management and absolute NARTAs contain important information about the risk and uncertainty of a firm's business operations. In this paper, we extend the line of research on the information in and the usefulness of NARTAs by examining the association of absolute NARTAs with financial reporting quality, auditor opinions, and audit fees.

Our inquiry is important for two reasons. First, Marc Siegel, a member of the Financial Accounting Standards Board (FASB), states in *Accounting Shenanigans on the Cash Flow Statement* that investors, knowing that earnings are susceptible to manipulation, pay more attention to OCFs after recent high-profile scandals and the Sarbanes-Oxley Act (SOX). However, OCFs can also be managed and the quality of cash flows is just as valid a concern (Siegel 2006). Indeed, Cohen et al. (2008) show that accrual-based earnings management declines after SOX whereas real earnings management (such as cash flow management) increases after SOX. Thus, documenting and validating any metric that captures cash flow

management is important and useful to investors, policy makers, and academics. As we explain below, many of the cash flow management techniques mentioned in Siegel (2006) can be captured by NARTAs.

Second, auditors are the first line of defense (external) against manipulations and misstatements in financial reporting. Whether and how auditors respond to audit risk is of particular interest and has attracted much research. Although a large volume of studies document that auditors respond to audit risk (e.g., Seetharaman et al. 2002; Gul et al. 1998; Kaplan and Williams 2013), we are unaware of any studies that investigate whether auditors respond to audit risk posed by NARTAs. Findings of auditors charging higher audit fees and/or issuing modified audit opinions to firms with larger absolute NARTAs not only provide validation evidence that our NARTAs captures risk stemming from cash flow management, but also shed light on whether and how auditors respond to audit risk posed by NARTAs. Charging higher audit fees is consistent with auditors increasing their substantive testing to reduce the risk of misstatement associated with larger absolute NARTAs and with auditors demanding compensation for increased litigation risk associated with larger absolute NARTAs. Issuing modified audit opinions not only protects auditors from litigation but also warns investors of higher risk associated with larger absolute NARTAs. Siegel (2006, p. 43) calls for auditors to "be aware of the new focus by users of financial statements on *operating cash flows*, and adjust their work accordingly in order to provide the most value to the public [emphasis added]." Our findings can shed light on whether and how auditors respond to audit risk stemming from cash flow management as captured by absolute NARTAs.

Siegel (2006) discuss several techniques that firms can use to inflate reported OCFs. First, a firm can arrange for a third party to pay its accounts payable when due and then pay the

third party interests and principal later—the financing of payables. In effect, the firm converts its

accounts payable into a short- or long-term debt (a noncash financing transaction). For example,

Delphi Corp. arranged for GE Capital to pay its $287 million accounts payable in the fourth

quarter of 2002 (see also Mulford and Comisky 2005, p. 142). Besides Delphi, three firms in the

same industry—AutoZone, Pep Boys, and Advance Auto Parts—all financed payments to

vendors through a third-party financial institution in 2004 (Siegel 2006). When Delphi finances

its payables, its OCFs are inflated because there are no operating cash outflows for the reduction

of accounts payable. In effect, Delphi is engaged in a not too subtle way to manage its OCFs—it

classified $287 million otherwise financing cash inflows as operating cash inflows, thereby

inflating its OCFs. The financing of payables thus is a classic example of cash flow management

through classification. However, such a cash flow management technique will result in non-

articulation and thus can be captured by NARTAs because there is a decrease in Delphi's

accounts payable on comparative balance sheets but there is *no* corresponding change in

accounts payable on the statement of cash flows since assuming a debt from GE Capital is a

financing activity.[1]

Second, a firm can manage its OCFs through the securitization of receivables—

packaging its receivables, most often those that have a longer term and higher credit quality, and

transferring them to a financial institution for cash (Siegel 2006). When the proceeds are

reported as operating cash, a firm's OCFs are inflated. If, on the other hand, the proceeds are

reported as financing cash inflows, a firm's OCFs are deflated.[2] The latter case can be captured

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[1] Delphi could have borrowed $287 million from GE Capital or another creditor and used the borrowed cash to pay off its accounts payable. There will be no non-articulation in this case, but Delphi would have to classify $287 million as financing cash inflows and its OCFs would be $287 million lower.

[2] Lesco, Inc. sold a majority of its trade accounts receivable portfolio to GE Capital in 2003. The company removed the sold accounts receivable from its balance sheet and reported the cash proceeds in the financing section of the statement of cash flows. This results in non-articulation between the decrease in accounts receivable on comparative balances and its corresponding change in accounts receivable on the statement of cash flows. See the company's 10-

by NARTAs because it engenders non-articulation between the decrease in accounts receivable on comparative balance sheets and its corresponding change in accounts receivable on the statement of cash flows. McAfee, Inc. is a good example to illustrate how NARTAs can capture fraudulent reporting through the securitization of receivables. The Securities and Exchange Commission (SEC) accused McAfee for committing multiple counts of frauds during 1998-2000.[3] One of the SEC's complaints was that McAfee sold approximately $261 million accounts receivable during 1998-2000 to banks for cash and immediately removed the receivables from the balance sheet in an attempt to conceal the bulging accounts receivable that had little chance of being collected.[4] The sale of accounts receivable leads to non-articulation. Based on McAfee's 10-K filings for 1998-2000, the sum of absolute non-articulation amounts in these three years was $73.429 million, about 28% of $261 million worth of accounts receivable sold.[5] That is, McAfee's concealment ploys through the securitization of receivables left a trail that is captured by NARTAs. McAfee is identified in the SEC Accounting and Auditing Enforcement Releases (AAERs) for fraudulent reporting during 1998-2000. Importantly, McAfee's AAER mention can be captured by NARTAs.

K at http://www.sec.gov/Archives/edgar/data/745394/000095015204002319/l04420ae10vk.htm. Reason (2006) reports that Arvinmeritor started to report the cash proceeds from the securitization of receivables as financing cash flows and recognized a liability on its balance sheet in 2005. In contrast, the company reported the proceeds as operating cash flows and did not recognize a liability before 2005.

[3] See the SEC's complaint against McAfee at http://www.sec.gov/litigation/complaints/comp19520.pdf.

[4] On January 4, 2006, the SEC sued McAfee for fraudulently overstating its revenues by $622 million during 1998-2000 and for its concealment ploys. Through sham "round-trip" transactions with other companies and distributors, McAfee significantly overstated its revenues. Moreover, McAfee used channel stuffing, deep discounts, and consignment sales agreements to improperly boost sales. By allowing distributors to delay payment, not pay their invoices in full, or not pay until they had resold the product, McAfee accumulated on its balance sheet millions of dollars of aging accounts receivables, which may have had little value. To conceal the large amount of these low value receivables and to reduce "days sales outstanding" ("DSO") – the average number of days that it takes a company to collect accounts receivable, McAfee sold approximately $261 million accounts receivable.

[5] The interested readers can search the SEC's Edgar at http://www.sec.gov/edgar/searchedgar/companysearch.html to find McAfee's 10-K filings in these three years (McAfee's CIK is 0000890801). We calculated non-articulation amounts between the change in accounts receivable from comparative balance sheets and its corresponding change in the statement of cash flows for each year.

Third, a firm can classify tax benefits from employee stock options as operating cash inflows to boost its OCFs (Siegel 2006). Under SFAS No. 123, firms are allowed to continue to use APB No. 25 to account for employee stock options and recognize compensation expense as the difference between the stock price and the exercise price of the option (the intrinsic value) on the measurement date. For firms that grant a fixed number of options and set the exercise price equal to the stock price on the grant date, compensation expenses are zero. On the exercise date, firms are granted a tax deduction equal to the difference between the stock price on the exercise data and the exercise price. The tax deduction generates a tax benefit. APB No. 25 requires that the firm recognizes a reduction in Taxes Payable in the amount of the tax benefit on the balance sheet with the offsetting credit to Additional Paid-in Capital. The net effect of this accounting treatment is that the tax benefit is recognized as part of OCFs and NARTAs, equal to the tax benefit, are generated (because there is no corresponding change in Taxes Payable on the statement of cash flows for the decrease in Taxes Payable on the balance sheet). Siegel (2006) warns of the lack of sustainability of the increase in OCFs due to the tax benefit of stock options. Hribar and Nichols (2007) show that the tax benefit differs from other components of OCFs and has no reliable association with future earnings. Our NARTAs, thus, can capture this low quality component in OCFs.

A recent scandal related to employee stock options is backdating, which received much media and public attention during 2006-2007. Backdating reduces the exercise price of the option and thus increases the value of the option to the awardees and also increases NARTAs. On April 24, 2007, the SEC sued two former employees of Apple, Inc. for their alleged roles in backdating stock options awarded to Steve Jobs.[6] New York City's municipal employee pension

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[6] See the SEC complaint at https://www.sec.gov/litigation/complaints/2007/comp20086.pdf.

fund sued Apple over the backdated options and Apple eventually settled the case by paying

approximately $20.5 million.[7] Apple is identified in a SEC AAER for misreporting in 2001 and

2002 related to option backdating and understated compensation expense. Importantly, Apple's

backdating and its AAER mention can be captured by our NARTAs.

To summarize, as long as a cash flow management technique results in non-articulation,

that cash flow management technique can be captured by NARTAs, and many of the cash flow

management techniques mentioned in Siegel (2006) lead to non-articulation and thus can be

captured by NARTAs.[8] We thus expect that firms with larger absolute NARTAs are more likely

to engage in cash flow management activities and financial reporting quality of these firms is

lower. In addition, we expect that auditors perceive non-articulation as a source of audit risk and

respond by charging higher audit fees and/or issuing modified audit opinions to firms with larger

absolute NARTAs (see Section 2 for more detailed development of these hypotheses).

We adopt two proxies for financial reporting quality: the probability for a firm to receive

a SEC AAER and accruals quality developed in Dechow and Dichev (2002). We find that

absolute NARTAs are positively associated with a firm's probability of receiving an AAER and

negatively associated with accruals quality. These findings support our first hypothesis that

financial reporting quality is negatively associated with absolute NARTAs. In addition, we find

that absolute NARTAs are positively associated with audit fees and positively associated with

the probability of a firm receiving a modified or going-concern audit opinion, consistent with our

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[7] See the CNBC report at http://www.cnbc.com/id/39776098.

[8] Siegel (2006) also discussed several other cash flow management techniques. First, stretching out payables means to slow down the rate of payments to a firm's vendors. A flip side is to induce accelerated collections from the firm's customers. These are timing techniques to manage cash flows and cannot be captured by NARTAs. Second, stock buybacks to offset dilution means to buy back a firm's own stock so as to maintain desired earnings per share or cash flows per share numbers. Again, this technique cannot be captured by NARTAs because it does not lead to non-articulation. Lastly, Siegel (2006) used "other means" to include all other cash flow management techniques. Whether NARTAs can capture these other techniques depends on whether such techniques lead to non-articulation.

second hypothesis. Overall, our findings are consistent with the view that larger absolute NARTAs indicates lower financial reporting quality and that auditors charge higher audit fees and/or issue modified audit opinions to compensate for higher audit risk stemming from cash flow management as captured by NARTAs.

The rest of the paper is organized as follows. Section 2 reviews relevant literature and develops hypotheses. Section 3 presents the research design, and Section 4 reports empirical results. We conclude in Section 5.

2. Literature Review and Hypothesis Development

2.1 NON-ARTICULATION BETWEEN FINANCIAL STATEMENTS

It has been long recognized in the literature that changes in noncash current assets and in current liabilities from comparative balance sheets often do not articulate with their corresponding changes on the statement of cash flows. Drtina and Largay (1985) discuss several events, such as changes in the reporting entity and reclassification between current and noncurrent accounts, that lead to non-articulation between changes in current accounts on comparative balance sheets and their corresponding adjustments to working capital provided by operations in order to calculate cash from operations. Huefner et al. (1989) illustrate how foreign currency translations lead to non-articulation. Bahnson et al. (1996) show that non-articulation is wide spread as approximately 75% of Compustat firms present nonarticulated changes in current accounts. They further report that Compustat protocol and some unusual events such as settling accounts payable by stock issuance lead to non-articulation.

Hribar and Collins (2002) point out that underlying *non-articulation transactions or events*—non-operating transactions that affect operating accounts—give rise to NARTAs

because these non-articulation transactions, being non-operating in nature, do not affect changes in operating accounts in the operating activities section of the statement of cash flows but change the balances of these operating accounts on the balance sheet. In the Delphi example discussed earlier, Delphi converted $287 million accounts payable into a debt to GE Capital. This non-articulation transaction decreases accounts payable on the balance sheet but does not result in a corresponding decrease in accounts payable on the statement of cash flows because assuming a debt from GE Capital is a financing activity. Hribar and Collins (2002) show that NARTAs are particularly large in magnitude when three major non-articulation events (i.e., mergers and acquisitions, divestitures, and foreign currency translations) are present. They also show that NARTAs are still present for a subsample where none of the three major non-articulation events is present.

Gong et al. (2014) are the first to argue that managers can use non-articulation transactions, which give rise to NARTAs, to inflate or deflate OCFs. As described earlier, Delphi subtly inflated its OCFs by structuring a non-articulation transaction—arranging for GE Capital to pay its $287 million accounts payable due and assuming a $287 million loan from GE Capital. Delphi's OCFs are inflated by $287 million relative to the normal scenario where Delphi borrows $287 million from GE Capital or another creditor and uses the borrowed cash to pay its accounts payable. In the latter case, Delphi would have to classify $287 million as financing cash flows and reduce its OCFs by $287 million. Importantly, Delphi's non-articulation transaction results in a $287 million NARTAs, equal to the amount of inflated OCFs.[9] As we discussed in the introduction, NARTAs can capture other cash flow management techniques mentioned in Siegel (2006). Gong et al. (2014), thus, hypothesize that NARTAs captures the managed portion

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[9] As defined in Section 3, NARTAs = –change in accounts payable on comparative balance sheets + change in accounts payable on the statement of cash flows = –(0 – 287) + 0 = $287 million.

of OCFs. Consistent with this hypothesis, they find that signed NARTAs are positively associated with signed abnormal OCFs, a commonly used proxy for cash flow management. Since managed OCFs are less-recurring and more transitory, NARTAs capture a transitory component in OCFs. Gong et al. (2014) further hypothesize and find that larger absolute NARTAs are associated with lower persistence of and higher volatility in OCFs, greater default risk, higher loan yield spreads, higher likelihood of loan collateral, and shorter loan maturity. In a nutshell, the insight of Gong et al. (2014) is that NARTAs capture cash flow management and absolute NARTAs contain useful information about the risk and uncertainty of a firm's business operations.

2.2 AUDIT RISK AND AUDITOR DECISIONS

How auditors respond to audit risk has attracted much research. Statement of Auditing Standards No. 107 (*Audit Risk and Materiality in Conducting an Audit*) outlines an audit risk model where audit risk is jointly determined by (1) inherent risk, (2) control risk, and (3) detection risk. When auditors perceive an increase in inherent risk or control risk, they need to reduce detection risk by expanding substantive testing in order to keep audit risk, or the probability of material errors or misstatements in audited financial statements, within acceptable bounds. This suggests that auditors need to exert more effort and charge higher audit fees for higher inherent-risk or higher control-risk audits. The increase in audit fees with respect to a perceived increase in audit risk is justifiable from two perspectives. First, auditors offer both assurance and insurance values to clients in delivering the audit service (Dye 1993; Menon and Williams 1994). Audit firms must exert more effort or use more experienced staffs who charge higher billing rates in response to perceived increase in audit risk. This increase in audit fees is to keep audit risk at an acceptable level or to maintain the assurance value of the audit. Second,

auditors also implicitly provide an insurance against investor losses due to reliance on audited financial statements that contain misrepresentations. The increase in audit fees in response to an increase in perceived audit risk can also be justified as a premium to compensate auditors for costs related to potential future litigation (Bedard and Johnstone 2004).

A large volume of studies documents that audit fees increase in audit risk. First, Gul and Tsui (1998) argue that firms of low growth with high free cash flows are more likely to engage in non-value-maximizing activities based on Jensen (1986). They hypothesize that these non-value-maximizing activities increase auditors' perceived inherent risk, audit effort, and audit fees. Their findings are consistent with this hypothesis. Second, Bedard and Johnstone (2004) investigate auditors' assessments of earnings manipulation risk and corporate governance risk, and the effect of these identified risks on auditors' planning and pricing decisions. They find that auditors plan increased effort and billing rates for clients with earnings manipulation risk. Since both inherent risk and control risk are likely high when clients manipulate earnings, the above finding can be interpreted as auditors charge higher audit fees when inherent risk or control risk is higher. Third, Hanlon et al. (2012) find that audit fees increase in the absolute value of book-tax difference. Prior studies find that firms with larger absolute book-tax difference are more likely to manipulate earnings, which increase inherent risk. The Hanlon et al. (2012) findings thus are consistent with auditors increasing audit fees in response to increased inherent risk. Finally, Hogan and Wilkins (2008) find that audit fees are significantly higher for firms with internal control deficiencies and the fee increases are more pronounced for firms with more severe internal control deficiencies. Their findings suggest that auditors respond to higher levels of control risk by increasing audit fees.

Auditors can also mitigate increased audit risk by issuing a modified audit opinion or a going-concern opinion. Carcello and Palmrose (1994) find that modified audit opinions issued prior to bankruptcy reduce both the incidence and magnitude of litigation if bankruptcy subsequently occurs. Francis and Krishnan (1999) argue that accruals are managers' subjective estimates of future outcomes and cannot, by definition, be objectively verified by auditors prior to occurrence. Firms with larger absolute accruals, thus, pose higher audit risk to auditors. They hypothesize and find that auditors lower their threshold for issuing modified audit opinions to compensate for this risk exposure stemming from the inherent uncertainty in accruals. Finally, Kaplan and Williams (2013) investigate whether issuing a going-concern audit opinion to financially stressed clients protects auditors from litigation. After using simultaneous equations to control for endogeneity, they find auditor litigation is negatively significantly associated with going-concern audit opinions, suggesting that auditors deter lawsuits by issuing going-concern opinions.

2.3 HYPOTHESES

The above literature review suggests that NARTAs capture the managed portion of OCFs and firms with larger absolute NARTAs are more likely to be involved in cash flow management activities. We therefore expect financial reporting quality of firms with larger absolute NARTAs to be lower. Our first hypothesis, expressed in alternate form, is as follows:

H1: A firm's financial reporting quality is negatively associated with absolute NARTAs.

The above literature review also suggests that auditors respond to an increase in perceived audit risk by charging higher audit fees and issuing modified or going-concern audit opinions. If firms with larger absolute NARTAs pose higher audit risk to auditors because NARTAs represent cash flow management, we expect that auditors compensate for higher audit

risk associated with larger absolute NARTAs by charging higher audit fees and/or issuing modified audit opinion or going-concern audit opinion. Our second hypothesis, expressed in alternate form, is as follows:

H2a: Audit fees that a firm pays are positively associated with absolute NARTAs.

H2b: The probability for a firm to receive a modified or going-concern audit opinion is positively associated with absolute NARTAs.

3. Research Design

3.1 MEASUREMENT OF NON-ARTICULATION AMOUNTS

Hribar and Collins (2002) document non-articulation between changes in noncash current assets and in current liability accounts from comparative balance sheets (i.e., accruals estimated using the balance sheet approach) and their corresponding changes on the statement of cash flows (i.e., accruals estimated using the statement of cash flows approach). Following Hribar and Collins (2002), we define accruals estimated using the balance sheet approach (ACC_{bs}) and accruals estimated using the statement of cash flows approach (ACC_{cf}) as follows:

$$ACC_{bs} = (\Delta CA - \Delta CASH) - (\Delta CL - \Delta STDEBT) - DEP \qquad (1)$$

$$ACC_{cf} = -(CHGAR_{cf} + CHGINV_{cf} + CHGAP_{cf} + CHGTAX_{cf} + CHGOTH_{cf}) - DEP_{cf} \qquad (2)$$

where ΔCA = the change in current assets (Compustat mnemonic, ACT); $\Delta CASH$ = the change in cash and cash equivalent (CHE); ΔCL = the change in current liabilities (LCT); $\Delta STDEBT$ = the change in debt in current liabilities (DLC); DEP = depreciation and amortization expense (DP); $CHGAR_{cf}$ = the decrease (increase) in accounts receivable (RECCH); $CHGINV_{cf}$ = the decrease (increase) in inventories (INVCH); $CHGAP_{cf}$ = the increase (decrease) in accounts payable and accrued liabilities (APALCH); $CHGTAX_{cf}$ = the increase (decrease) in taxes payable (TXACH);

$CHGOTH_{cf}$ = the net change in other assets and liabilities (AOLOCH); and DEP_{cf} = depreciation and amortization expense on the statement of cash flows (DPC). All variables are deflated by total assets (AT).

We define absolute non-articulation amounts ($|NARTA|$) below.

$$|NARTA| = |ACC_{bs} - ACC_{cf}|^{10} \tag{3}$$

3.2 ABSOLUTE NON-ARTICULATION AMOUNTS AND REPORTING QUALITY

We adopt two measures of financial reporting quality. The first measure is the Securities and Exchange Commission (SEC) Accounting and Auditing Enforcement Releases (AAERs). Since 1982, the SEC has issued AAERs against a firm, an auditor, or an officer for alleged accounting and auditing misconduct (Dechow et al. 2011). Prior literature commonly uses AAERs as a proxy for misreporting or fraud (e.g., Armestrong et al. 2013; Erickson et al. 2006). We use the following equation to examine the relation between the probability for a firm to receive an AAER for misreporting or fraud in a year (misstatement year) and the firm's absolute non-articulation amounts in that year:

$$AAER = a_0 + a_1|NARTA| + a_2MKTCAP + a_3BM + a_4LEV + a_5ROA + a_6AGE$$

$$+ a_7RETURN + a_8STDRET + a_9CAPEXP + a_{10}INTANG + a_{11}SGRW$$

$$+ a_{12}RECINV + \text{Industry dummies} + \varepsilon \tag{4}$$

where $AAER$ is an indicator variable set to equal one if a firm is identified for misreporting or fraud in year t by an AAER and zero otherwise, $|NARTA|$ is absolute non-articulation amounts defined earlier, and all other variables are defined in Appendix A.

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[10] We find that DEP (Compustat mnemonic, DP) is not a line item in the income statement in a firm's 10-K filing. Compustat constructs DEP from depreciation footnotes, which is often rounded and thus causes DEP to be slightly different from DEP_{cf}. Due to this reason, we drop DEP from Equation (1) and DEP_{cf} from Equation (2) when calculating $|NARTA|$ in Equation (3).

The variable of primary interest in Equation (4) is $|NARTA|$. A significantly positive

coefficient on $|NARTA|$ ($a_1 > 0$) is consistent with H1 since the occurrence of an AAER indicates

lower financial reporting quality. We include several control variables in Equation (4) mostly

following Armstrong et al. (2013). We control for firm size measured in market capitalization

($MKTCAP$), growth opportunities (BM), financial leverage (LEV), stock return volatility

($STDRET$), sales growth ($SGRW$), and sum of receivables and inventories ($RECINV$), and expect

positive relations between these variables and the probability of AAERs. We also control for

profitability (ROA), firm age (AGE), stock returns ($RETURN$), capital expenditure ($CAPEXP$),

and intangible assets ($INTANG$), and expect negative coefficients on these variables.

Our second measure of financial reporting quality is accruals quality (AQ) developed in

Dechow and Dichev (2001). Prior research uses accruals quality to proxy for financial reporting

quality (e.g., Doyle et al. 2007; Garrett et al. 2014) and also demonstrates that accruals quality

captures information risk, which is priced by the capital markets (e.g., Francis et al. 2005; Chen

et al. 2007). Following Dechow and Dichev (2001), we estimate AQ using the following

equation:

$$CACC_{cf,t} = b_0 + b_1 OCF_{cf,t-1} + b_2 OCF_{cf,t} + b_3 OCF_{cf,t+1} + \varepsilon_t \tag{5}$$

where $CACC_{cf,t}$ (current accruals in year t estimated using the statement of cash flows approach)

$= -(CHGAR_{cf} + CHGINV_{cf} + CHGAP_{cf} + CHGTAX_{cf} + CHGOTH_{cf}) = -(\text{RECCH} + \text{INVCH} + $

APALCH + TXACH + AOLOCH) and $OCF_{cf,t}$ (operating cash flows in year t reported on the

statement of cash flows) = OANCF.

Equation (5) captures the mapping of current accruals with past, present, and future

operating cash flows. The tighter the mapping, the higher is accruals quality. Non-articulation

transactions that give rise to non-articulation amounts potentially affect both accruals and

operating cash flows in the current period and thus disrupt the mapping of current accruals with post, present, and future operating cash flows.[11] We expect larger absolute non-articulation amounts to be associated with lower accruals quality.

We estimate Equation (5) in the cross section for each Fama and French (1997) 48 industry in a year with at least 30 observations and obtain firm- and year-specific residuals (ε_t). Accruals quality (AQ) for a firm in year t is the standard deviation of the firm's residuals (ε_t) during years $t - 4$ and t (requiring five residuals). Larger values of AQ indicate *lower* accruals quality.

We use the following equation to examine the relation between accruals quality and absolute non-articulation amounts:

$$AQ = c_0 + c_1|NARTA| + c_2MKTCAP + c_3BM + c_4LEV + c_5LagROA + c_6LagROA^2$$
$$+ c_7CRATIO + c_8BigN + \text{Industry dummies} + \varepsilon \qquad (6)$$

where AQ is accruals quality, $|NARTA|$ is absolute non-articulation amounts, and all other variables are defined in Appendix A.

Our variable of primary interest is $|NARTA|$. A significantly positive coefficient on $|NARTA|$ ($c_1 > 0$) is consistent with H1 since AQ is an inverse proxy for financial reporting quality. We include several control variables in Equation (6) following a specification in Butler et al. (2004) where they examine the relation between absolute discretionary accruals and their variables of interest. *MKTCAP*, *BM*, and *LEV* are defined earlier. We control for profitability in the previous year (*LagROA*), square of profitability in the previous year (*LagROA*²), current ratio

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[11] As discussed earlier, Delphi Corp. converted $287 million accounts payable into short-term debt in the fourth quarter of 2002 (Mulford and Comisky 2005, p. 142). This non-articulation transaction, while generating a non-articulation amount, reduces accruals but increases operating cash flows in the current period relative to the scenario where Delphi pays its accounts payable in cash.

(*CRATIO*), and Big N auditors (*BigN*). Based on Butler et al. (2004), we expect negative coefficients on all control variables.

3.3 ABSOLUTE NON-ARTICULATION AMOUNTS AND AUDITOR DECISIONS

We use the following equation to examine the relation between audit fees and absolute non-articulation amounts:

$$AUDFEE = d_0 + d_1|NARTA| + d_2SIZE + d_3BigN + d_4ROA + d_5RETURN + d_7STDRET$$

$$+ d_8LEV + d_9SPE + d_{10}RECINV + d_{11}INSTN + d_{12}BM + d_{13}SEG$$

$$+ d_{14}REPLAG + d_{15}FINANCE + d_{16}SGRW + d_{17}FIRST2YRS$$

$$+ \text{Industry dummies} + \varepsilon \qquad (7)$$

where *AUDFEE* = natural logarithm of audit fees (in million) paid by a firm in year t, $|NARTA|$ is absolute non-articulation amounts defined earlier, and all other variables are defined in Appendix A.

The variable of primary interest in Equation (7) is $|NARTA|$. A significantly positive coefficient on $|NARTA|$ ($d_1 > 0$) is consistent with H2a. The control variables in Equation (7) mostly follow DeFond et al. (2002). We expect positive coefficients on the following variables: firm size measured in total assets (*SIZE*), Big N auditors (*BigN*), stock return volatility (*STDRET*), financial leverage (*LEV*), negative special items (*SPE*), sum of receivables and inventories (*RECINV*), institutional holdings (*INSTN*), reporting lag (*REPLAG*), external financing (*FINANCE*), and sales growth (*SGRW*). On the other hand, we expect negative coefficients on the following variables: profitability (*ROA*), stock returns (*RETURN*), growth opportunities (*BM*), and early years in the auditor-client engagement (*FIRST2YRS*).

We use the following equation to examine the relation between audit opinions and absolute non-articulation amounts:

$$MAO \text{ or } GC = e_0 + e_1|NARTA| + e_2BKRPTZ + e_3SIZE + e_4AGE + e_5RETURN$$

$$+ e_7STDRET + e_8LEV + e_9CLEV + e_{10}LagLOSS + e_{11}BigN + e_{12}ROA$$

$$+ e_{13}INVESTM + e_{14}RECINV + e_{15}SGRW + \text{Industry dummies} + \varepsilon \qquad (8)$$

where *MAO* is an indicator variable set to equal one if a firm receives a modified audit opinion

(AUOP = 2, 3, 4, or 5), and zero otherwise (AUOP = 1), *GC* is an indicator variable set to equal

one if a firm receives a going-concern audit opinion (from Audit Analytics database), and zero

otherwise, *|NARTA|* is absolute non-articulation amounts defined earlier, and all other variables

are defined in Appendix A.

The variable of primary interest in Equation (8) is *|NARTA|*. A significantly positive

coefficient on *|NARTA|* ($e_1 > 0$) is consistent with H2b. The control variables in Equation (8)

mostly follow DeFond et al. (2002). We expect positive coefficients on the following variables:

Zmijewski (1984) bankruptcy score (*BKRPTZ*), stock return volatility (*STDRET*), financial

leverage (*LEV*), change in financial leverage (*CHGLEV*), losses in the previous year (*LagLOSS*),

and Big N auditors (*BigN*). On the other hand, we expect negative coefficients on the following

variables: firm size measured in total assets (*SIZE*), firm age (*AGE*), stock returns (*RETURN*),

profitability (*ROA*), short- and long-term investments (*INVESTM*), sum of receivables and

inventories (*RECINV*), and sales growth (*SGRW*).

3.4 SAMPLE SELECTION

We obtain financial data from Compustat, stock price data from CRSP, AAERs from the

AAER database at Haas School of Business, and audit fees and going-concern audit opinions

from Audit Analytics. We initially obtain 131,544 firm-year observations from the intersection

of Compustat and CRSP with positive total assets, positive sales, and at least 100 daily returns in

a year during 1989-2010. Our sample starts in 1989 because we use data from the statement of

cash flows, which became available in 1988, and 1989 is the first year for which Equation (5) can be estimated in the cross section. Our sample ends in 2010 because there are only a handful of observations of AAERs in 2011 and 2012. We then delete observations (1) in the financial industry (2-digit SIC code 60-69), (2) in a year in which a firm's fiscal year-end changes, (3) where a firm's total assets are less than $1 million, (4) with negative report lag (days between earnings announcement date and fiscal year-end) or report lag greater than 360 calendar days, (5) with annual financial statements not audited or missing auditor tenure information, or (6) with requisite financial data missing. The above procedures yield our base sample of 76,938 firm-year observations during 1989-2010. Table 1 summarizes our sample selection process.

[Insert Table 1 here]

We construct two additional samples from the base sample. First, we estimate Equation (5) for each Fama and French 48 industry and year combination with at least 30 observations during 1989-2010. We then calculate accruals quality for a firm using its residuals from Equation (5) during years $t-4$ and t. We lose observations during 1989-1992 and observations during 1993-2010 that do not have requisite data to calculate accruals quality. The accruals quality sample consists of 54,200 firm-year observations during 1993-2010. Second, we merge the base sample with Audit Analytics to obtain audit fees and going-concern opinions, which are available starting year 2000. We lose all observations before 2000 and observations not covered by Audit Analytics. In addition, we delete all observations in an industry where none of the firms receives a going-concern opinion. Our audit fees and going-concern sample consists of 27,784 firm-year observations during 2000-2010.

Hribar and Collins (2002) find that non-articulation amounts are particularly large in magnitude when one of the three major non-articulation events (mergers and acquisitions,

divestitures, and foreign currency translations) occurs although non-articulation still exists in the subsample where none of these three events is present. It is possible that auditors perceive firms involved in mergers and acquisitions and divestitures as posing higher audit risk and/or demanding more effort. Consequently, our hypothesized relations could be due to the presence of these major non-articulation events. To test this possibility, we separate the full sample into two mutually exclusive subsamples following Hribar and Collins (2002): observations without any of these three Major Non-Articulation Events (Without MNAE subsample) and observations with at least one of these three Major Non-Articulation Events (With MNAE subsample). We test our hypotheses using Full sample, Without MNAE subsample, and With MNAE subsample, respectively. If our hypotheses are as strongly supported or even more strongly supported in Without MNAE subsample than With MNAE subsample, then our hypothesized relations are not mainly due to the presence of three major non-articulation events identified in Hribar and Collins (2002).

Following Hribar and Collins (2002), we use the sales/turnover (net) footnote (Compustat mnemonic: SALE_FN) to identify mergers and acquisitions. Mergers and acquisitions are identified if SALE_FN is equal to "AA" or "AB." We use discontinued operations (DO) to identify divestitures. Divestitures are identified if absolute DO is greater than $10,000. We use foreign exchange income or loss (FCA) to identify foreign currency translations. Foreign currency translations are identified if absolute FCA is greater than $10,000.

4. Empirical Results

4.1 DESCRIPTIVE STATISTICS AND CORRELATIONS

Table 2 presents the descriptive statistics of our regression variables. We only discuss descriptive statistics for some key variables. First, the mean of *AAER* is 0.011, suggesting that 1.1% of the sample receives the SEC AAERs. This percentage is slightly smaller than its counterpart reported in Armstrong et al. (2013). The mean |*NARTA*| is 3.2% of total assets. The mean *MKTCAP* is 5.441, considerably smaller than its counterpart (7.27) in Armstrong et al. (2013), because our sample is much larger and includes more small- and medium-sized firms. Consistent with our sample firms being smaller than their counterparts in Armstrong et al. (2013), our mean leverage (*LEV*) is lower, mean profitability (*ROA*) is lower, and mean age (*AGE*) is smaller. The mean *RECINV* (sum of receivables and inventory) is 0.298, roughly equal to the sum of the mean receivables (0.15) and the mean inventory (0.12) in Armstrong et al. (2013). Second, the mean (median) *AQ* is 0.050 (0.036), comparable to their counterparts in Francis et al. (2005). About 84% of the sample is audited by Big N auditors (*BigN*). Third, about 33% of the sample receives modified audit opinions (*MAO*) and about 3.7% receive going-concern audit opinions (*GC*). Finally, the median audit fees is $0.510176 million (= $e^{-0.673}$) and the mean institutional ownership (*INSTN*) is 69.6%.

[Insert Table 2 here]

Table 3, Panel A, presents Pearson correlations among select variables in Equations (4) and (6). Both *AAER* and *AQ* are positively correlated with |*NARTA*|, consistent with H1 that a firm's financial reporting quality is negatively associated with |*NARTA*|. *AAER* is positively correlated with *MKTCAP* but negatively correlated with *BM*, *AGE*, and *CAPEXP*. On the other hand, *AQ* is negatively correlated with *MKTCAP*, *BM*, *LEV*, and *BigN*.

Table 3, Panel B, shows Pearson correlations among select variables in Equations (7) and (8). *AUDFEE* is unexpectedly negatively correlated with |*NARTA*|. This univariate evidence does

not support H2a. In addition, *AUDFEE* is positively correlated with institutional ownership (*INSTN*) and the number of business segments (*SEG*) but is negatively correlated with *SPE*, *FIRST2YRS*, *RETURN*, and *STDRET*. Turning to audit opinions, both *MAO* and *GC* are positively correlated with |*NARTA*|, consistent with H2b. *MAO* is positively correlated with *BKRPTZ* and *AGE* but is negatively correlated with *RETURN* and *STDRET*. On the other hand, GC is positively correlated with *BKRPTZ* and *STDRET* but is negatively correlated with *AGE* and *RETURN*.

4.2 ABSOLUTE NON-ARTICULATION AMOUNTS AND REPORTING QUALITY

We examine the relation between |*NARTA*| and the likelihood of a firm receiving an AAER by estimating Equation (4). In Table 4, we present estimation results for Full sample (Base Sample), Without MNAE subsample, and With MNAE subsample, respectively. MNAE stands for major non-articulation events (i.e., mergers and acquisitions, divestitures, and foreign currency translations) identified in Hribar and Collins (2002). As shown, the coefficients on |*NARTA*| are significantly positive in the Full Sample column (0.696, $t = 2.573$) and the Without MNAE column (1.354, $t = 3.175$). These positive coefficients are consistent with H1 that a firm's financial reporting quality is negatively associated with |*NARTA*|. The coefficient on |*NARTA*|, however, is insignificant in the With MNAE column. This suggests that the positive coefficient on |*NARTA*| is not driven by major non-articulation events (mergers and acquisitions, divestitures, and foreign currency translations). The coefficients on control variables are mostly consistent with our expectations. For example, the coefficients on *MKTCAP* are significantly positive in all three columns and the coefficients on *AGE* are significantly negative in all three columns.

[Insert Table 4 here]

We examine the relation between |*NARTA*| and accruals quality by estimating Equation (6). Table 5 reports our findings. The coefficients on |*NARTA*| are significantly positive in the Full Sample column (0.146, $t = 16.08$), the Without MNAE column (0.181, $t = 14.76$), and the With MNAE column (0.115, $t = 11.85$). These positive coefficients support H1 that a firm's financial reporting quality is negatively associated with |*NARTA*|. It is worth noting that the coefficient on |*NARTA*| is not only significant in the Without MNAE column but also larger than the coefficient in the With MNAE column. So, the positive relation between *AQ* and |*NARTA*| is not primarily due to major non-articulation events. Lastly, the coefficients on control variables are mostly consistent with our expectations.

[Insert Table 5 here]

4.3 ABSOLUTE NON-ARTICULATION AMOUNTS AND AUDITOR DECISIONS

We examine the relation between |*NARTA*| and audit fees using Equations (7). We report the findings in Table 6. As shown, the coefficients on |*NARTA*| are significantly positive in the Full Sample and the Without MNAE columns, consistent with H2a. These positive coefficients suggest that auditors respond to increased audit risk stemming from larger absolute NARTAs by increasing audit fees. However, the coefficient on |*NARTA*| is insignificant in the With MNAE column. The coefficients on control variables are mostly consistent with our expectations. For example, we expect and observe positive (negative) coefficient on *SIZE* (*ROA*). However, coefficients on some control variables are opposite to what we expect. For example, the coefficient on *LEV* is significantly negative, not positive.

[Insert Table 6 here]

We examine the relation between |*NARTA*| and the likelihood of a firm receiving a modified audit opinion by estimating Equations (8). Table 7 presents our findings. The

coefficients on |*NARTA*| are significantly positive in all three columns, consistent with H2b that auditors are more likely to issue modified audit opinions to firms with larger absolute NARTAs. The coefficients on about half of the control variables are as expected. For example, the coefficients on *BKRPTZ* and *LagLOSS* are positive as expected. However, the coefficients on the other half of the control variables are not consistent with expectations. For example, we expect positive coefficients on *SIZE* and *AGE* but get significantly negative coefficients.

[Insert Table 7 here]

Finally, we examine the relation between |*NARTA*| and the likelihood of a firm receiving a going-concern audit opinion using Equations (8). Our findings are reported in Table 8. As shown, the coefficients on |*NARTA*| are significantly positive in all three columns, consistent with H2b that auditors are more likely to issue going-concern audit opinions to firms with larger absolute NARTAs. The coefficients on control variables are mostly consistent with our expectations.

[Insert Table 8 here]

5. Conclusion

Prior studies find that changes in noncash current assets and in current liabilities from comparative balance sheets often do not articulate with (i.e., are not equal to) their corresponding changes on the statement of cash flows. Labeling the difference between these two changes as non-articulation amounts (NARTAs), we examine the association of absolute NARTAs with the probability of receiving AAERs, accruals quality, audit fees, and auditor opinions, respectively. We find that absolute NARTAs are positively associated with the probability of a firm receiving an AAER and negatively associated with accruals quality. These findings are consistent with our

argument that NARTAs capture cash flow management and financial reporting quality of firms with larger absolute NARTAs is lower.

In addition, we find that auditors are more likely to charge higher audit fees and to issue a modified or going-concern audit opinion to firms with larger absolute non-articulation amounts. These findings suggest that auditors perceive larger absolute NARTAs as a source of audit risk and compensate for such risk stemming from cash flow management by charging higher audit fees and/or issuing modified audit opinions.

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APPENDIX A
Variable Definition

Variable		Definition
AAER	=	an indicator variable set to equal one if a firm is identified for misreporting or fraud in year *t* by a SEC *Accounting and Auditing Enforcement Release* (AAER), and zero otherwise.
|*NARTA*|	=	absolute non-articulation amounts = |$ACC_{bs} - ACC_{cf}$|. ACC_{bs} (accruals estimated using the balance sheet approach) = $(\Delta CA - \Delta CASH) - (\Delta CL - \Delta STDEBT) - DEP$ and ACC_{bs} (accruals estimated using the statement of cash flows approach) = $- (CHGAR_{cf} + CHGINV_{cf} + CHGAP_{cf} + CHGTAX_{cf} + CHGTAX_{cf} + CHGOTH_{cf}) - DEP_{cf}$, where where ΔCA = the change in current assets in year *t* (Compustat mnemonic: ACT); $\Delta CASH$ = the change in cash and cash equivalent in year *t* (CHE); ΔCL = the change in current liabilities in year *t* (LCT); $\Delta STDEBT$ = the change in debt in current liabilities in year *t* (DLC); *DEP* = depreciation and amortization expense in year *t* (DP); $CHGAR_{cf}$ = the decrease (increase) in accounts receivable (RECCH); $CHGINV_{cf}$ = the decrease (increase) in inventories (INVCH); $CHGAP_{cf}$ = the increase (decrease) in accounts payable and accrued liabilities (APALCH); $CHGTAX_{cf}$ = the increase (decrease) in taxes payable (TXACH); $CHGOTH_{cf}$ = the net change in other assets and liabilities (AOLOCH); and DEP_{cf} = depreciation and amortization expense on the statement of cash flows (DPC). All variables are deflated by total assets (AT).
MKTCAP	=	natural logarithm of market value of equity (PRCC_F × SHOUT).
BM	=	the book-to-market ratio = book value of equity (CEQ) / market value of equity.
ROA	=	the return on assets = income before extraordinary items (IB) / total assets (AT).
LEV	=	financial leverage = (long-term debt (DLTT) + short-term debt (DLC) / total assets.
AGE	=	firm age = Ln(1 + years since the first year covered on Compustat).
RETURN	=	buy-and-hold returns in year *t*.
STDRET	=	standard deviation of monthly returns in in year *t*.
CAPEXP	=	capital expenditures (CAPX) / total assets.
INTANG	=	intangible assets = R&D and advertisement expenditures (XRD + XAD) / total assets.
SGRW	=	sales growth = sales revenue (SALE) in year *t* / sales revenue in year *t* – 1.
RECINV	=	(receivables (RECT) + inventories (INVT)) / total assets.
AQ	=	accruals quality estimated following Dechow and Dichev (2001).
LagROA	=	the return on assets in year *t* – 1.
LagROA^2	=	square of the return on assets in year *t* – 1.
CRATIO	=	current ratio = current assets (ACT) / current liabilities (LCT).
BigN	=	an indicator variable set to equal one if a firm is audited by one of the Big N auditors in year *t*, and zero otherwise.
MAO	=	an indicator variable set to equal one if a firm receives a modified audit opinion (AUOP = 2, 3, 4, or 5) in year *t*, and zero otherwise (AUOP = 1).
BKRPTZ	=	the probability of bankruptcy score based on Zmijewski (1984).
SIZE	=	natural logarithm of total assets.
CHGLEV	=	change in financial leverage (*LEV*) during year *t*.
LagLOSS	=	an indicator variable set to equal one if a firm reports negative income before extraordinary items (IB) in year *t* – 1, and zero otherwise.
INVESTM	=	sum of cash and short-term investments (CHE) and long-term investments (IVAEQ + IVAO) / total assets.
GC	=	an indicator variable set to equal one if a firm receives a going-concern audit opinion (from Audit Analytics database) in year *t*, and zero otherwise.
AUDFEE	=	natural logarithm of audit fees (in million) paid by a firm in year *t*.
SPE	=	the absolute value of negative special items scaled by total assets, and zero otherwise.
INSTN	=	percentage of a firm's outstanding shares held by institutions.
SEG	=	number of segments = Ln(1 + number of operating segments or business segments).
REPLAG	=	report lag = number of calendar days between fiscal year-end and earnings announcement date.
FINANCE	=	an indicator variable set to equal one if a firm issues stock (SSTK > 0) or bond (DLTIS > 0) in year *t*, and zero otherwise.
FIRST2YRS	=	an indicator variable set to equal one if year *t* is the initial two years of the audit engagement, and zero otherwise.

TABLE 1
Sample Selection

	Observation
Number of firm-year observations on the intersection of Compustat and CRSP with positive total assets, positive sales, and at least 100 daily returns in year *t* during 1989-2010	131,544
Less:	
Observations with missing industry code or in financial industry (2-digit SIC code 60-69)	(26,033)
Observations in a year in which a firm's fiscal year end is changed	(970)
Observations with total assets in year *t* less than 1million	(161)
Observations with negative report lag (days between earnings announcement date and fiscal year-end) or report lag greater than 360 calendar days	(7,062)
Observations with annual financial statements not audited or missing auditor tenure information	(262)
Observations with needed financial data for year *t* missing	(20,118)
Base sample during 1989-2010	76,938
Accruals quality sample	
Base sample during 1989-2010	76,938
Less:	
Observations with missing accruals quality	(22,738)
Accruals quality sample during 1993-2010	54,200
Auditor decision sample	
Base sample during 1989-2010	76,938
Less:	
Observations before 2000	(38,428)
Observations not in Audit Analytics	(6,840)
Observations in an industry where none of the firms receives a going-concern opinion	(3,886)
Audit fees and going-concern sample during 2000-2010	27,784

TABLE 2
Descriptive Statistics

Variable	N	Mean	STDDEV	Q1	Median	Q3
AAER	76,938	0.011	0.103	0.000	0.000	0.000
|NARTA|	76,938	0.032	0.051	0.005	0.014	0.035
MKTCAP	76,938	5.441	2.220	3.809	5.338	6.935
BM	76,938	0.623	0.591	0.276	0.495	0.809
LEV	76,938	0.222	0.206	0.030	0.191	0.349
ROA	76,938	-0.030	0.228	-0.032	0.033	0.074
AGE	76,938	2.635	0.742	2.079	2.565	3.258
RETURN	76,938	0.058	0.690	-0.344	-0.064	0.254
STDRET	76,938	0.037	0.023	0.021	0.032	0.047
CAPEXP	76,938	0.061	0.061	0.021	0.042	0.077
INTANG	76,938	0.064	0.108	0.000	0.019	0.084
SGRW	76,938	0.172	0.458	-0.022	0.087	0.243
RECINV	76,938	0.298	0.204	0.124	0.271	0.436
AQ	54,200	0.050	0.045	0.021	0.036	0.063
LagROA	54,200	-0.019	0.208	-0.022	0.035	0.075
LagROA^2	54,200	0.044	0.166	0.001	0.004	0.014
CRATIO	54,200	2.669	2.383	1.280	1.960	3.109
BigN	54,200	0.836	0.370	1.000	1.000	1.000
AUDFEE	27,784	-0.621	1.292	-1.609	-0.673	0.257
SIZE	27,784	5.732	2.018	4.276	5.649	7.062
SPE	27,784	0.001	0.006	0.000	0.000	0.000
INSTN	27,784	0.696	0.329	0.437	0.809	1.000
SEG	27,784	1.091	0.464	0.693	0.693	1.386
REPLAG	27,784	3.872	0.439	3.555	3.892	4.190
FINANCE	27,784	0.932	0.251	1.000	1.000	1.000
FIRST2YRS	27,784	0.159	0.366	0.000	0.000	0.000
MAO	76,938	0.326	0.469	0.000	0.000	1.000
BKRPTZ	76,938	0.067	0.197	0.001	0.003	0.019
CHGLEV	76,938	0.005	0.093	-0.030	0.000	0.028
LagLOSS	76,938	0.177	0.381	0.000	0.000	0.000
INVESTM	76,938	0.205	0.219	0.039	0.121	0.303
GC	27,784	0.037	0.189	0.000	0.000	0.000

TABLE 3
Correlation Matrix

This table shows Pearson correlations among regression variables. See Appendix A for variable definitions. All continuous variables are winsorized at the top and bottom 1%. *, **, and *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels.

Panel A: Pearson Correlations among Variables in Equations (4) and (6)										
Variable	AAER	AQ	|NARTA|	MKTCAP	BM	LEV	ROA	AGE	RETURN	CAPEXP	INTANG
AQ	-0.008*									
|NARTA|	0.008**	0.292***								
MKTCAP	0.056***	-0.407***	-0.165***							
BM	-0.017***	-0.062***	-0.045***	-0.335***						
LEV	-0.005	-0.156***	0.026***	0.013***	-0.071***					
ROA	0.001	-0.383***	-0.275***	0.305***	0.037***	-0.057***				
AGE	-0.013***	-0.268***	-0.093***	0.313***	0.024***	0.066***	0.199***			
RETURN	0.004	0.024***	-0.039***	0.155***	-0.243***	-0.074***	0.173***	-0.006		
CAPEXP	-0.017***	-0.142***	-0.070***	0.091***	-0.071***	0.102***	0.059***	-0.068***	-0.028***	
INTANG	0.000	0.370***	0.133***	-0.135***	-0.173***	-0.222***	-0.525***	-0.187***	-0.027***	-0.119***	
BigN	0.018***	-0.194***	-0.068***	0.311***	-0.074***	0.062***	0.096***	0.032***	-0.003	0.068***	0.004

Panel B: Pearson Correlations among Variables in Equations (7) and (8)										
Variable	AUDFEE	MAO	GC	|NARTA|	SPE	INSTN	SEG	FIRST2YRS	BKRPTZ	AGE	RETURN
MAO	0.275***									
GC	-0.109***	0.209***								
|NARTA|	-0.101***	0.045***	0.186***							
SPE	-0.027***	0.026***	0.070***	0.177***						
INSTN	0.271***	0.096***	-0.010*	-0.040***	-0.003					
SEG	0.354***	0.101***	-0.054***	-0.065***	0.020***	0.073***				
FIRST2YRS	-0.144***	-0.004	0.035***	0.051***	0.023***	-0.050***	-0.023***			
BKRPTZ	-0.091***	0.093***	0.353***	0.206***	0.074***	-0.013**	-0.108***	0.037***		
AGE	0.337***	0.128***	-0.075***	-0.093***	-0.004	0.089***	0.341***	-0.035***	-0.133***	
RETURN	-0.059***	-0.027***	-0.104***	-0.039***	-0.034***	-0.028***	-0.001	0.016***	-0.115***	-0.006	
STDRET	-0.481***	-0.061***	0.304***	0.232***	0.116***	-0.190***	-0.231***	0.095***	0.312***	-0.374***	0.016***

TABLE 4

Probit regression of SEC enforcement releases on absolute non-articulation amounts

This table examines the effect of absolute non-articulation amounts on the probability of receiving an AAER. See Appendix A for variable definitions. "Without MNAE" means none of Major Non-Articulation Events (i.e., mergers and acquisitions, divestitures, and foreign currency translations) is present. "With MNAE" means at least one of Major Non-Articulation Events is present. *, **, and *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels for regression coefficients based on two-tailed *t*-statistics calculated using the two-way clustered standard errors (Petersen 2009).

Variable	Expected Sign	AAER Full Sample	AAER Without MNAE	AAER With MNAE
Intercept		-6.574***	-5.738***	-6.786***
		(-23.14)	(-20.48)	(-18.09)
|NARTA|	+	0.680**	1.312***	0.171
		(2.510)	(3.003)	(0.398)
MKTCAP	+	0.173***	0.159***	0.189***
		(8.254)	(7.233)	(8.266)
BM	+	0.081*	0.167***	-0.014
		(1.677)	(3.131)	(-0.222)
LEV	+	-0.297***	-0.240*	-0.378**
		(-3.364)	(-1.756)	(-2.233)
ROA	–	0.239*	0.254*	0.230
		(1.823)	(1.732)	(1.451)
AGE	–	-0.147***	-0.228***	-0.085*
		(-4.261)	(-4.814)	(-1.867)
RETURN	–	-0.043*	-0.009	-0.072**
		(-1.647)	(-0.287)	(-2.102)
STDRET	+	2.484*	-1.543	6.319***
		(1.711)	(-0.767)	(3.764)
CAPEXP	–	-0.820	-0.645	-1.132
		(-1.568)	(-0.958)	(-1.470)
INTANG	–	-0.485*	-0.487	-0.453
		(-1.814)	(-1.293)	(-1.386)
SGRW	+	0.090**	0.055	0.116***
		(2.495)	(1.070)	(2.769)
RECINV	+	0.419**	0.431**	0.405
		(2.222)	(2.218)	(1.440)
Industry dummies		Included	Included	Included
N		75,452	42,348	31,032
Pseudo R^2		0.0870	0.0923	0.0846

Note: There are no firms receiving AAERs in certain industries in the full sample. These industries are excluded by Stata when estimating the regression model. Consequently, the number of observations in the full sample is less than 76,938. In addition, when the full sample is split into the Without MNAE and With MNAE subsamples, more industries have no firms receiving AAERs. These industries are excluded by Stata when estimating the regression model. Consequently, the sum of observations in the Without MNAE and With MNAE subsamples is less than the number of observations in the Full sample.

TABLE 5

OLS regression of accruals quality on absolute non-articulation amounts

This table examines the effect of absolute non-articulation amounts on accruals quality. See Appendix A for variable definition. "Without MNAE" means none of Major Non-Articulation Events (i.e., mergers and acquisitions, divestitures, and foreign currency translations) is present. "With MNAE" means at least one of Major Non-Articulation Events is present. *, **, and *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels for regression coefficients based on two-tailed *t*-statistics calculated using the two-way clustered standard errors (Petersen 2009).

Variable	Expected Sign	*AQ*		
		Full Sample	Without MNAE	With MNAE
Intercept		0.089***	0.082***	0.094***
		(22.47)	(15.31)	(216.7)
$|NARTA|$	+	0.146***	0.181***	0.115***
		(16.08)	(14.76)	(11.85)
MKTCAP	–	-0.007***	-0.007***	-0.006***
		(-25.09)	(-31.06)	(-24.28)
BM	–	-0.011***	-0.011***	-0.011***
		(-9.906)	(-10.48)	(-8.113)
LEV	–	-0.025***	-0.023***	-0.026***
		(-14.17)	(-10.30)	(-10.93)
LagROA	–	-0.031***	-0.036***	-0.025***
		(-6.339)	(-6.998)	(-3.940)
$LagROA^2$	–	0.022***	0.015***	0.032***
		(3.810)	(2.870)	(3.651)
CRATIO	–	-0.001***	-0.001***	-0.001***
		(-4.964)	(-3.755)	(-3.347)
BigN	–	-0.004***	-0.003**	-0.006***
		(-4.304)	(-2.227)	(-3.244)
Industry dummies		Included	Included	Included
N		54,200	29,398	24,802
Adj. R^2		0.370	0.379	0.342

TABLE 6

OLS regression of audit fees on absolute non-articulation amounts

This table examines the effect of absolute non-articulation amounts on audit fees. See Appendix A for variable definition. "Without MNAE" means none of Major Non-Articulation Events (i.e., mergers and acquisitions, divestitures, and foreign currency translations) is present. "With MNAE" means at least one of Major Non-Articulation Events is present. *, **, and *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels for regression coefficients based on two-tailed *t*-statistics calculated using the two-way clustered standard errors (Petersen 2009).

Variable	Expected Sign	AUDFEE Full Sample	AUDFEE Without MNAE	AUDFEE With MNAE
Intercept		-6.239	-6.016	-6.343***
		(0.000)	(0.000)	(-31.30)
|NARTA|	+	0.532***	0.641***	0.078
		(4.095)	(5.117)	(0.376)
SIZE	+	0.598***	0.553***	0.606***
		(41.08)	(30.62)	(39.90)
BigN	+	0.030	0.071	-0.022
		(0.405)	(0.970)	(-0.265)
ROA	–	-0.586***	-0.555***	-0.587***
		(-7.297)	(-7.707)	(-5.614)
RETURN	–	-0.043	-0.045	-0.048
		(-1.115)	(-1.207)	(-1.162)
STDRET	+	-4.674	-4.056	-5.338
		(-1.590)	(-1.615)	(-1.520)
LEV	+	-0.294***	-0.277***	-0.307***
		(-6.603)	(-4.688)	(-5.694)
SPE	+	3.817***	-8.674	2.179**
		(3.043)	(-1.515)	(2.244)
RECINV	+	0.394***	0.307***	0.483***
		(5.489)	(3.887)	(6.035)
INSTN	+	0.065**	0.017	0.122***
		(2.227)	(0.565)	(2.974)
BM	–	-0.173***	-0.174***	-0.167***
		(-3.653)	(-4.194)	(-3.007)
SEG	+	0.151***	0.141***	0.099***
		(8.907)	(6.483)	(4.803)
REPLAG	+	0.512***	0.456***	0.523***
		(12.19)	(11.49)	(8.829)
FINANCE	+	0.008	0.033	-0.081**
		(0.289)	(1.010)	(-2.369)
SGRW	+	-0.097	-0.058	-0.161**
		(-1.571)	(-1.180)	(-2.197)
FIRST2YRS	–	-0.092**	-0.092*	-0.088**
		(-1.985)	(-1.715)	(-2.222)
Industry dummies		Included	Included	Included
N		27,784	15,010	12,774
Adj. R^2		0.732	0.682	0.735

TABLE 7

Probit regression of modified audit opinion on absolute non-articulation amounts

This table examines the effect of absolute non-articulation amounts on the probability of receiving a modified audit opinion. See Appendix A for variable definition. "Without MNAE" means none of Major Non-Articulation Events (i.e., mergers and acquisitions, divestitures, and foreign currency translations) is present. "With MNAE" means at least one of Major Non-Articulation Events is present. *, **, and *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels for regression coefficients based on two-tailed *t*-statistics calculated using the two-way clustered standard errors (Petersen 2009).

Variable	Expected Sign	MAO Full Sample	MAO Without MNAE	MAO With MNAE
Intercept		-2.026***	-2.097***	-1.878***
		(-7.596)	(-5.300)	(-4.602)
|NARTA|	+	1.199***	1.511***	0.764***
		(6.832)	(6.289)	(4.283)
BKRPTZ	+	0.202***	0.275***	0.104
		(3.124)	(4.113)	(0.830)
SIZE	–	0.105***	0.096***	0.100***
		(5.600)	(4.618)	(5.388)
AGE	–	0.145***	0.132***	0.160***
		(5.103)	(4.284)	(5.204)
RETURN	–	-0.004	-0.013	0.006
		(-0.127)	(-0.361)	(0.170)
STDRET	+	-0.618	-0.231	-1.186
		(-0.245)	(-0.110)	(-0.364)
LEV	+	0.160	0.083	0.258**
		(1.603)	(0.791)	(2.046)
CHGLEV	+	-0.175	-0.103	-0.246
		(-1.310)	(-0.896)	(-1.563)
LagLOSS	+	0.169***	0.164***	0.175***
		(3.390)	(3.561)	(2.842)
BigN	+	-0.039	-0.018	-0.062
		(-0.489)	(-0.236)	(-0.730)
ROA	–	-0.568***	-0.561***	-0.532***
		(-6.006)	(-5.052)	(-4.882)
INVESTM	–	-0.331***	-0.446***	-0.152
		(-2.681)	(-3.167)	(-1.310)
RECINV	–	-0.384***	-0.354***	-0.449***
		(-3.625)	(-3.604)	(-3.041)
SGRW	–	-0.109***	-0.075**	-0.148***
		(-2.985)	(-2.424)	(-3.326)
Industry dummies		Included	Included	Included
N		76,938	43,636	33,302
Pseudo R^2		0.0518	0.0506	0.0487

TABLE 8

Probit regression of going-concern opinion on absolute non-articulation amounts

This table examines the effect of absolute non-articulation amounts on the probability of receiving a going-concern audit opinion. See Appendix A for variable definition. "Without MNAE" means none of Major Non-Articulation Events (i.e., mergers and acquisitions, divestitures, and foreign currency translations) is present. "With MNAE" means at least one of Major Non-Articulation Events is present. *, **, and *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels for regression coefficients based on two-tailed *t*-statistics calculated using the two-way clustered standard errors (Petersen 2009).

Variable	Expected Sign	GC		
		Full Sample	Without MNAE	With MNAE
Intercept		-1.959***	-1.710***	-2.257***
		(-7.599)	(-6.794)	(-6.190)
|NARTA|	+	1.239***	1.121**	1.355**
		(3.665)	(2.242)	(2.329)
BKRPTZ	+	0.050	0.128	-0.110
		(0.312)	(0.773)	(-0.385)
SIZE	–	-0.150***	-0.184***	-0.123***
		(-5.370)	(-6.453)	(-3.470)
AGE	–	0.119**	0.087	0.150**
		(2.534)	(1.637)	(2.340)
RETURN	–	-0.278***	-0.300***	-0.253***
		(-5.536)	(-4.506)	(-2.843)
STDRET	+	12.049***	11.033***	13.628***
		(8.399)	(7.200)	(7.016)
LEV	+	0.721***	0.591***	1.020***
		(3.708)	(3.128)	(2.756)
CHGLEV	+	0.035	0.379	-0.484
		(0.181)	(1.533)	(-1.220)
LagLOSS	+	0.418***	0.495***	0.301***
		(7.165)	(6.718)	(3.813)
BigN	+	-0.030	-0.034	-0.031
		(-0.431)	(-0.386)	(-0.340)
ROA	–	-1.134***	-0.986***	-1.413***
		(-7.257)	(-6.674)	(-5.348)
INVESTM	–	-1.362***	-1.255***	-1.602***
		(-8.125)	(-6.536)	(-6.629)
RECINV	–	-0.548***	-0.520***	-0.543**
		(-3.640)	(-3.326)	(-2.292)
SGRW	–	-0.016	-0.016	-0.020
		(-0.454)	(-0.279)	(-0.419)
Industry dummies		control	control	control
N		27,784	14,992	12,698
Pseudo R²		0.412	0.417	0.417

Note: There are no firms receiving going-concern audit opinions in certain industries in the Without MNAE and With MNAE subsamples, respectively. These industries are excluded by Stata when estimating the regression model. Consequently, the sum of observations in the Without MNAE and With MNAE subsamples is less than the number of observations in the Full sample.