

ACCOUNTING HORIZONS

Supplement

2003

pp. 17–35

How Are Earnings Managed? Examples from Auditors

Mark W. Nelson, John A. Elliott, and Robin L. Tarpley

SYNOPSIS: This paper reports descriptive evidence about how managers attempt to manage earnings, based on a sample of 515 earnings-management attempts obtained from a survey of 253 experienced auditors (and also analyzed by Nelson et al. 2002). We classify attempts first according to primary approach: expense recognition, revenue recognition, issues unique to business combinations, and other issues. Then, within each of those broad categories, we subclassify attempts by the particular approach used in the attempt. For each specific approach, we report the accounts involved, the frequency with which the approach increased or decreased current-period income (and the frequency of adjustments required by the auditor), and provide descriptions by auditors of income-increasing and income-decreasing examples of the more frequent approaches. We also link our findings to recent SEC Accounting and Auditing Enforcement Releases (AAERs) that illustrate extreme versions of the specific approaches identified by our participants. This experienced-based, example-rich framework and frequency data should assist investors, auditors, audit committees, and other participants in the financial reporting process who need to be vigilant for earnings-management approaches.

INTRODUCTION

Earnings management occurs “when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers” (Healy and Wahlen 1999, 368). We interpret this broad definition as including earnings management that is consistent with GAAP (e.g., structuring leases to allow lessors to use capital lease treatment and recognize gross margin at lease inception), earnings management that is difficult to distinguish from GAAP (e.g., over- or underestimating bad debt reserves), and earnings management that is clearly not GAAP (e.g., intentionally misapplying revenue recognition rules).

Mark W. Nelson is a Professor at Cornell University, John A. Elliott is a Professor at Baruch College of the City University of New York, and Robin L. Tarpley is an Assistant Professor at The George Washington University.

We appreciate comments by Rob Bloomfield, Sarah Bonner, Patricia Dechow, Jim Largay, and two anonymous reviewers, research assistance provided by Jennifer Bremner, Shana Clor, Cathy Nelson, and Steve Smith, financial support provided by Cornell’s Johnson Graduate School of Management, and the access to audit partners and managers provided by an anonymous Big 5 firm.

Aggressive earnings management has been of concern to regulators for several years (e.g., Levitt 1998), and concern has only intensified following evidence of improper accounting by Enron, WorldCom, and some other major corporations. Responses include the SEC's recent guidance about appropriate revenue recognition (SAB No. 101), expense recognition (SAB Nos. 100 and 102), and materiality definition (SAB No. 99), the AICPA's recent requirement that auditors report to clients' audit committees about waived audit adjustments and clients' quality of earnings (SAS Nos. 89 and 90), the SEC's recent requirement that CEOs and CFOs certify the accuracy and completeness of their annual reports, and the various reforms included in the Sarbanes-Oxley Act. Yet, there exists relatively little systematic research concerning the specific methods by which earnings management is attempted (Healy and Wahlen 1999; Dechow and Skinner 2000; McNichols 2000). A better understanding of how earnings management occurs could help (1) regulators and standard setters identify the areas most in need of regulatory change; (2) auditors evaluate and report on their clients' quality of earnings, and train novice auditors about earnings management; (3) CEOs, CFOs, audit committees, and investors focus attention on those areas of the financial statements where they should be most skeptical; (4) managers and audit committees anticipate the transactions that investors will view most skeptically; (5) educators teach students about earnings management; and (6) researchers focus their analyses on areas of high-earnings-management activity.

This article provides evidence about specific approaches that are used by managers when they attempt to manage earnings. Results are based on a data set (also analyzed in Nelson et al. 2002) that includes 515 earnings-management attempts identified and characterized by 253 auditors from one Big 5 firm.

Prior research in psychology and accounting suggests that people can best learn about important types of earnings management by first developing a knowledge framework of common approaches used to attempt earnings management and then populating that framework with individual examples. Understanding the approaches used to attempt earnings management, and the frequency with which these approaches occur, could facilitate future identification of attempts.

We develop a two-tiered framework that categorizes earnings-management approaches, and we provide examples and frequency data about the more common approaches within that framework. The first level of the framework categorizes attempts by whether they involve expense recognition, revenue recognition, issues unique to business combinations, or other issues. The second level of the framework categorizes attempts according to specific approach (e.g., "recognizing too much or too little asset impairment"), accounting area (e.g., "fixed assets," "investments," "intangibles"), and current-period income effect (current income increasing, decreasing, or no effect apparent or determinable). For each approach we report the frequency with which attempts occurred and the percentage for which auditors required adjustment of attempts. For each approach we also provide auditor descriptions of illustrative income-increasing and income-decreasing attempts, and references to recent SEC Accounting and Auditing Enforcement Releases (AAERs) that illustrate extreme examples of that particular approach.

The most important contribution of this paper is the listing of earnings-management approaches, frequencies, and examples that we provide. However, the paper also provides evidence that complements and converges with that provided by prior research. For example, similar to studies of SEC AAERs, our sample includes numerous attempts that involve revenue recognition, but we also document numerous attempts that involve reserve manipulation and other forms of expense recognition that appear less frequently in AAERs.

BACKGROUND

Prior studies examine extreme instances of earnings management identified in SEC AAERs (see, e.g., Feroz et al. 1991; Dechow et al. 1996; Beneish 1997; Bonner et al. 1998; Panel on Audit Effectiveness 2000; Beasley et al. 2000), or list potential earnings-management approaches based on personal experience and/or published press accounts (e.g., National Association of Certified Fraud

Examiners [NACFE] 1992; Schilit 1993; Mulford and Comiskey 1996). These studies naturally focus on instances of earnings management that severely biased the audited financial statements and attracted enforcement by the SEC or public attention. Yet, much earnings management may be relatively more subtle, and therefore not attract public scrutiny, and much earnings management may be attempted by managers but prevented by auditors. Therefore, we complement prior studies by organizing and reporting data from auditors' descriptions of managers' earnings-management *attempts*.

We draw on prior research to determine a useful way in which this data can be organized and communicated. Psychology and accounting studies provides evidence that people tend to organize their knowledge using "schemas" or "scripts" that relate information in a logical, causal manner (see, e.g., Alba and Hasher 1983). Such schematic structures affect how auditors organize and process information about internal controls (Frederick 1991; Tubbs 1992), going-concern risks (Ricchiute 1992), and financial statement errors (Frederick et al. 1994). The types of knowledge structures most relevant to our study are categories, which serve to identify and organize concepts and classify the particular instances that are experienced (see, e.g., Smith and Medin 1981; Smith and Minda 1998).

Prior research provides evidence that experienced auditors develop category structures with respect to financial statement errors that focus on useful causal relationships, such as "audit objective violated" (Tubbs 1992; Frederick et al. 1994). Such category structures can be taught effectively (Bonner et al. 1997), particularly by conveying a conceptual framework that includes key features and representative examples (Bonner 1999; Bonner and Walker 1994). The accuracy of future identification and classification is enhanced by having a well-defined, example-rich category structure (Bonner 1999).

Prior research also indicates the importance of knowing the relative frequency with which various types of attempts occur. For example, auditors face higher risk of litigation when they fail to identify frequently occurring frauds (Bonner et al. 1998), and numerous studies in auditing suggest that frequency information helps auditors generate hypotheses (Libby 1985), evaluate hypotheses (Smith and Kida 1991), and plan audit effort (Heiman 1990; Libby and Frederick 1990). Frequency knowledge could be accumulated by individuals from experience (Butt 1988; Nelson 1993), but it is difficult for a given individual to experience enough attempts to develop accurate frequency knowledge. An alternative approach is to accumulate frequency information and convey it in the form of simple facts that are used in subsequent decisions (Nelson 1994). Prior research has assessed the frequencies with which audit adjustments are proposed (for a review, see Kinney and Martin [1994]) and the frequency with which extreme forms of earnings management are identified (see the aforementioned AAER studies), but none have focused specifically on earnings-management attempts.

In light of prior research, we provide a causally organized, example-rich categorization framework and related frequency information with respect to the various approaches used to attempt earnings management. We provide for each approach one or more representative descriptions to highlight the distinctive features that are associated with each approach (as recommended by Bonner [1999, 23]). We also provide one or more references to recent SEC AAERs that describe extreme versions of each approach, both to allow readers to identify more examples of approaches and to provide evidence that the attempts in our data are of general importance. To highlight the more frequent approaches used to attempt earnings management, we report the number of times each approach was used in an attempt (and the percentage adjusted by the auditor) in each accounting area (e.g., investments, fixed assets, intangibles) in our sample, in total and by current-year income effect.

METHOD

Data Collection

We collected data in Autumn 1998. Survey packets were mailed to 532 audit partners selected randomly from U.S. offices of one Big 5 firm. The packets included a survey for the partner and surveys for two senior managers to be selected by the partner. We received 253 responses from auditors (43 percent partners, 57 percent managers) who had an average of 14.1 years of experience.

Although the number of auditors participating in our study is high, the final response rate is only 16 percent (20 percent for partners and 14 percent for managers). This response rate is higher than response rates of mailed surveys of senior financial managers (e.g., 9 percent response rate by Graham and Harvey [2001]; 12 percent response rate by Trahan and Gitman [1995]), but it is lower than the response rates often achieved in mailed survey studies employing auditors as subjects (e.g., 26.7 percent response rate by Gibson and Frakes [1997]; 32 percent response rate by Ayers and Kaplan [1998]). Nelson et al. (2002) discuss several factors that may have decreased the response rate (most notably, the sensitive nature of the topic and the extensive information requested). Nelson et al. (2002) also provide some evidence against nonresponse bias by showing similarity between early and late responses and between respondents and nonrespondents.

Each packet contained a cover letter from a prominent member of the main office of the firm. The letter included the following statements:

Researchers from Cornell University are conducting an earnings-management study. The project seeks to identify the nature of, and circumstances surrounding, attempts at earnings management. The results of the study will assist our development of an earnings-management training tool for less experienced auditors. High-quality input from professionals like you will help to make this study a success.

Please complete the enclosed materials that ask you to document your experiences....Please do not delegate this task. Also, please ask two senior managers in your office to complete the packets of materials that are enclosed for them....

No client-specific information will be collected. The data you provide will be kept confidential.

Further instructions asked participants to describe three of the most frequently occurring examples of attempted material earnings management that they had encountered. To ensure complete coverage of accounting areas, 80 percent of the packets asked participants to focus on five accounting areas that we randomly selected from among 22 accounting areas we judged to be the primary non-industry-specific issues dealt with in SFAS Nos. 1–132 and the APBs and ARBs that preceded them.¹ The other 20 percent of the packets did not focus participants on specific accounting areas. Since the two groups of participants yielded similar results, they are combined for the remainder of this paper.²

The survey contained a sequence of 17 questions about “Attempted Earnings-Management Experience #1,” repeated those questions for attempts #2 and #3, and finished with a short debriefing questionnaire. Two questions are relevant to this paper. First, participants were asked to explain the attempt (called “the issue”), including the manner in which accounts were affected. Subsequently, participants were asked to choose from among four alternatives that described how the attempt ultimately was treated in the audited financial statements:

- 1) treated as the company originally desired, because they demonstrated they were complying with GAAP,
- 2) treated as the company originally desired, because there was no convincing evidence that the company’s position was incorrect,
- 3) treated as the company originally desired, for some other reason (please explain), and
- 4) treated other than how the company originally desired (please explain).

¹ Between-participants we varied whether an area appeared on a table, and the order in which the area was presented (1–5 position) in the table, while insuring that each area appeared in tables an equal number of times and at each position within the table an equal number of times.

² Our data-collection procedure could result in duplicate observations if partners distributed surveys to managers who had experienced the same attempts. To discourage duplication of observations, we ensured that “list” survey partners (80 percent of our sample) received three surveys that differed from each other in the accounting topics that participants were asked to consider. Results are very similar when based on only partner responses.

For purposes of this paper, a response of (1)–(3) is treated as “not adjusted,” and a response of (4) is treated as “adjusted.” Participants returned the survey in an enclosed, stamped, addressed envelope.

Data Coding

We categorized attempts at two levels. First, we grouped attempts according to whether they primarily involved expense recognition, revenue recognition, issues unique to business combinations, and other issues. We selected this broad categorization because it captures important first-level differences between attempts. Revenues and expenses differ fundamentally in the accounting principles being applied. Business combinations are one-time decisions that often involve unique incentives, income effects, and balance sheet effects.

Second, we categorized attempts by earnings-management approach (e.g., “Recognize too much or too little asset impairment”) and the financial-accounting area in which the attempt occurred (e.g., “investments”). We focused on earnings-management approaches, rather than some other categorical structure, because prior research suggests that experienced auditors use similar audit-objective-based causal structures to facilitate identification and diagnostic reasoning with respect to financial statement errors (Tubbs 1992; Frederick et al. 1994; Nelson et al. 1995). To develop categories of approaches, we surveyed the literature to identify existing earnings-management taxonomies or lists (e.g., NACFE 1992; Schilit 1993; Mulford and Comiskey 1996; the AAER studies identified previously) and adapted categories as necessary to distinguish between the approaches in our sample. To insure consistency of coding, all authors agreed on the coding scheme, one author coded all responses, a second author checked the first author’s interpretation and coding, and the two met to resolve disagreements. We repeated this process to accommodate previously unanticipated differences between attempts that we identified during the coding process.

We also coded attempts to identify their current-year income effect (CIE). We coded CIE as “+” if the attempt increased current-year income and “-” if the attempt decreased current-year income. We coded CIE as “0” if the attempt had no clear CIE (e.g., accruing large reserves in a purchase-method acquisition) or because the attempt as described did not provide sufficient information to identify the CIE (e.g., “Over-accrue reserve for receivable in profitable year and reverse in lean year” does not focus on a particular year). The CIE variable was also used by Nelson et al. (2002) to test directional hypotheses, so it was also coded independently by two coders who were CPAs with an average of 3 years of public-accounting experience (1.5 and 5.0 years, respectively). Inter-coder agreement was high.³ Following independent coding, coders and the coding author met to resolve disagreements and create a consensus coding for each variable. We report results based on the consensus coding. Results are similar if based on any coder’s individual codes.

For each approach with a frequency of at least five instances, an author identified one representative income-increasing example and one representative income-decreasing example, a second author checked the first author’s selections, and the two met to resolve disagreements. Whenever possible, while preserving confidentiality, each example was recorded in the auditor’s own words; when not possible, a close paraphrase was used.

RESULTS

Table 1 presents an overview of main categories of earnings-management attempts. The number of attempts for which auditors required adjustment is shown in parentheses. Our sample includes 515 attempts, 272 (53 percent of sample) of which increase current-year income, 159 (31 percent of sample) of which decrease current-year income, and 84 (16 percent of sample) of which have no

³ Pairwise Kappas were .78 (coder1 to coder2), .80 (coder1 to author), and .77 (coder2 to author). In general, Kappas of .8 indicate excellent agreement (Stokes et al. 2000).

TABLE 1
Summary of Earnings-Management Approaches

Approach	Total	Current-Period Income Effect		
		Increase	Decrease	No Clear Effect
Expenses and Other Losses (see Table 2)	269 (42%)	133 (48%)	113 (39%)	23 (22%)
Revenue and Other Gains (see Table 3)	114 (56%)	86 (62%)	20 (40%)	8 (38%)
Business Combinations (see Table 4)	67 (40%)	12 (67%)	22 (36%)	33 (33%)
Other Approaches (see Table 5)	65 (34%)	41 (41%)	4 (0%)	20 (25%)
Total	515 (44%)	272 (52%)	159 (38%)	84 (29%)

The frequency with which approaches were attempted is shown without parentheses; the percentage of attempts adjusted by auditors is shown in parentheses.

clear current-year income effect. Attempts involving expenses were reported (and adjusted by auditors) most frequently, followed by attempts involving revenues, and then business combinations.

Expenses and Other Losses

Table 2 contains descriptions of attempts that affect expenses or other losses. For Tables 2–5, each line of each table presents an earnings-management approach, one or more examples of the approach, from one to three references to AAERs that describe a company that used the approach, the primary accounting areas in which the approach occurred in our sample, and the number of attempts appearing in each financial accounting area that used that approach, in total and broken out by CIE. The percentage of attempts for which auditors required adjustment is shown in parentheses. A separate line is shown if at least five instances were observed. Tables, and approaches within tables, are ordered from most to least frequent.

By far the most commonly occurring earnings-management approach was “Recognizing too much or too little reserve in current year.” Particular attempts involving reserves that have been examined in the research literature are evident in this category. For example, multiple instances of attempts involved restructuring reserves (e.g., see Elliott and Shaw 1988; Francis et al. 1997), inventory reserves (e.g., see Guidry et al. 1999), loan-loss reserves (e.g., see Elliott et al. 1991; Wahlen 1994; Beaver and Engel 1996), bad-debt reserves (e.g., see McNichols and Wilson 1988), reserves for valuation allowances against deferred-tax assets (e.g., see Bauman and Bauman 1999), and insurance claim-loss reserves (e.g., see Petroni 1992; Gaver and Paterson 1999). Numerous attempts also involved accrued-compensation reserves and medical-claims reserves. Consistent with accruals having cumulative effects over time, attempts involving “Reducing (when shouldn’t) or not reducing (when should) previous accruals” were less frequent but still common.

Other frequent expense- and loss-related attempts were more focused on long-term assets. “Capitalizing and deferring too much or too little” involves the creation of fixed assets. “Recognizing too much or too little asset impairment,” like many restructurings, involves a one-time write-down of fixed-assets. “Modifying depreciation or amortization life” and “Modifying method used for depreciation or amortization” involves multiperiod fixed-asset write-offs.

In general, auditors did not require that these attempts be adjusted ($113/269 = 42$ percent adjusted). The accounting treatments of these transactions often decreased current income (which often created opportunities to increase income in future periods), and often involved subjective accounting rules and judgments. Nelson et al. (2002) suggest that these characteristics discourage auditors from requiring adjustment of attempts.

TABLE 2
Earnings-Management Approaches That Affect Expenses or Other Losses

Approach <i>Example(s)</i> <i>AAER References</i> : AAER numbers (company name)	Accounting Areas	Total	Current-Period Income Effect		
			Increase	Decrease	No Clear Effect
Recognizing too much or too little reserve in current year	Total	133 (38%)	35 (49%)	82 (35%)	16 (25%)
<i>Income-increasing example</i> : Understatement of allowance for loan losses by a bank, such that loans and total assets were overstated and current earnings and capital were overstated. Local management wanted to show a positive net income for the period to impress both the head office and banking regulators, and favorable results would probably affect the determination of local management's compensation.	Restructuring	25 (52%)	3 (67%)	21 (52%)	1 (0%)
	Comb. of reserves	23 (30%)	3 (33%)	12 (42%)	8 (13%)
	Accrued comp.	13 (23%)	4 (25%)	7 (29%)	2 (0%)
	Inventory reserve	12 (42%)	5 (60%)	6 (17%)	1 (100%)
	Loan loss reserve	10 (30%)	3 (67%)	6 (17%)	1 (0%)
<i>Income-decreasing example</i> : Company made a large provision for loan losses in the 4th quarter that was not necessarily supported by the facts and circumstances. Earnings were better than expected and the company wanted to reduce future provisions, so they changed to the higher level of the acceptable range of loan loss reserve.	Taxes	9 (44%)	1 (0%)	7 (43%)	1 (100%)
<i>AAER References</i> : 1393 (Sunbeam); 1378 (National Steel); 1140 (WR Grace & Co.).	Bad debt reserves	8 (0%)	2 (0%)	6 (0%)	
Recognizing too much or too little asset impairment	Insurance reserve	6 (33%)	3 (33%)	3 (33%)	
<i>Income-increasing example</i> : Not willing to write down an impaired non-operating asset. They were concerned about earnings targets and impact write-off would have on market value of stock. Also concerned about the impact the write-off or write-down would have on potential sale of asset.	Other	27 (48%)	11 (64%)	14 (36%)	2 (50%)
<i>Income-decreasing example</i> : Client is building a new building to operate in (three years out), but would remain in old building until that time. Client wanted to recognize a one-time loss on their old building, rather than revising life of old building, to avoid four years of depreciation on old building that would "distort" earnings.	Total	35 (60%)	18 (67%)	16 (56%)	1 (0%)
<i>AAER References</i> : 1270 (Firstmark); 1278 (DCI Telecommunications); 1002 (New Jersey Resources Corp).	Fixed assets	14 (71%)	6 (67%)	8 (75%)	
	Investments	11 (64%)	8 (75%)	2 (50%)	1 (0%)
	Intangibles	10 (40%)	4 (50%)	6 (33%)	

(continued on next page)

TABLE 2 (continued)

Approach Example(s) AAER References: AAER numbers (company name)	Accounting Areas	Current-Period Income Effect			
		Total	Increase	Decrease	No Clear Effect
Capitalizing and deferring too much or too little	Total	31 (58%)	27 (59%)	1(100%)	3 (33%)
<i>Income-increasing example:</i> Company developing (internally) software, and was somewhat liberal in its allocation on internal salaries allocated to capitalized software costs.	Intangibles	16 (56%)	15 (60%)		1 (100%)
	Fixed assets	7 (57%)	6 (67%)		1 (0%)
	Other	8 (63%)	6 (67%)		1 (0%)
<i>Income-decreasing example:</i> Mortgage company chose not to defer direct fees/costs associated with successful loan efforts, and instead expensed costs as incurred and recognized income (fees) as received. AAER References: 1480-1483 (Fine Host Corp); 1257-1258 (America Online); 661, 752 (Tradux Corporation).	Total	25 (36%)	18 (39%)	7 (29%)	
Reducing (when shouldn't) or not reducing (when should) previous accrual	Tax	6 (17%)	3 (33%)	3 (0%)	
<i>Income-increasing example:</i> Upon closing books, the company's earnings were short compared to market expectations. The company revisited their deferred tax asset valuation allowance. The anticipated benefit realization was revised to more likely than not for certain foreign tax credits and a portion of the allowance was reversed and credited to income. The amount resulted in EPS equal to market expectations.	Combination	5 (20%)	5 (20%)		
<i>Income-decreasing example:</i> Following completion of an IRS exam, company wanted to release a tax accrual over a three-year period to smooth earnings. AAER References: 1343 (Per Se Technologies, Inc.); 1361, 1362 (Aurora Foods); 556 (Travelers Corp).	Other	14 (50%)	10 (50%)	4 (50%)	
Modifying depreciation or amortization asset life	Total	15 (47%)	13 (38%)	2(100%)	
<i>Income-increasing example:</i> Company pushed the envelope with the estimated useful lives that they used for the amortization of intangibles that were recorded as a result of a purchase business combination.	Intangibles	10 (30%)	10 (30%)		
<i>Income-decreasing example:</i> Depreciating fixed assets at an accelerated rate in periods of strong earnings, overstating depreciation expense, and understating fixed assets. AAER References: 1532 (Waste Management)	Fixed assets	5 (80%)	3 (67%)	2(100%)	

(continued on next page)

TABLE 2 (continued)

	Total	7 (0%)	5 (0%)	2 (0%)
Modifying assumptions used to calculate expense and liability (other than estimated useful life)				
<i>Income-increasing example:</i> In applying purchase accounting and determining the fair value of assets/liabilities, the client utilized a higher discount rate than what our actuary felt was reasonable. This resulted in recording a lower pension liability and ultimately a lower amount of goodwill.				
<i>Income-decreasing example:</i> Company biased to maximize the cumulative catch-up adjustment resulting from the adoption of FAS No. 106.				
<i>AAER References:</i> 992 and 1080 (Corpro Companies); 670-673 (Chambers Development Company); 560 (UDC Homes).				
Modifying method used for depreciation or amortization	Total	6 (50%)	4 (50%)	2 (50%)
<i>Income-increasing example:</i> A division of a very large private company partially purchased/partially self-constructed a significant amount of fixed assets during the year that were virtually completed and were being used, but kept the assets in CIP at year end. Division intentionally left assets in CIP to increase ROA and increase bonus (bonus calculation excluded CIP).				
<i>Income-decreasing example:</i> Company changed accounting policy to writing off all debt issue costs as incurred rather than amortizing them over the related debt period.				
<i>AAER References:</i> 1532 (Waste Management).				
Inappropriate selection of prior period adjustment versus current expense treatment	Total	6 (33%)	4 (50%)	1 (0%)
<i>Income-increasing example:</i> A restaurant was told by their parent to change retroactively from a policy of expensing initial purchases of small assets to a policy of capitalizing, not depreciating, and expensing future purchases. The parent claimed this was an error correction rather than a change in principle, and wanted to recognize the entire amount as a credit to P&L.				
<i>AAER References:</i> 526, 642 (US Shoe).				
Changing expenses in other ways	Total	11 (27%)	9 (33%)	2 (0%)
Total		269 (42%)	133 (48%)	113 (39%)
				23 (22%)

The frequency with which approaches were attempted is shown without parentheses; the percentage of attempts adjusted by auditors is shown in parentheses.

TABLE 3
Earnings-Management Approaches That Affect Current Revenue or Other Gains

Approach Example(s) <i>AAER</i> References: AAER numbers (company name)	Total	Current-Period Income Effect	
		Increase	Decrease
Cut-off manipulation	16 (69%)	11 (82%)	4 (50%)
<i>Income-increasing example:</i> Recorded sales for product loaded on the truck at their dock on 12/31 but not picked up by the independent trucking firm due to weather conditions.			1 (0%)
<i>Income-decreasing example:</i> A client managed earnings by not shipping product that was available for shipment merely because their quarter then ending had already reached their budgeted levels. <i>AAER</i> References: 1520 (IGI); 1017 (Sensormatic Corp); 923, 962 (T2 Medical).	11 (73%)	8 (75%)	3 (67%)
Deferring too much or too little revenue			
<i>Income-increasing example:</i> Company collects money during the sale of a machine for an extended warranty period. Revenue and cash were recorded at the date of sale of the machine, but they could not predict the future extended warranty costs given their lack of historical experience.			
<i>Income-decreasing example:</i> Conservatively recording revenue estimates that are trued up in subsequent periods for historically higher amounts. <i>AAER</i> References: 1454 (Gunther International); 1343 (Per Se Technologies, Inc); 1133 (Insignia Solutions)	11 (45%)	11 (45%)	
Sales not final because delivery hasn't occurred ("bill-and-hold" sales)			
<i>Income-increasing example:</i> The company would enter into sales agreements with a customer, and instead of shipping would segregate the goods in a separate location for the customer until the customer requested delivery. The company would record revenue and cost of sales when the goods were segregated. This accounting overstated A/R, sales, and cost of sales and understated inventory. <i>AAER</i> References: 1551-1552 (Serologicals Corp); 1536 (Picture Tell); 1243-1244 (Digital Lightwave).			
Sale not final because of right of return	8 (75%)	8 (75%)	
<i>Income-increasing example:</i> The company has a distributor arrangement whereby the distributor/retailer has right of return of all product and does not have to pay for product received until it has been sold by the distributor/retailer to a third party. The company was recording all product shipped as revenue. <i>AAER</i> References: 1282 (Hybrid Networks); 1197 (ABS Industries); 1109 (Micro Component Technology).			

(continued on next page)

TABLE 3 (continued)

Sale not final because retained significant interest	6 (67%)	6 (67%)
<i>Income-increasing example:</i> Loans were sold with a profit-sharing arrangement with the buyer upon the buyer's future sale of the loans. <i>AAER References:</i> 1044-1045 (Styles on Video); 964 (Kahler Corp.); 955 (Spectrum);		
Sale not final in other ways	11 (73%)	11 (73%)
<i>Income-increasing example:</i> The company desired to recognize revenue on a product sale upon customer commitment and payment, however, there were significant installation services required by the company prior to customer acceptance of the product. <i>AAER References:</i> 1486 (California Software); 1215 (Informix Corp); 1209 (Accelr8 Technology Corp).		
Timing recognition of realized or unrealized gains and losses on investments	12 (42%)	4 (25%) 2 (50%)
<i>Income-increasing example:</i> Company securitized loans that are carried at cost and classified them as available-for-sale securities. These securities will then be sold out of AFS any time earnings expectations are not met.		
<i>Income-decreasing example:</i> Client has a materially overfunded pension, which, if recorded appropriately under FAS No. 87, would result in significant income and mounting pension asset on the balance sheet. <i>AAER References:</i> 730 (Gibson Greetings); 682 (Monarch Capital); 1303, 1305, 1334 (Pier 1 Imports).		
Confusing revenue and nonrevenue accounts when cash received	7 (43%)	3 (100%) 2 (0%) 2 (0%)
<i>Income-increasing example:</i> The company recorded rebates received for bulk product purchases made throughout the year as revenue received in the fourth quarter rather than reducing the related cost of the inventory.		
<i>Income-decreasing example:</i> Company received an insurance settlement and rather than recording the credit as misc. income they recorded credits to reserves for bad debt and inventory obsolescence. <i>AAER References:</i> 1069, 1070 (Nikko Securities); 520, 576 (Unifirst Corp).		
Misstating value of consideration received	7 (57%)	3 (67%) 4 (50%)
<i>Income-increasing example:</i> Use of liberal assumptions under SFAS No. 125 to record a larger gain on sale. <i>Income-decreasing example:</i> Company sold inventory to buyer whose financial condition was questionable. Buyer made an initial immaterial payment with the remainder of proceeds extended over a long period of time. Company wanted to recognize the sales proceeds in income in the current period. <i>AAER References:</i> 1510 (ITEX); 1503, 1504 (Critical Path); 1125 (Power Phone).		

(continued on next page)

TABLE 3 (continued)

Approach Example(s) AAER References: AAER numbers (company name)	Current-Period Income Effect		
	Total	Increase	No Clear Effect
Sale-lease back transactions			
<i>Income-increasing example:</i> Sale and leaseback of fixed assets to record a gain and eliminate the asset and related debt from the balance sheet.	7 (43%)	6 (33%)	1 (100%)
AAER References: 744-746 (Path Communications Corp); 530, 531 (HYTK Industries).			
Related-party transactions			
<i>Income-increasing example:</i> Sales to related parties, with recognition of associated profit, and then purchases from related parties to recognize profit on related parties' books.	5 (60%)	3 (67%)	2 (50%)
<i>Income-decreasing example:</i> Company used inappropriate transfer-pricing methodologies that record less revenue than would be recorded in an arm's length transaction.			
AAER References: 1507 (JDN Realty); 1505-1506 (International Thoroughbred Breeders); 1208, 1291-1292 (The Cronos Group).			
Mis-estimating progress when using percentage-of-completion method			
<i>Income-increasing example:</i> Delivery of material to the shop floor in order to recognize revenue under percentage of completion (used cost-to-cost ratio).	5 (20%)	4 (25%)	1 (0%)
<i>Income-decreasing example:</i> Under percentage of completion, increase estimates to complete to reduce the amount of revenue recognized.			
AAER References: None.			
Changing accounting principle			
<i>Income-increasing example:</i> Company wanted to use the percentage-of-completion method, but the company had no history of selling the product and their ability to properly estimate costs was questionable.	4 (25%)	3 (33%)	1 (0%)
<i>Income-decreasing example:</i> In the year of adoption for SFAS No. 116, client was to book a cumulative effect of adoption, but the client wanted to save it for a year in which they were not meeting budget and release the restriction into unrestricted earnings at that point.			
AAER References: 554 (Amre); 521 (Westwood One).			
Other	4 (50%)	3 (33%)	1 (100%)
Total	114 (56%)	86 (62%)	8 (38%)

The frequency with which approaches were attempted is shown without parentheses; the percentage of attempts adjusted by auditors is shown in parentheses.

Revenues and Other Gains

Consistent with the AAER literature, Table 3 documents numerous descriptions of attempts that affect revenue or other gains. Many attempts involved “Cutoff manipulation” (i.e., moving revenue recognition a few days into the past or future to change accounting period). Attempts also often involved “Deferring too much or too little revenue” over the life of a contract. Numerous attempts also occurred because the company was trying to recognize revenue prior to the sale being final, for example, “bill and hold” sales prior to delivery, sales where there was a “right of return” implicitly or explicitly guaranteed, when the company “retained a significant interest,” or when the sale was “not final in other ways.” Other attempts involved various approaches to “Timing the recognition of realized or unrealized gains or losses on investments.” Yet other attempts involved recognition of “Sale-lease-back transactions” or “Related-party transactions.” Some attempts involved “Confusing revenue and nonrevenue accounts” or “Misstating the value of consideration received.” Finally, some attempts involved the percentage-of-completion method or changes in revenue-recognition method.

In general, revenue/gain attempts usually increased current-period income ($86/114 = 75$ percent). Auditors usually required that these attempts be adjusted ($64/114 = 56$ percent of attempts adjusted).

Business Combinations

Table 4 contains descriptions of four types of attempts that are associated uniquely with business combinations. Numerous attempts involved “Over- or understating assets, liabilities and offset with goodwill” in purchase-method business combinations. While these attempts usually had no current-period income effect, 79 percent (22/28) of them involved overstating liabilities and goodwill, thereby creating a “cookie jar” liability reserve that could be reduced in a future period to increase income. Other attempts were based on “Over- or understating expenses involved in a period of acquisition,” many of which involved overstatements of in-process R&D expense. Other attempts involved “Changing or not changing accounts established in an earlier acquisition period.” Most of these attempts involved inappropriate changes (or failure to make necessary changes) to goodwill and reserves in the year following an acquisition, thus affecting income in the post-acquisition year. Finally, some attempts involved attempts to qualify for pooling treatment of a business combination. Post-SFAS No. 142, these attempts will not be observed, because poolings are no longer allowed.

Other Approaches

Table 5 contains descriptions of other approaches for attempting earnings management. Many attempts involved “Income statement classification issues,” either placement (moving revenue and gains higher or expenses and losses lower) to increase an income statement subtotal (e.g., operating income), or labeling amounts as nonrecurring.⁴ Other attempts involved assigning gains and losses to “other” categories that offset for purposes of disclosure, or involved not-for-profits assigning amounts in particular funds to satisfy various reporting objectives.

Additional attempts involved inappropriate disclosures, such as underdisclosing changes in accounting or related-party transactions. Others involved off-balance-sheet items (e.g., attaining off-balance-sheet treatment of leased assets).

Finally, many attempts involved accounting for large investments. These attempts typically reflected managers’ general preference to use the cost method rather than the equity method (thereby avoiding loss recognition) and to avoid consolidation (thereby avoiding higher assets and liabilities, and reporting higher return on assets and lower leverage).

⁴ While the effect on total income is unchanged, these attempts are focused on a subtotal, so CIE is coded with respect to the subtotal in question.

TABLE 4
Earnings-Management Approaches that Are Uniquely Associated with Business Combinations

Approach Example(s) AAER References: AAER numbers (company name)	Total	Current-Period Income Effect		No Clear Effect
		Increase	Decrease	
Over- or understating assets, liabilities and offset with goodwill				
<i>Goodwill-increasing example:</i> Reserves established in purchase accounting, where goodwill and offsetting liabilities are overstated. Goodwill is amortized over 40 years, so the charge is taken over 40 years rather than in the year in which the accrual is really required.	Total 28 (32%)			28 (32%)
<i>Goodwill-decreasing example:</i> The client wished to undervalue stock given as part of a purchase business combination, so as to minimize goodwill that would be recorded, since the amortization of goodwill would hurt future net income.	Overvalue goodwill and reserves 22 (32%)			22 (32%)
<i>AAER References:</i> 1272-1275, 1284 (Cendant Corp/CUC International); 778, 804 (Sulcus Comp. Corp); 782 (KLH Engineering Group).	4 (0%)			4 (0%)
Over- or understating expenses in period of acquisition				
<i>Income-increasing example:</i> Company overallocated a portion of the purchase price to in-process R&D, so as to take a huge write-off in the year of purchase and limit amount of amortization in future periods.	Total 21 (33%)	5 (40%)	16 (31%)	
<i>Income-decreasing example:</i> Originally the company wanted the most aggressive valuation of in-process R&D as this would reduce goodwill amortization in future periods. After earnings for the quarter were less than expected, the company recorded the lower end of the range in order to present positive net income for the quarter.	In-process 10 (30%)	1 (0%)	9 (33%)	
<i>AAER References:</i> 1476, 975, 977 (Pinnacle Holdings); 1126-1127 (KCS Industries).	R&D 11 (36%)	4 (50%)	7 (29%)	
	2 (100%)			2 (100%)

(continued on next page)

TABLE 4 (continued)

Changing or not changing accounts established in an earlier acquisition period	Total			
<i>Income-increasing example:</i> The company wanted to record various accruals during the push-down accounting entries in advance of when the accruals should really be booked, taking the offset to goodwill.	13	(69%)	7 (86%)	6 (50%)
<i>Income-decreasing example:</i> The company attempted to record all business-combination-related restructuring accruals as an expense in the current period financial statements, rather than accruing as a liability the restructuring accruals and including such amounts in goodwill. The company still would have achieved an x% growth in earnings in comparison to the prior year, and by lowering the current year earnings it made it easier for the company to achieve an x% growth in the following years, which was the target the company had disclosed to analysts.	8	(75%)	6 (83%)	2 (50%)
<i>AAER References:</i> 1126-1127 (KCS Industries)	5	(60%)	1(100%)	4 (50%)
Attempting to use pooling rather than purchase method	Total			
<i>Income-increasing example:</i> Company rescinded a stock buy-back program in order to meet the pooling-of-interest requirements.	5	(40%)		5 (40%)
<i>AAER References:</i> 1278 (DCI Telecommunications); 661, 752 (Tradux Corp); 983 (Members Service Corp).				
Total	67	(40%)	12 (67%)	22 (36%)
				33 (33%)

The frequency with which approaches were attempted is shown without parentheses; the percentage of attempts adjusted by auditors is shown in parentheses.

TABLE 5
Other Earnings-Management Approaches

Approach	Total	Effect on Current-Period Income or Other Subtotal		
		Increase	Decrease	No Clear Effect
<i>Example(s)</i> AAER References: AAER numbers (company name)	24 (46%)	18 (56%)	1 (0%)	5 (20%)
Income statement classification				
<i>Example:</i> Client classified as a restructuring charge items that could be classified as COGs or SG&A, because they believe that restructuring charges are discounted by analysts and a charge to restructuring instead of a regular P&L item would not be viewed as seriously.				
AAER References: 1542 (Xerox); 1533 (Kimberly Clark); 1499 (Trump Hotels)	9 (22%)	7 (14%)	1 (0%)	1 (100%)
Off-balance-sheet financing				
<i>Example:</i> Structure lease transactions to get around capital lease requirements to keep financing off balance sheet.				
AAER References: 850 (International Energy Development Corp)	9 (33%)	4 (25%)		5 (40%)
Modifying disclosures				
<i>Example:</i> Company purchased a limited partnership investment that is generating earnings material to total earnings, and masks reduced profitability in its core business through underdisclosure of change to mark-to-market accounting for the limited partnership.				
AAER References: 617, 618, 656 (First Capital Holdings); 692-693 (Kentucky Central Life Insurance); 561 (Salant Corp.)	9 (44%)	8 (50%)	1 (0%)	
Avoiding equity method				
<i>Example:</i> In order to avoid the equity-method requirement to recognize its share of losses during Co. B's start up phase, Co A obtained a 19.9% voting common stock interest, a nonvoting interest of x%, and other vendor and financing relationships.				
AAER References: 1429 (Bank of America); 651 (Puryear Realty); 553, 379 (Cable Applications)	6 (17%)	4 (25%)		2 (0%)
Avoiding consolidation				
<i>Example:</i> Client wanted to acquire certain real estate assets but wished to avoid consolidating them due to the related debt to be incurred to acquire the assets. The client ultimately crafted a partnership arrangement that met the test for getting equity-accounting treatment.				
AAER References: 818, 819 (Compactor Systems Corp)	8 (13%)		1 (0%)	7 (14%)
Other	65 (34%)	41 (41%)	4 (0%)	20 (25%)
Total				

The frequency with which approaches were attempted is shown without parentheses; the percentage of attempts adjusted by auditors is shown in parentheses.

DISCUSSION

This study provides evidence about the approaches managers use to attempt earnings management. Our results converge with those of prior studies that are based on archival or anecdotal evidence in that we document numerous attempts that involve revenue recognition, reserves and other accruals, and fixed asset impairment and amortization. However, we believe our study is unique in (1) its focus on approaches for *attempting* earnings management, (2) its use of auditors to identify particularly important approaches, and (3) the level of detail at which it describes individual approaches. Given psychology-based research indicating that learning and subsequent judgment is facilitated by knowledge frameworks, availability of examples, and frequency information, our results should help audit committees, auditors, managers, regulators, researchers, and various financial statement users to better understand and recognize earnings-management attempts.

The primary limitation of our study is that it depends on the accuracy of our survey data. To the extent that attempts are underrepresented because respondents did not detect them, did not remember them, or did not admit that they remembered them, frequencies will be understated in our tables. This concern might apply most to attempts that clearly fall within GAAP, as they might not have merited much audit attention, and to attempts that involve the most egregious GAAP violations, as auditors might be particularly uncomfortable describing them. Likewise, to the extent that attempts are overrepresented because they are particularly salient (e.g., highlighted in audit-firm training, in the popular press, or discussed by former SEC Chairman Levitt in his speech “The Numbers Game”), their frequencies will be overstated in our tables. Finally, to the extent that earnings-management attempts are featured disproportionately in a particular industry (e.g., insurance reserves) and clients of particular industries are featured disproportionately in the client base of the firm providing data, and/or auditors in our sample are not representative of the broader population of auditors, we would not expect frequencies to generalize to other industries or auditors.

We cannot prove that various attempts are not under- or overrepresented in our data. However, we note that the attempts listed in our tables span the approaches of which we are aware. These approaches have been examined in prior research, and are identified in AAERs. In addition, response biases would be more indicated if auditors reported a very high percentage of attempts as adjusted, but adjustment was not made for 56 percent of the 515 attempts included in our sample, suggesting that respondents were willing to be frank. As a consequence, we believe our coverage of earnings-management approaches is comprehensive enough to complement data provided by other research, and that participants in the financial reporting process should be vigilant for the earnings-management approaches that appear frequently in our sample. Ultimately, however, readers must consider the extent to which the approaches we describe would be expected to apply to each company they examine.

REFERENCES

- Alba, J. W., and L. Hasher. 1983. Is memory schematic? *Psychological Bulletin* 93 (March): 203–231.
- Ayers, S., and S. E. Kaplan. 1998. Potential differences between engagement and risk review partners and their effect on client acceptance judgments. *Accounting Horizons* 12 (2): 139–153.
- Bauman, C. C., and M. P. Bauman. 1999. The deferred tax asset valuation allowance as a strategic accounting choice. Working paper, University of Wisconsin–Milwaukee.
- Beasley, M. S., J. V. Carcello, D. R. Hermanson, and P. D. Lapides. 2000. Fraudulent financial reporting: Consideration of industry traits and corporate governance mechanisms. *Accounting Horizons* 14 (4): 441–454.
- Beaver, W., and E. Engel. 1996. Discretionary behavior with respect to allowances for loan losses and the behavior of security prices. *Journal of Accounting and Economics* 22: 177–206.

- Beneish, M. D. 1997. Detecting GAAP violation: Implications for assessing earnings management among firms with extreme financial performance. *Journal of Accounting and Public Policy* 16 (Fall): 271–309.
- Bonner, S. E., and P. L. Walker. 1994. The effects of instruction and experience on the acquisition of auditing knowledge. *The Accounting Review* 69: 157–178.
- , R. Libby, and M. W. Nelson. 1997. Audit category knowledge as a precondition to learning from experience. *Accounting, Organizations and Society* 22: 387–410.
- , Z.-V. Palmrose, and S. M. Young. 1998. Fraud type and auditor litigation: An analysis of SEC Accounting and Auditing Enforcement Releases. *The Accounting Review* 73 (October): 503–532.
- . 1999. Choosing teaching methods based on learning objectives: An integrative framework. *Issues in Accounting Education* 14 (1): 11–39.
- Butt, J. 1988. Frequency judgments in an auditing-related task. *Journal of Accounting Research* 26: 315–330.
- Dechow, P. M., R. G. Sloan, and A. P. Sweeney. 1996. Causes and consequences of earnings manipulation: An analysis of firms subject to enforcement actions by the SEC. *Contemporary Accounting Research* 13: 1–36.
- , and D. J. Skinner. 2000. Earnings management: Reconciling the views of accounting academics, practitioners, and regulators. *Accounting Horizons* 14 (June): 235–250.
- Elliott, J. A., and W. H. Shaw. 1988. Write-offs as accounting procedures to manage perceptions. *Journal of Accounting Research* 26 (Supplement): 91–119.
- , J. D. Hanna, and W. H. Shaw. 1991. The evaluation by financial markets of changes in bank loan loss reserve levels. *The Accounting Review* (October).
- Feroz, E. H., K. Park, and V. S. Pastena. 1991. The financial and market effects of the SEC's Accounting and Auditing Enforcement Releases. *Journal of Accounting Research* 29 (Supplement): 107–148.
- Francis, J., J. D. Hanna, and L. Vincent. 1997. Causes and effects of discretionary asset write-offs. *Journal of Accounting Research* 35 (Supplement) 1997: 117–134.
- Frederick, D. M. 1991. Auditors' representation and retrieval of internal control knowledge. *The Accounting Review* 66: 240–258.
- , V. B. Heiman-Hoffman, and R. Libby. 1994. The structure of auditors' knowledge of financial statement errors. *Auditing: A Journal of Practice & Theory* 13 (1): 1–21.
- Gaver, J. J., and J. S. Paterson. 1999. Managing insurance company financial statements to meet regulatory and tax reporting goals. *Contemporary Accounting Research* 16 (Summer): 207–241.
- Gibson, A. M., and A. H. Frakes. 1997. Truth or consequences: A study of critical issues and decision making in accounting. *Journal of Business Ethics* 16 (2): 161–171.
- Graham, J. R., and C. R. Harvey. 2001. The theory and practice of corporate finance: Evidence from the field. *Journal of Financial Economics* 61: 187–243.
- Guidry, F., A. J. Leone, and S. Rock. 1999. Earnings-based bonus plans and earnings management by business-unit managers. *Journal of Accounting and Economics* 26: 113–142.
- Healy, P.M., and J. M. Wahlen. 1999. A review of the earnings management literature and its implications for standard setting. *Accounting Horizons* 13 (October): 365–383.
- Heiman, V. 1990. Auditors' assessments of the likelihood of analytical review explanations. *The Accounting Review* 65: 875–890.
- Kinney, W. R., and R. D. Martin. 1994. Does auditing reduce bias in financial reporting? A review of audit-related adjustment studies. *Auditing: A Journal of Practice & Theory* 13 (1): 149–156.
- Levitt, A. 1998. The numbers game. Remarks delivered at the NYU Center for Law and Business, New York, NY, September 28.
- Libby, R. 1985. Availability and the generation of hypotheses in analytical review. *Journal of Accounting Research* 23: 648–667.
- , and D. M. Frederick. 1990. Experience and the ability to explain audit findings. *Journal of Accounting Research* 28: 348–367.
- McNichols, M., and G. P. Wilson. 1988. Evidence of earnings management from the provision for bad debts. *Journal of Accounting Research* 26 (Supplement): 1–31.
- . 2000. Research design issues in earnings management studies. *Journal of Accounting and Public Policy* 19 (4/5): 313–345.
- Mulford, C. W., and E. E. Comiskey. 1996. *Financial Warnings*. New York, NY: John Wiley & Sons.

- National Association of Certified Fraud Examiners (NACFE). 1992. *Cooking the Books: What Every Accountant Should Know About Fraud*. Austin, TX: NACFE.
- Nelson, M. W. 1993. The effects of error frequency and accounting knowledge on error diagnosis in analytical review. *The Accounting Review* 68: 803–824.
- . 1994. The learning and application of frequency knowledge in audit judgment. *Journal of Accounting Literature* 13: 185–211.
- , R. Libby, and S. E. Bonner. 1995. Knowledge structure and the estimation of conditional probabilities in audit planning. *The Accounting Review* 70: 27–47.
- , J. A. Elliott, and R. L. Tarpley. 2002. Evidence from auditors about managers' and auditors' earnings-management decisions. *The Accounting Review* 77 (Supplement): 175–202.
- Panel on Audit Effectiveness. 2000. *Report and Recommendations Exposure Draft*. August 31. Stamford, CT: Public Oversight Board.
- Petroni, K. R. 1992. Optimistic reporting in the property-casualty insurance industry. *Journal of Accounting and Economics* 15: 485–508.
- Ricchiute, D. N. 1992. Working-paper order effects and auditors' going-concern decisions. *The Accounting Review* 67 (1): 46–58.
- Schilit, H. M. 1993. *Financial Shenanigans*. New York, NY: McGraw-Hill.
- Smith, E. E., and D. L. Medin. 1981. *Concepts and Categories*. Cambridge, MA: Harvard University Press.
- Smith, J. D., and J. P. Minda. 1998. Prototypes in the mist: The early epochs of category learning. *Journal of Experimental Psychology: Learning, Memory and Cognition* 24 (6): 1411–1436.
- Smith, J. F., and T. Kida. 1991. Heuristics and biases: Expertise and task realism in auditing. *Psychological Bulletin* 109: 472–489.
- Stokes, M. E., C. S. Davis, and G. G. Koch. 2000. *Categorical Data Analysis Using the SAS System*. Cary, NC: SAS Institute, Inc.
- Trahan, E. A., and L. J. Gitman. 1995. Bridging the theory-practice gap in corporate finance: A survey of chief financial officers. *The Quarterly Review of Economics and Finance* 35 (1): 73–87.
- Tubbs, R. M. 1992. The effect of experience on the auditor's organization and amount of knowledge. *The Accounting Review* 67 (4): 783–801.
- Wahlen, J. 1994. The nature of information in commercial bank loan loss disclosures. *The Accounting Review* 69 (3): 455–478.